

## **Appendix K      Traffic Report**

## Appendices

*This page intentionally left blank.*

REVISED TRAFFIC IMPACT ANALYSIS REPORT

**MERCURY APARTMENTS**

Brea, California  
July 16, 2019  
(Update of August 31, 2018 Report)

Prepared for:

**PLACEWORKS**  
3 MacArthur Place, Suite 1100  
Santa Ana, CA 92707



LLG Ref. 2-18-3933-1



Prepared by:

Shane S. Green, P.E.  
Transportation Engineer III  
and  
Angela Besa, P.E.  
Transportation Engineer II

Under the Supervision of:

Richard E. Barretto, P.E.  
Principal

Linscott, Law &  
Greenspan, Engineers  
2 Executive Circle  
Suite 250  
Irvine, CA 92614  
949.825.6175 T  
949.825.6173 F  
www.llgengineers.com

# TABLE OF CONTENTS

SECTION	PAGE
<b>1.0 Introduction.....</b>	<b>1</b>
1.1 Scope of Work .....	1
1.2 Study Area .....	2
<b>2.0 Project Description .....</b>	<b>4</b>
2.1 Site Access .....	4
2.2 Pedestrian Circulation.....	4
<b>3.0 Existing Conditions.....</b>	<b>5</b>
3.1 Existing Street System .....	5
3.2 Existing Public Transit.....	6
3.3 Existing Bikeway Plan.....	7
3.4 Existing Traffic Volumes.....	7
3.5 Existing Intersection Conditions.....	7
3.5.1 Intersection Capacity Utilization (ICU) Method of Analysis .....	7
3.5.2 Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)..	8
3.5.3 Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)	8
3.5.4 Level of Service Criteria.....	9
3.6 Existing Level of Service Results .....	13
3.6.1 Existing Conditions Intersection Capacity Analysis (ICU Methodology) .....	13
3.6.2 Existing Conditions Intersection Capacity Analysis (HCM Methodology) .....	13
<b>4.0 Traffic Forecasting Methodology .....</b>	<b>16</b>
<b>5.0 Project Traffic Characteristics .....</b>	<b>17</b>
5.1 Project Traffic Generation .....	17
5.2 Project Traffic Distribution and Assignment.....	17
5.3 Existing Plus Project Traffic Conditions .....	18
<b>6.0 Future Traffic Conditions .....</b>	<b>20</b>
6.1 Ambient Traffic Growth .....	20
6.2 Related Projects Traffic Characteristics.....	20
6.3 Year 2040 Traffic Conditions .....	23
6.4 Year 2021 and Year 2040 Traffic Volumes.....	23
6.4.1 Year 2021 Traffic Volumes .....	23
6.4.2 Year 2040 Traffic Volumes .....	23
<b>7.0 Traffic Impact Analysis Methodology .....</b>	<b>24</b>
7.1 Impact Criteria and Thresholds.....	24
7.1.1 City of Brea.....	24
7.1.2 Caltrans .....	24



## TABLE OF CONTENTS (CONTINUED)

SECTION	PAGE
7.2 Traffic Impact Analysis Scenarios.....	25
7.3 City of Brea Nexus Program.....	25
<b>8.0 Peak Hour Intersection Capacity Analysis.....</b>	<b>26</b>
8.1 Existing Plus Project Analysis - ICU.....	26
8.1.1 Existing Plus Project Traffic Conditions .....	26
8.2 Existing Plus Project Analysis - HCM.....	29
8.2.1 Existing Plus Project Traffic Conditions .....	29
8.3 Year 2021 Traffic Conditions - ICU.....	31
8.3.1 Year 2021 Cumulative Traffic Conditions - ICU .....	31
8.3.2 Year 2021 Cumulative Plus Project Conditions - ICU .....	31
8.4 Year 2021 Traffic Conditions - HCM.....	34
8.4.1 Year 2021 Cumulative Traffic Conditions - HCM.....	34
8.4.2 Year 2021 Cumulative Plus Project Conditions - HCM.....	35
8.5 Year 2040 Traffic Conditions - ICU.....	37
8.5.1 Year 2040 Traffic Conditions - ICU.....	37
8.5.2 Year 2040 Plus Project Traffic Conditions - ICU.....	37
8.6 Year 2040 Traffic Conditions - HCM.....	41
8.6.1 Year 2040 Traffic Conditions - HCM.....	41
8.6.2 Year 2040 Plus Project Traffic Conditions – HCM.....	42
<b>9.0 Site Access and Internal Circulation Evaluation .....</b>	<b>44</b>
9.1 Site Access .....	44
9.2 Internal Circulation Evaluation.....	44
<b>10.0 Recommended Intersection Improvements.....</b>	<b>46</b>
10.1 Existing Plus Project Traffic Conditions .....	46
10.2 Year 2021 Plus Project Traffic Conditions.....	46
10.3 Year 2040 Plus Project Traffic Conditions.....	47
10.4 Project-Related Fair-Share Contribution .....	48
10.5 City of Brea Traffic Impact Fees .....	50
<b>11.0 Congestion Management Program (CMP) Compliance Assessment.....</b>	<b>52</b>
<b>12.0 Summary Of Findings And Conclusions .....</b>	<b>53</b>

## APPENDICES

---

### APPENDIX

---

- A. Traffic Study Scope of Work
- B. Existing Traffic Count Data
- C. Year 2040 Modeling Worksheets
- D. Intersection Level of Service Calculation Worksheets
- E. Project Driveway Level of Service Calculation Worksheets

## LIST OF FIGURES

SECTION—FIGURE #	FOLLOWING PAGE
1-1 Vicinity Map.....	3
2-1 Existing Aerial Site Photograph .....	4
2-2 Proposed Site Plan .....	4
3-1 Existing Roadway Conditions and Intersection Controls.....	6
3-2 OCTA Routes .....	6
3-3 Transit Stop Locations .....	6
3-4 City of Brea Bike Plan .....	7
3-5 Existing AM Peak Hour Traffic Volumes .....	7
3-6 Existing PM Peak Hour and Daily Traffic Volumes .....	7
5-1 Project Traffic Distribution Pattern.....	18
5-2 AM Peak Hour Project Traffic Volumes .....	18
5-3 PM Peak Hour and Daily Project Traffic Volumes .....	18
5-4 Existing Plus Project AM Peak Hour Traffic Volumes.....	18
5-5 Existing Plus Project PM Peak Hour and Daily Traffic Volumes .....	18
6-1 Location of Cumulative Projects .....	20
6-2 AM Peak Hour Cumulative Projects Traffic Volumes .....	20
6-3 PM Peak Hour and Daily Cumulative Projects Traffic Volumes .....	20
6-4 Year 2021 AM Peak Hour Cumulative Traffic Volumes.....	23
6-5 Year 2021 PM Peak Hour and Daily Cumulative Traffic Volumes .....	23
6-6 Year 2021 AM Peak Hour Cumulative Traffic Volumes with Project .....	23
6-7 Year 2021 PM Peak Hour and Daily Cumulative Traffic Volumes with Project.....	23
6-8 Year 2040 AM Peak Hour Traffic Volumes .....	23
6-9 Year 2040 PM Peak Hour and Daily Traffic Volumes.....	23
6-10 Year 2040 AM Peak Hour Traffic Volumes with Project .....	23
6-11 Year 2040 PM Peak Hour and Daily Traffic Volumes with Project .....	23
10-1 Recommended Improvements.....	48

## LIST OF TABLES

SECTION—TABLE #	PAGE
3-1	Level of Service Criteria For Signalized Intersections (ICU Methodology) ..... 10
3-2	Level of Service Criteria For Signalized Intersections (HCM Methodology) ..... 11
3-3	Level of Service Criteria For Unsignalized Intersections (HCM Methodology)..... 12
3-4	Existing Peak Hour Intersection Capacity Analysis – ICU..... 14
3-5	Existing Peak Hour Intersection Capacity Analysis – HCM ..... 15
5-1	Project Traffic Generation Rates and Forecast..... 19
6-1	Location and Description of Cumulative Projects..... 21
6-2	Cumulative Projects Traffic Generation Forecast ..... 22
8-1	Existing Plus Project Peak Hour Intersection Capacity Analysis – ICU ..... 27-28
8-2	Existing Plus Project Peak Hour Intersection Capacity Analysis – HCM..... 30
8-3	Year 2021 Peak Hour Intersection Capacity Analysis – ICU ..... 32-33
8-4	Year 2021 Peak Hour Intersection Capacity Analysis – HCM..... 36
8-5	Year 2040 Peak Hour Intersection Capacity Analysis – ICU ..... 39-40
8-6	Year 2040 Peak Hour Intersection Capacity Analysis – HCM..... 43
9-1	Project Driveway Peak Hour Intersection Capacity Analysis ..... 45
10-1	Year 2040 Project Fair-Share Contribution..... 49
10-2	City of Brea Traffic Impact Fee Rates..... 51

REVISED TRAFFIC IMPACT ANALYSIS REPORT  
**MERCURY APARTMENTS**

Brea, California  
July 16, 2019  
(Update of August 31, 2018 Report)

## 1.0 INTRODUCTION

This Traffic Impact Analysis report addresses the potential traffic impacts and circulation needs associated with Mercury Apartments Project (hereinafter referred to as Project) in the City of Brea. The Project consists of the development of a five-story apartment building with 120 apartment units on the 2<sup>nd</sup> through 5<sup>th</sup> floors over ground floor parking and two levels of subterranean parking. It should be noted that the most current site plan on file has up to 114 units. To provide a conservative assessment 120 units has been assumed. The Project site is located within the Brea Downtown area. The subject property is a square-shaped 1.0± acre parcel of land that is currently vacant/unimproved. Year 2021 has been utilized to assess the Project's potential traffic impacts at full occupancy within a near-term cumulative traffic setting.

### 1.1 Scope of Work

This traffic report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts associated with the proposed Project. The traffic analysis evaluates the existing operating conditions at fourteen (14) key study intersections within the project vicinity, estimates the trip generation potential of the proposed Project, and forecasts future near-term (Year 2021) and long-term (Year 2040) operating conditions without and with the proposed Project. Where necessary, intersection improvements/mitigation measures are identified.

This traffic report satisfies the traffic impact requirements of the City of Brea and is consistent with the current *Congestion Management Program (CMP) for Orange County*. The approved Scope of Work for this traffic study, which is included in **Appendix A**, was developed in conjunction with City of Brea Public Works Department staff.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing weekday peak hour traffic count information has been collected at fourteen (14) key study intersections for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the Cities of Brea, Fullerton, and La Habra. Based on our research, there are four (4) related projects located in the City of Brea, two (2) related projects located in the City of Fullerton, and one (1) related project in the City of La Habra. The seven (7) related projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future weekday daily, AM peak hour and PM peak hour traffic conditions for a near-term (Year 2021) and long-term (Year 2040) traffic setting upon

completion of the proposed Project. Near-term (Year 2021) cumulative daily and peak hour traffic forecasts were projected by incorporating a one percent (1.0%) annual growth rate and the trip generation potential of seven (7) related projects. Long-term (Year 2040) daily and peak hour traffic forecasts were projected based on modeled traffic projections prepared by OCTA utilizing the OCTAM 4.0 Year 2040 Model.

## 1.2 Study Area

Fourteen (14) key study intersections have been identified for evaluation. The fourteen (14) intersections listed below provide regional and local access to the study area and define the extent of the boundaries for this traffic impact investigation.

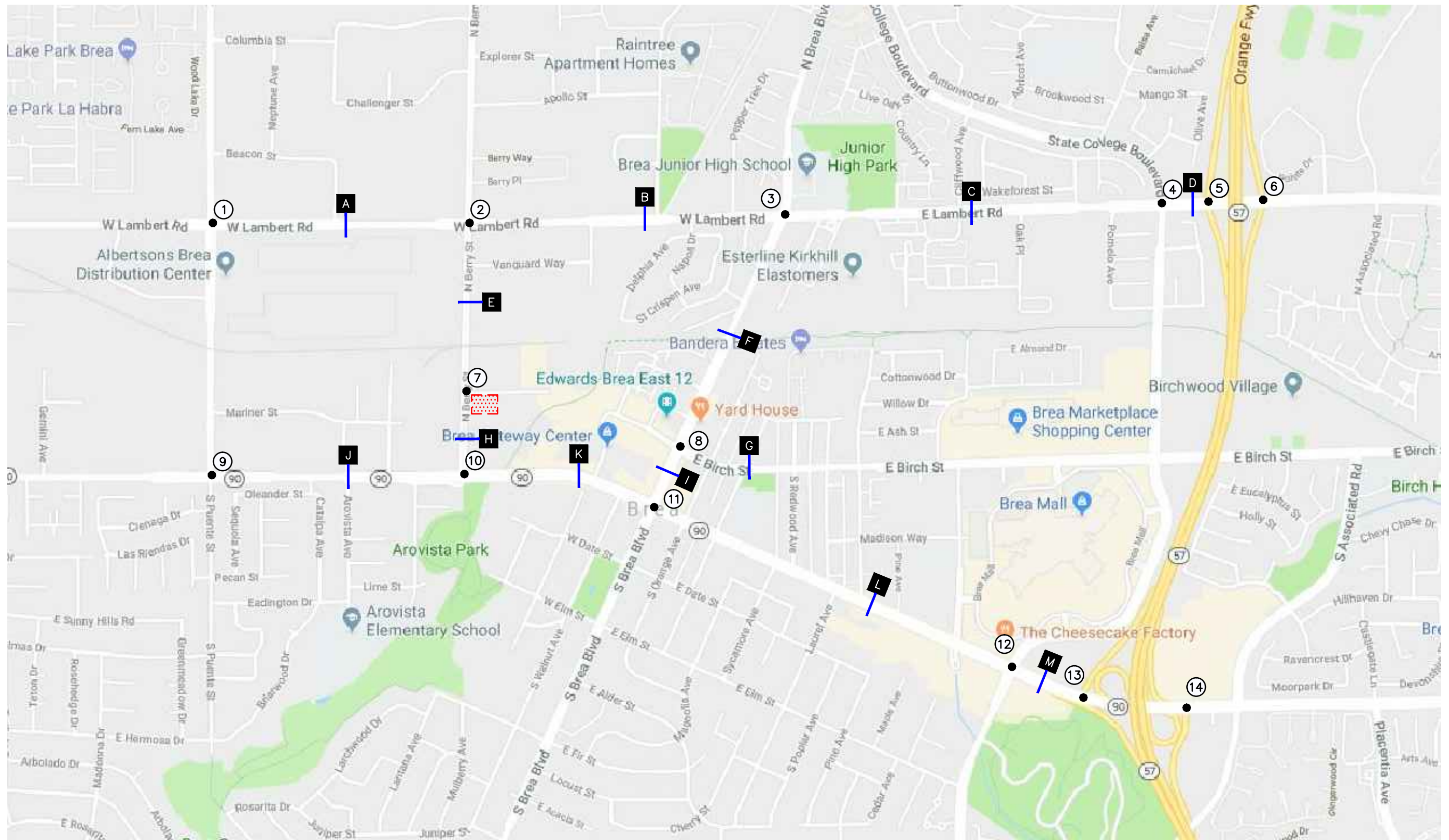
### Key Study Intersections

1. Puente Street at Lambert Road
2. Berry Street at Lambert Road
3. Brea Boulevard at Lambert Road
4. State College Boulevard at Lambert Road
5. SR-57 SB Ramps at Lambert Road
6. SR-57 NB Ramps at Lambert Road
7. Berry Street at Mercury Lane
8. Brea Boulevard at Birch Street
9. Puente Street at Imperial Highway
10. Berry Street at Imperial Highway
11. Brea Boulevard at Imperial Highway
12. State College Boulevard at Imperial highway
13. SR-57 SB Ramps at Imperial Highway
14. SR-57 NB Ramps at Imperial Highway

*Figure 1-1* presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection and/or roadway improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service, and/or mitigates the impact of the project. Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- AM and PM peak hour capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for existing plus project conditions,
- AM and PM peak hour capacity analyses for future near-term (Year 2021) traffic conditions without and with the proposed Project,
- AM and PM peak hour capacity analyses for future long-term (Year 2040) traffic conditions without and with the proposed Project,




- Site Access Evaluation, and
- Congestion Management Program Compliance Assessment.



n:\3900\2183933 - mercury apartments, brea\dwg\3933 f1-1.dwg LDP 15:23:49 04-03-2018 besa

SOURCE: GOOGLE

KEY

-  = STUDY INTERSECTION
-  = STUDY ROADWAY SEGMENT
-  = PROJECT SITE

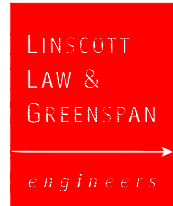


FIGURE 1-1

VICINITY MAP  
MERCURY APARTMENTS, BREA



## 2.0 PROJECT DESCRIPTION

The Project site is located within the Brea Downtown area. The subject property is a square-shaped 1.0± acre parcel of land that is currently vacant/unimproved. The site is zoned Commercial Industrial (C-M), thus requiring a General Plan Amendment Zone Change. Additionally, the City does not have a residential zone that would allow this level of density so a Zoning Ordinance Amendment or some other mechanism would be required to create this type of zoning to accommodate the proposed Project. *Figure 2-1* is an existing aerial photograph of the Project site.

The Project consists of the development of a five-story apartment building with 120 apartment units on the 2<sup>nd</sup> through 5<sup>th</sup> floors over ground floor parking and two levels of subterranean parking. It should be noted that the most current site plan on file has up to 114 units. To provide a conservative assessment 120 units has been assumed. The Project is expected to be constructed over the next two years or so and completed by 2020. However, to provide a conservative assessment, Year 2021 has been utilized to assess the Project's potential traffic impacts at full occupancy within a near-term cumulative traffic setting. *Figure 2-2* illustrates the conceptual site plan for the Project prepared by Humphreys & Partners Architects, L.P.

### 2.1 Site Access

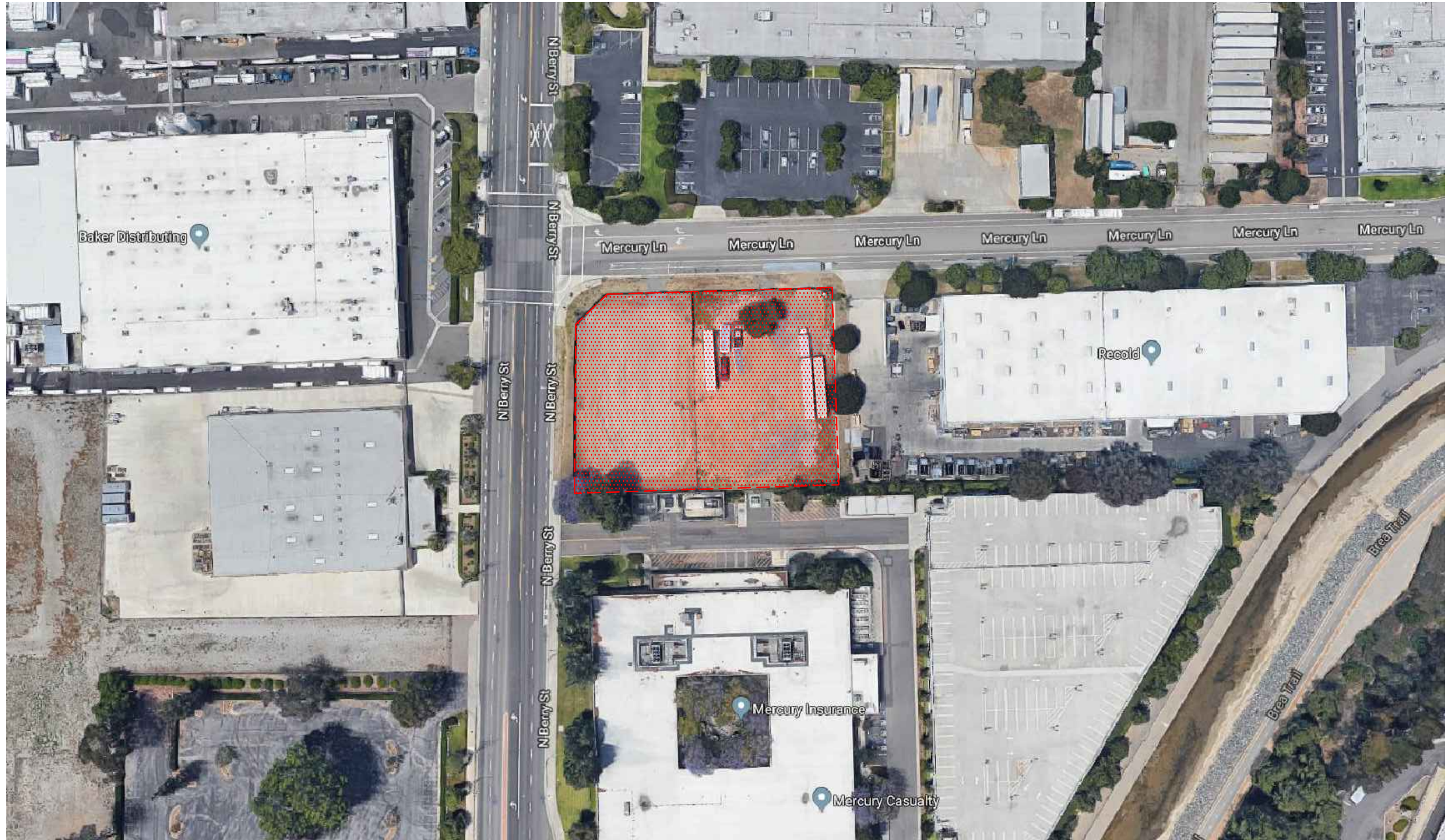
Vehicular access to the Project will be provided via one (1) full access unsignalized driveway along Mercury Lane.

### 2.2 Pedestrian Circulation

Pedestrian circulation will be provided via the existing sidewalk system. It should be noted that the existing public sidewalk currently terminates along Berry Street at the southern boundary of the Project site. The Project will construct sidewalks along the frontage with construction of the Project along Berry Street and Mercury Lane. The existing sidewalk system within the Project vicinity provides direct connectivity to the existing development located along major thoroughfares. Pedestrian access to the Project will be provided via building entries/exits located on Berry Street and Mercury Lane.

Existing pedestrian facilities within the project area are adequate. Sidewalks are generally provided throughout the City along with crosswalks at most major intersections. In close proximity to the site, Berry Street, Imperial Highway and Lambert Road provides pedestrians connectivity via the existing sidewalks linking the project site to the surrounding community.



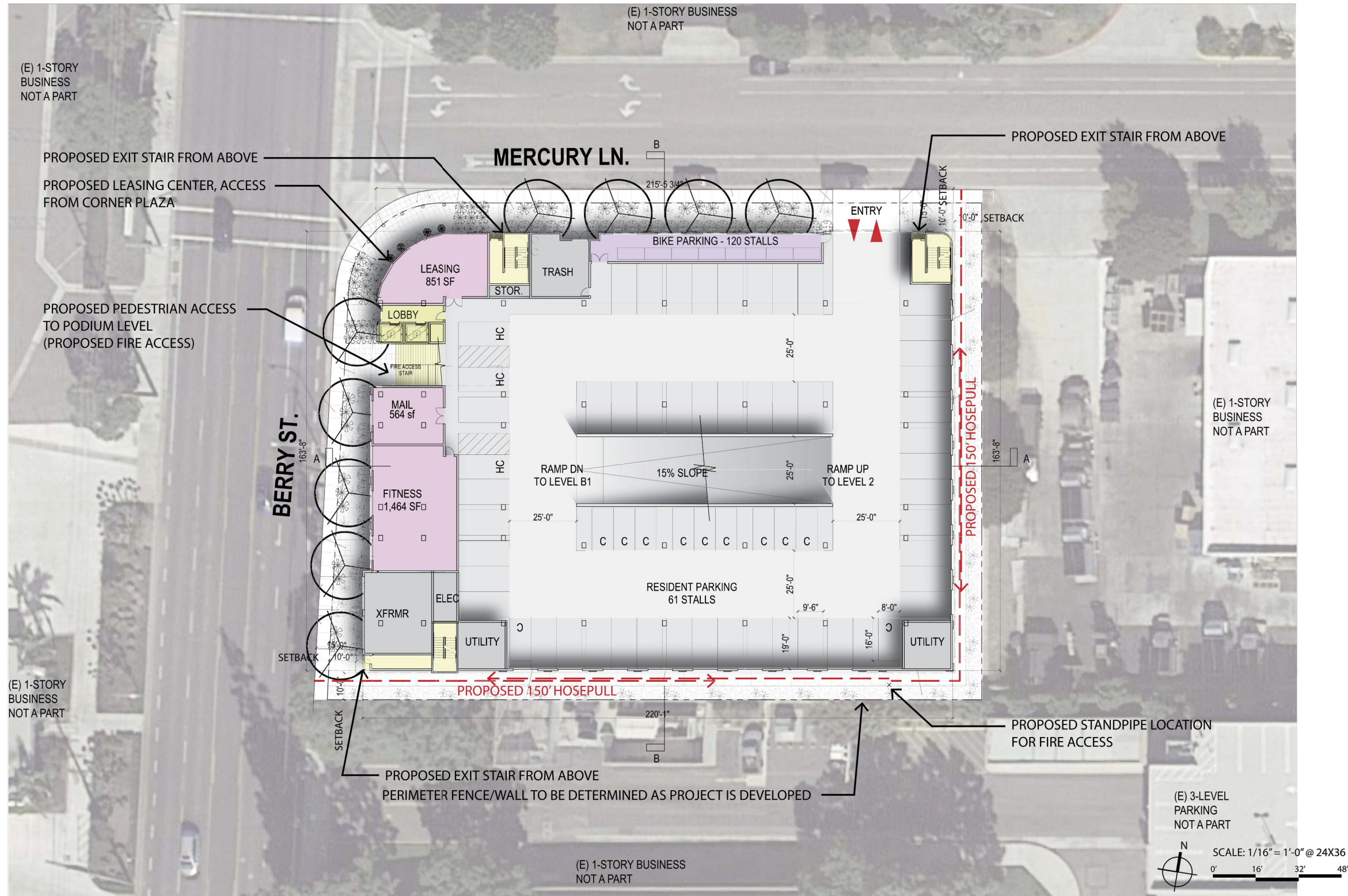


n:\3900\2183933 - mercury apartments, brea\dwg\3933 f2-1.dwg LDP 14:51:03 04-02-2018 besa

FIGURE 2-1

EXISTING SITE AERIAL  
MERCURY APARTMENTS, BREA





n:\3900\2183933 - mercury apartments, brea\dwg\3933 f2-2.dwg LDP 08:40:24 08-31-2018 besa

SOURCE: HUMPHREYS & PARTNERS ARCHITECTS, L.P.



FIGURE 2-2

PROPOSED SITE PLAN  
MERCURY APARTMENTS, BREA

## 3.0 EXISTING CONDITIONS

### 3.1 Existing Street System

The principal local network of streets serving the project site includes Lambert Road, Imperial Highway, Puente Street, Berry Street, Brea Boulevard, and State College Boulevard. The following discussion provides a brief synopsis of these key area streets. The descriptions are based on an inventory of existing roadway conditions.

**Lambert Road** is a six-lane, divided roadway oriented in the east-west direction. The posted speed limit on Lambert Road is 45 miles per hour (mph) west of the SR-57 Freeway and 50 mph east of the SR-57 Freeway. On-street parking is not permitted along this roadway. Traffic signals control the study intersections of Lambert Road at Puente Street, Berry Street, Brea Boulevard, State College Boulevard, and SR-57 ramps.

**Imperial Highway** is a six-lane, divided roadway oriented in the east-west direction. The posted speed limit on Imperial Highway is 45 mph west of the SR-57 Freeway and 50 mph east of the SR-57 Freeway. On-street parking is not permitted along this roadway. A traffic signal controls the study intersections of Imperial Highway at Puente Street, Berry Street, Brea Boulevard, State College Boulevard, and SR-57 ramps.

**Puente Street** is a four-lane, divided roadway north of Imperial Highway and a two-lane, undivided roadway south of Imperial Highway. The posted speed limit is 40 mph with no on-street parking north of Imperial Highway. The posted speed limit is 25 mph with on-street parking on both sides of the roadway, south of Imperial Highway. Traffic signals control the study intersections of Puente Street at Lambert Road and Imperial Highway.

**Berry Street** is a four-lane, divided roadway that borders the Project site to the west, oriented in the north-south direction. The posted speed limit is 40 mph and parking is not permitted on either side of the roadway. Traffic signals control the study intersections of Berry Street at Lambert Road, Mercury Lane, and Imperial Highway.

**Brea Boulevard** is a four-lane, divided roadway south of Imperial Highway and north of Lambert Road, and a six-lane divided roadway between Imperial Highway and Lambert Road, oriented in the northeast-southwest direction. The posted speed limit is 40 mph south of Imperial Highway and 35 mph north of Imperial Highway. On-street parking is not permitted on either side of the roadway. Traffic signals control the study intersections of Brea Boulevard at Lambert Road, Birch Street, and Imperial Highway.

**State College Boulevard** is a four-lane, divided roadway oriented in the north-south direction. The posted speed limit on State College Boulevard is 40 mph. On-street parking is not permitted along this roadway in the vicinity of the Project. Traffic signals control the study intersections of State College Boulevard at Lambert Road and Imperial Highway.

**Figure 3-1** presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. This figure identifies the number of travel lanes for key arterials, as well as intersection configurations and controls for the key area study intersections.

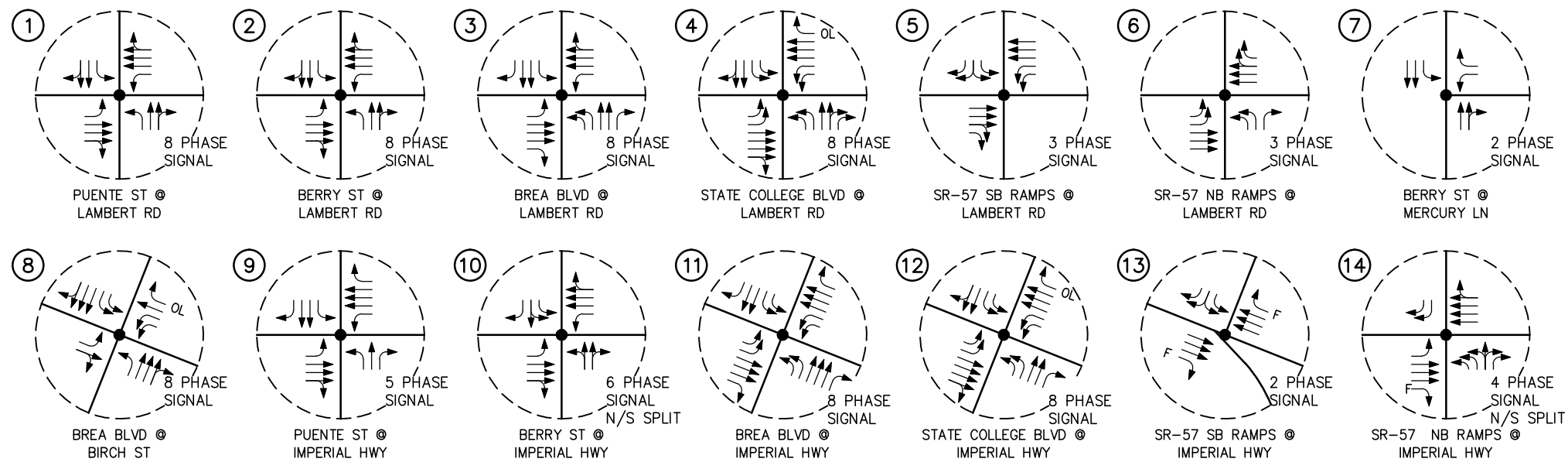
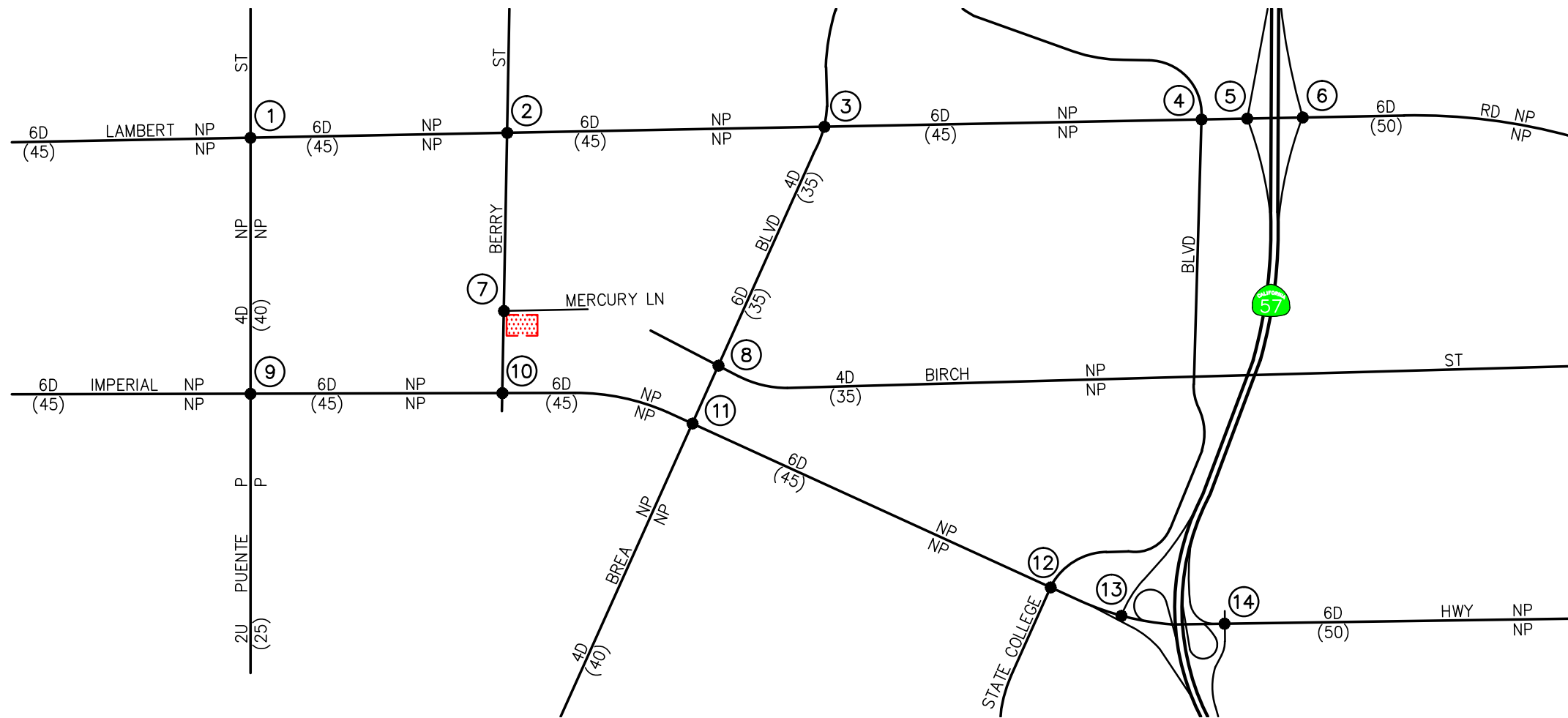
### 3.2 Existing Public Transit

Public transit bus service is provided in the project area by the Orange County Transportation Authority (OCTA). Five (5) OCTA bus routes operate within the vicinity of the Project site on Brea Boulevard and Birch Street, which consist of the following:

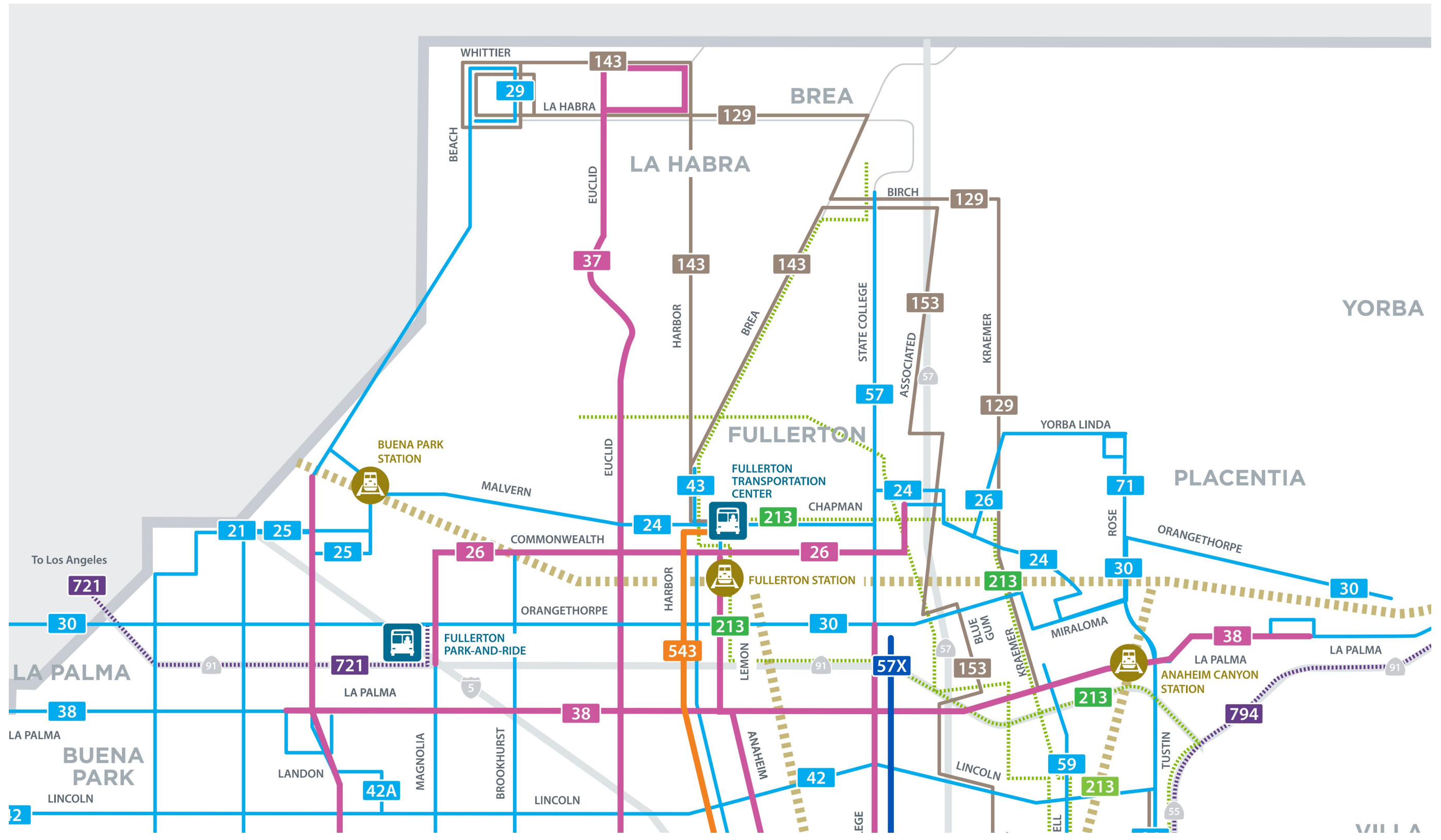
- OCTA Route 57 (Brea to Newport Beach): Route 57 is a local bus route serving the Cities of Brea, Fullerton, Anaheim, Orange, Santa Ana, Costa Mesa, and Newport Beach. The major routes of travel include State College Boulevard and Bristol Street. Nearest to the project site are bus stops along State College Boulevard at the intersection of Imperial Highway. Route 57 operates on approximate 15-minute headways during weekdays and 30-minute headways on weekends.
- OCTA Route 129 (La Habra to Anaheim): Route 129 is a community bus route serving the Cities of Anaheim, Placentia, Yorba Linda, Brea, and La Habra. The major routes of travel include La Habra Boulevard, Brea Boulevard, Birch Street, and Kraemer Boulevard. Nearest to the project site are bus stops along Brea Boulevard at the intersection of Birch Street. Route 129 operates on approximate 30-minute headways during weekdays and 60-minute headways on weekends.
- OCTA Route 143 (La Habra to Brea): Route 143 is a community bus route serving the Cities of Fullerton, Brea, and La Habra. The major routes of travel include Whittier Boulevard, Harbor Boulevard, Brea Boulevard, and Birch Street. Nearest to the project site are bus stops on Brea Boulevard at the intersection with Imperial Highway. Route 143 operates on approximate 75-minute headways during weekdays and 65-minute headways on weekends.
- OCTA Route 153 (Brea to Anaheim): Route 153 is a community bus route serving the Cities of Brea, Placentia, Fullerton, Anaheim, and Orange. The major routes of travel include Placentia Avenue. Nearest to the project site are bus stops on Birch Street at the intersection with State College Boulevard. Route 153 operates on approximate 60-minute headways during weekdays and weekends.
- OCTA Route 213 (Brea to Irvine Express). Route 463 is an express bus route serving the Cities of Brea, Placentia, Fullerton, Anaheim, Orange, and Irvine via the SR-55 Freeway. Nearest to the project site are bus stops on Brea Boulevard at the intersection with Imperial Highway. Route 213 operates on approximate 20-minute headways during weekday peak hours; no bus service is provided on the weekends.

**Figure 3-2** graphically illustrates the transit routes of OCTA within the vicinity of the Project site.

**Figure 3-3** identifies the location of the existing bus stops in proximity to the Project site.







n:\3900\2183933 - mercury apartments, brea\dwg\3933 f3-2.dwg LDP 13:25:20 08-30-2018 besa

SOURCE: OCTA

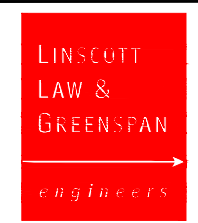
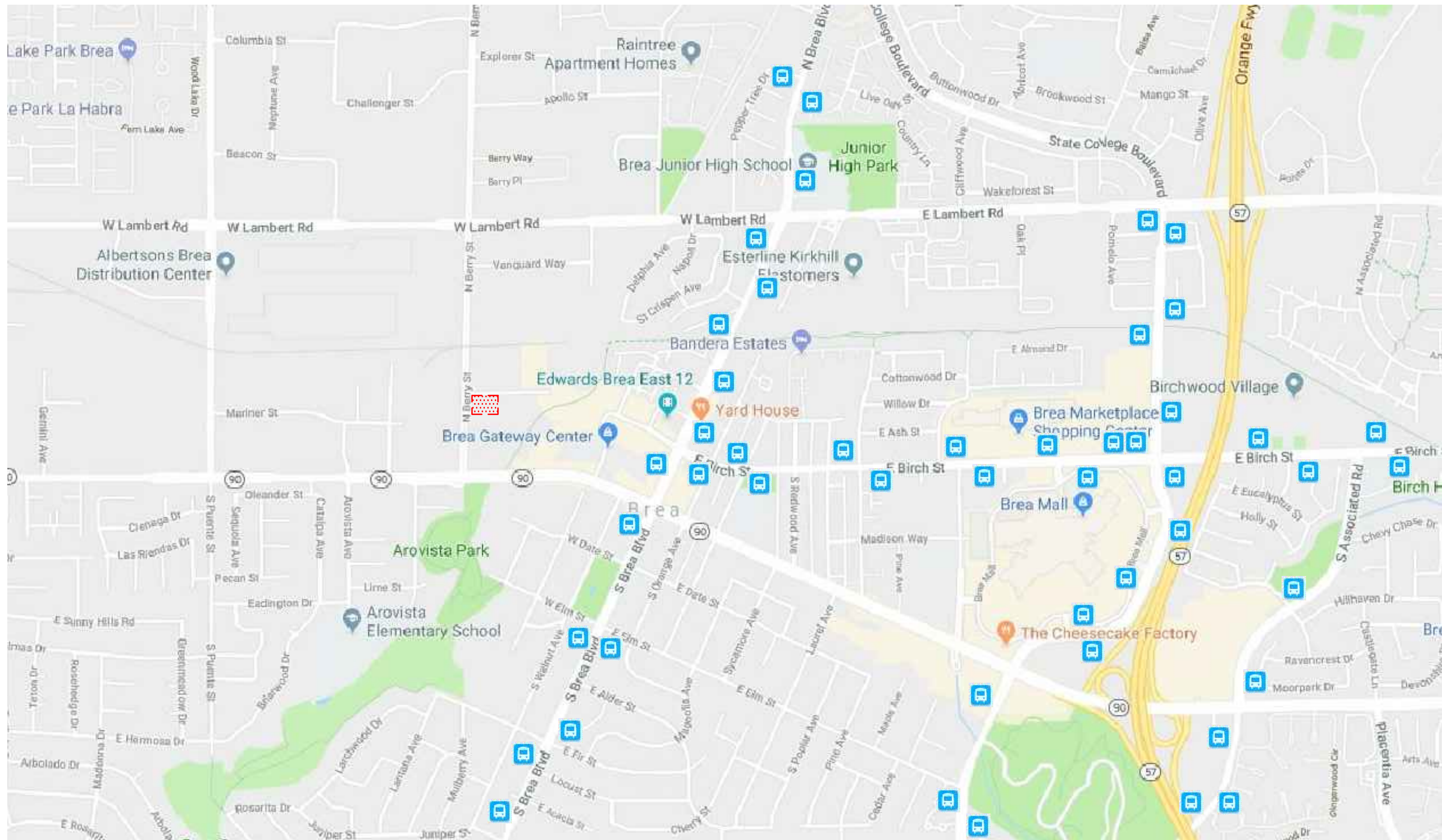
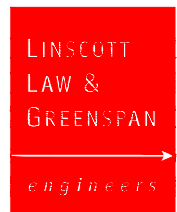




FIGURE 3-2

OCTA ROUTES  
MERCURY APARTMENTS, BREA



n:\3900\2183933 - mercury apartments, brea\dwg\3933 f3-3.dwg LDP 14:01:42 08-30-2018 bsa



SOURCE: GOOGLE  
**KEY**  
 = PROJECT SITE  
 = TRANSIT STOP

**FIGURE 3-3**

**TRANSIT STOP LOCATIONS**  
 MERCURY APARTMENTS, BREA



### 3.3 Existing Bikeway Plan

The City of Brea promotes bicycling as a means of mobility and a way in which to improve the quality of life within its community. The Bikeway Plan recognizes the needs of bicycle users and aims to create a complete and safe bicycle network throughout the City. The City of Brea Bike Plan (existing and proposed) is shown on **Figure 3-4**. In close proximity to the site, an existing Class II bike lane is provided along Berry Street and Mercury Lane. In addition, a Class I bike path is located to the east of the site located along the Brea Trail. This trail is proposed to be extended in the future.

### 3.4 Existing Traffic Volumes

Fourteen (14) key study intersections and thirteen (13) key roadway segments have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through each of these intersections, and their analysis will reveal the expected relative impacts of the project. These key locations were selected for evaluation based on discussions with City of Brea staff and in consideration of Orange County CMP requirements.

Existing daily, AM peak hour and PM peak hour traffic volumes for the fourteen (14) key study intersections and thirteen (13) key roadway segments evaluated in this report were obtained from manual turning movement counts conducted by National Data and Surveying Services in April 2018.

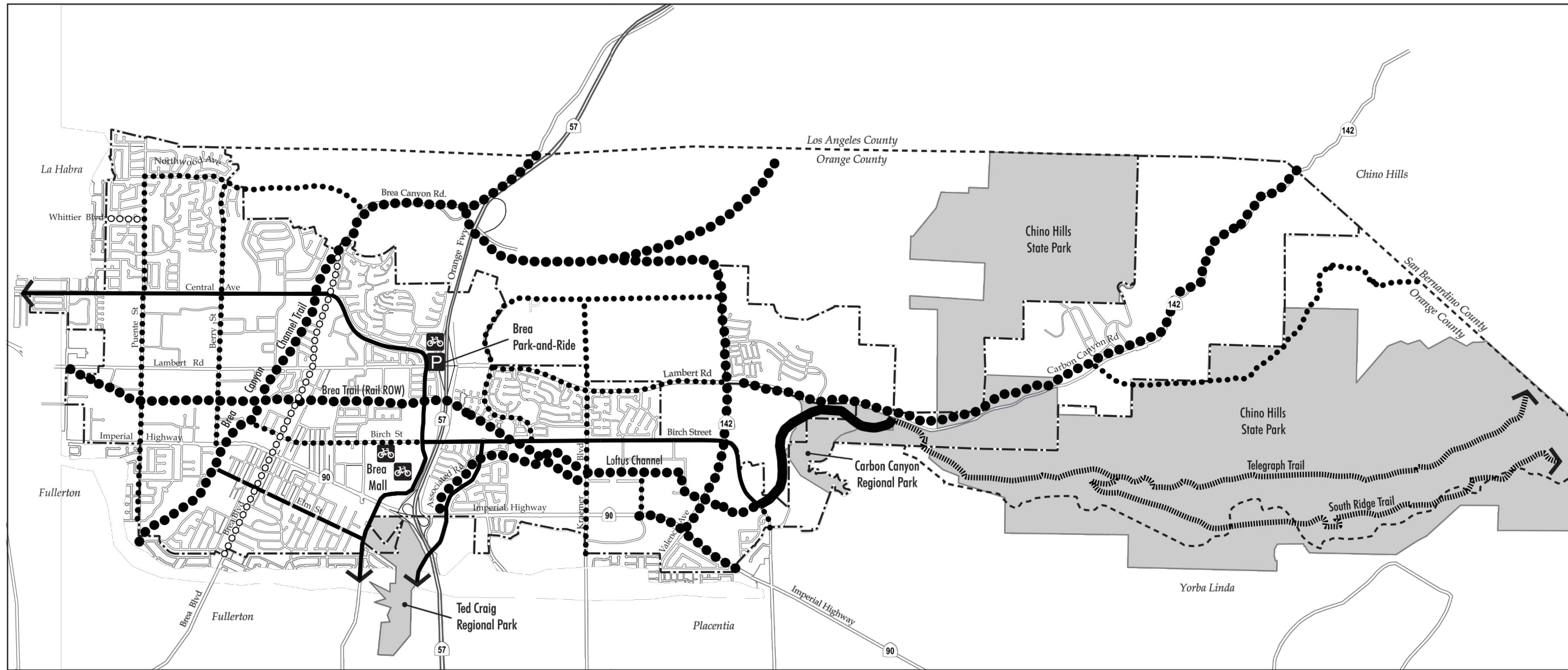
**Figures 3-5** and **3-6** illustrate the existing AM and PM peak hour traffic volumes at the fourteen (14) key study intersections evaluated in this report, respectively. **Figure 3-5** also presents the existing average daily traffic volumes for the thirteen (13) key roadway segments in the vicinity of the proposed Project. **Appendix B** contains the detailed peak hour and daily traffic count sheets for the key intersections and roadway segments evaluated in this report.

### 3.5 Existing Intersection Conditions

Existing AM and PM peak hour operating conditions for the fourteen (14) key study intersections were evaluated using the *Intersection Capacity Utilization (ICU)* methodology for signalized intersections as well as the methodology outlined in the *Highway Capacity Manual*. Per the City's direction, the Intersection Capacity Utilization (ICU) method will be used for the purpose of consistency with the General Plan along with the Highway Capacity Manual (HCM) for the purpose of providing an additional layer of analysis.

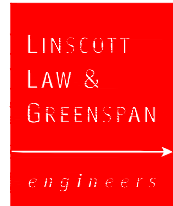
#### 3.5.1 Intersection Capacity Utilization (ICU) Method of Analysis

In conformance with City of Brea and Orange County CMP requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future



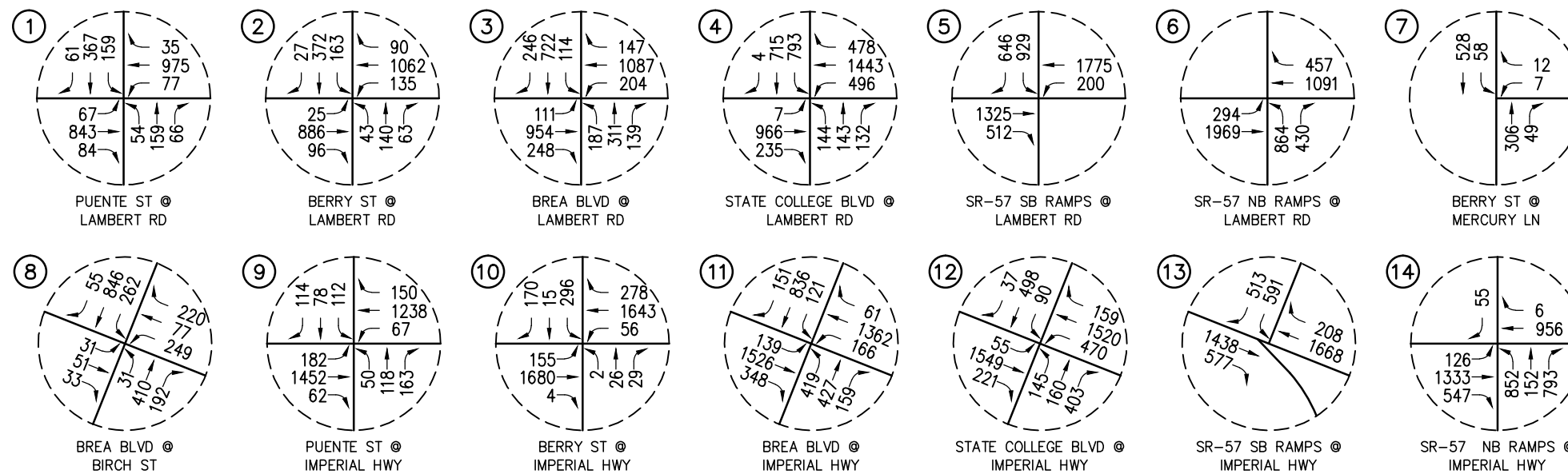
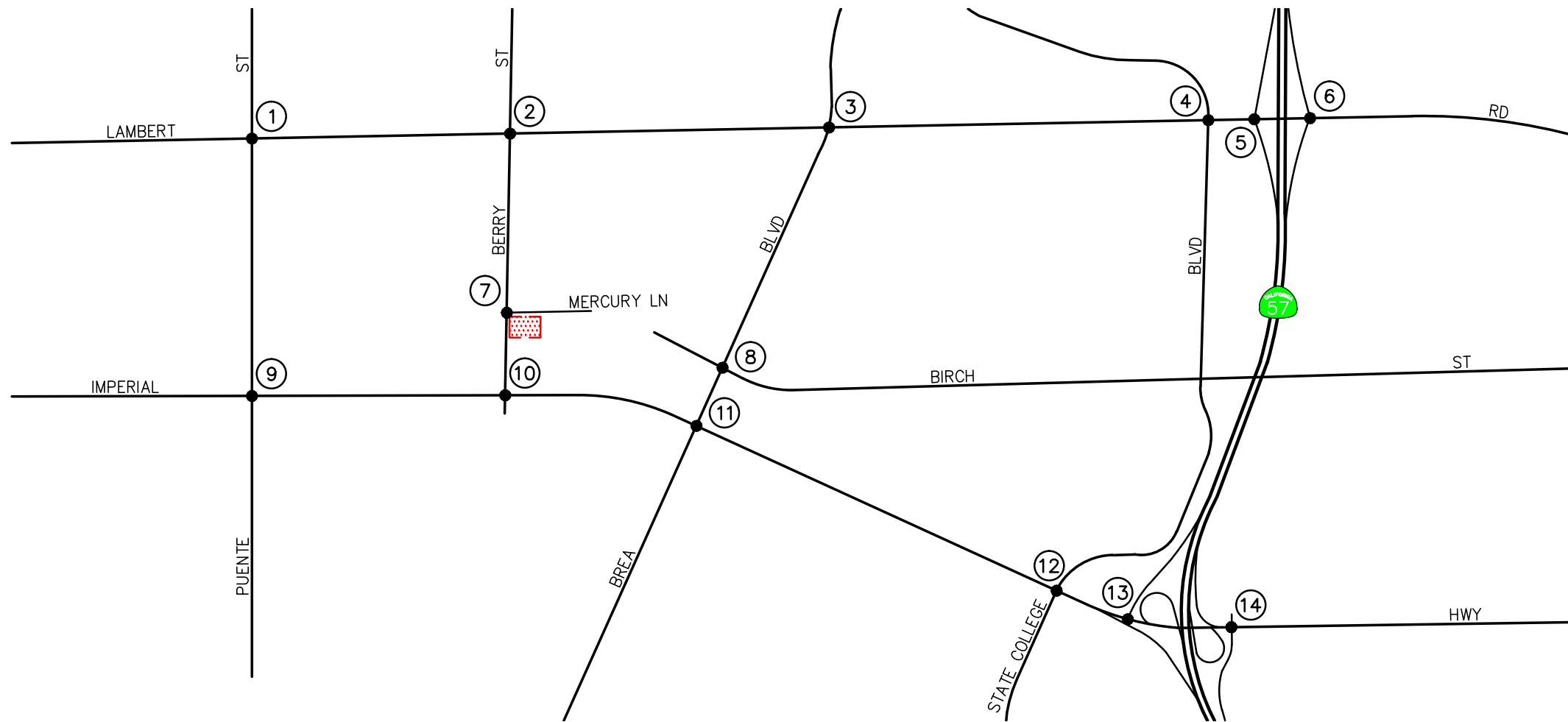
- Legend**
- City Boundary
  - - - Sphere of Influence
- Bike Ways**
- ▬ Bike Path (Class I)
  - ▬ Bike Lane (Class II)
  - ▬ Bike Route (Class III)
  - ▬ Off Road (Unpaved)
- Bike Ways (Proposed)**
- Bike Path (Class I)
  - Bike Lane (Class II)
  - Bike Route (Class III)
- P** Park and Ride  
**🚲** Bike Parking Facility

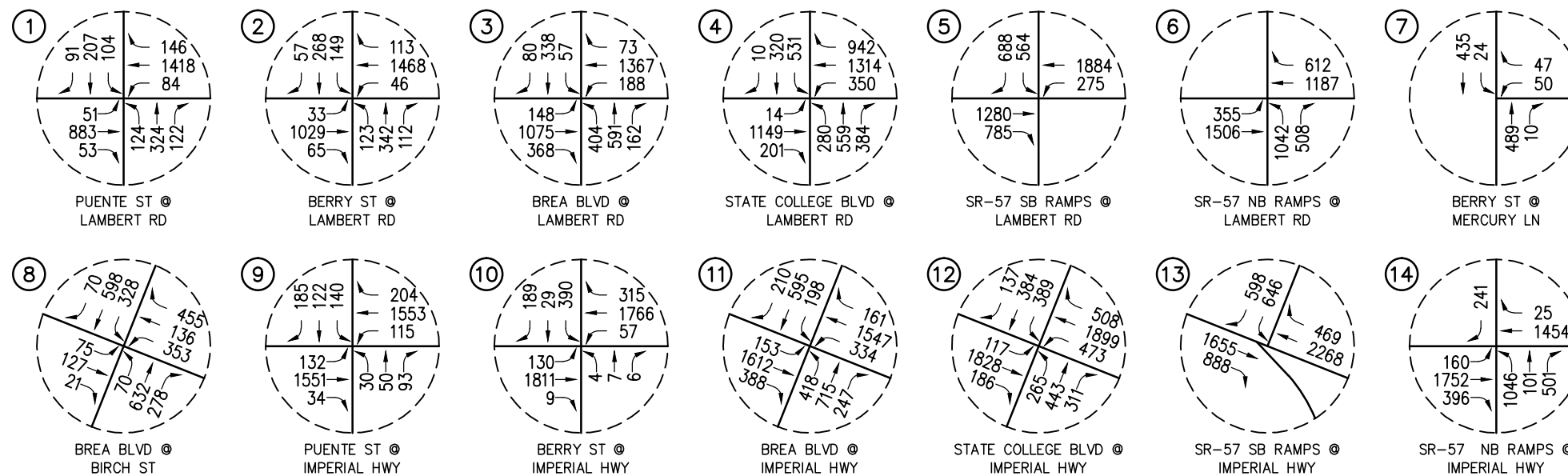
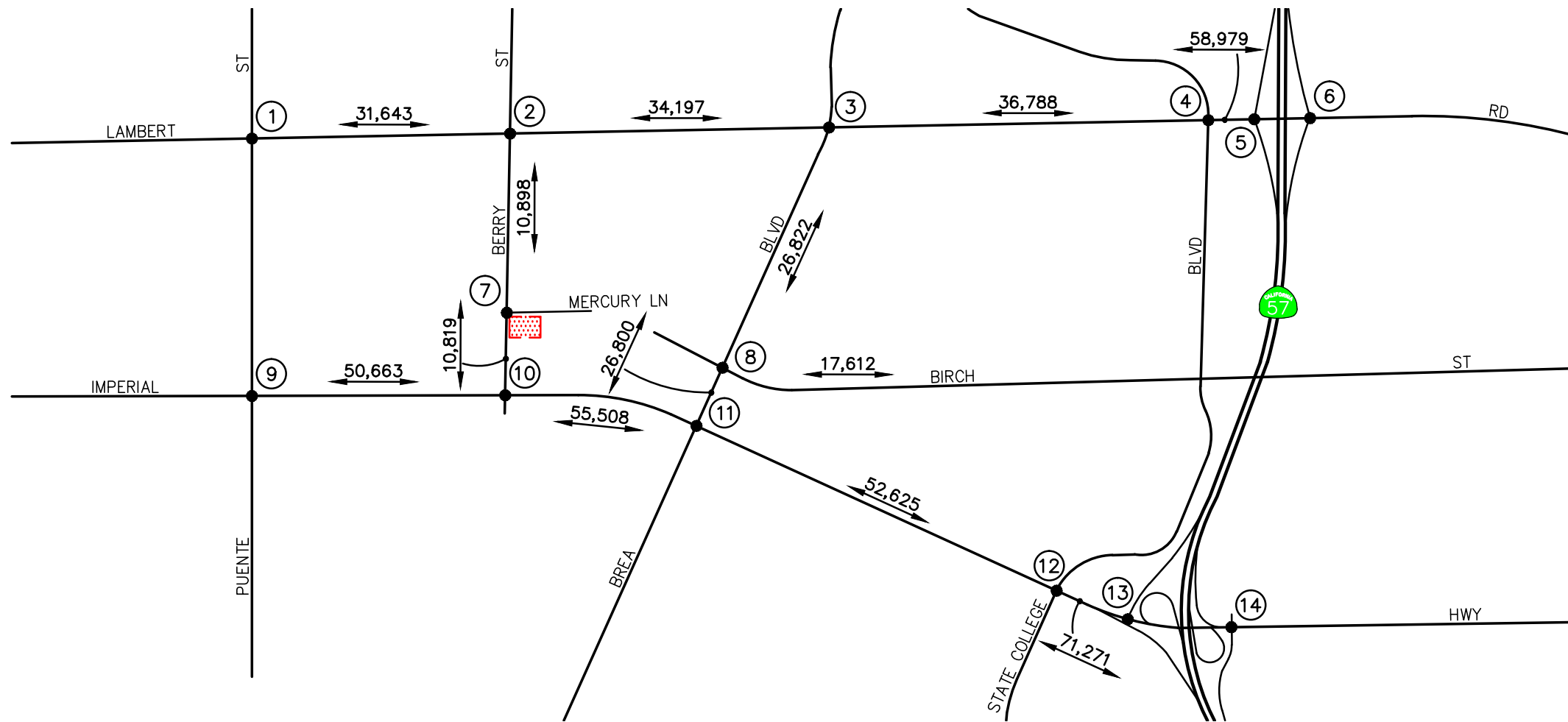
SOURCE: CITY OF BREA GENERAL PLAN



**FIGURE 3-4**

**CITY OF BREA BIKE PLAN**  
 MERCURY APARTMENTS, BREA



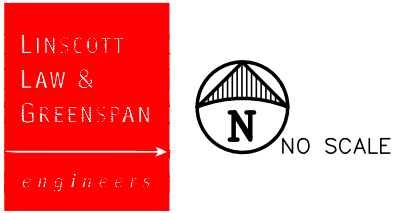


**KEY**

# = STUDY INTERSECTION

XX,XXX = DAILY TRAFFIC VOLUMES

[Red Hatched Box] = PROJECT SITE



**FIGURE 3-6**  
**EXISTING PM PEAK HOUR AND DAILY TRAFFIC VOLUMES**  
 MERCURY APARTMENTS, BREA

n:\3900\2183933 - mercury apartments, brea\dwg\3933 f3-6.dwg LDP 10:18:21 08-30-2018 besa

traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City of Brea requirements, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in *Table 3-1*.

### **3.5.2 Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)**

Existing AM and PM peak hour operating conditions for key study intersections under City of Brea and Caltrans jurisdiction were evaluated using the methodology outlined in *Chapter 19 of the Highway Capacity Manual 6 (HCM 6)* for signalized intersections, the methodology outlined in *Chapter 20 of the HCM 6* for two-way stop-controlled intersections.

Based on the HCM operations method of analysis, level of service for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle. The LOS thresholds established for the automobile mode at a signalized intersection are shown in *Table 3-2*.

### **3.5.3 Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)**

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance.

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street

through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in *Table 3-3*.

#### **3.5.4 Level of Service Criteria**

According to City of Brea criteria, LOS D is the minimum acceptable condition that should be maintained during the morning and evening peak commute hours at intersections.

Caltrans “endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities”; it does not require that LOS “D” (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has determined that all state owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The *Caltrans Traffic Impact Study Guidelines dated December 2002* does state that if an existing state owned facility operates at less than LOS D, the existing service level should be maintained. At locations within the City of Brea but under the jurisdiction of Caltrans (i.e. study locations located along Imperial (SR-90) Highway), Caltrans LOS standards would apply.

Based on the above, all fourteen (14) intersections require LOS D.

**TABLE 3-1**  
**LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU METHODOLOGY)**

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	$\leq 0.600$	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.601 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 – 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	$> 1.000$	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

**TABLE 3-2**  
**LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM METHODOLOGY)<sup>1</sup>**

<b>Control Delay (sec/veh)</b>	<b>Level of Service (LOS)</b>	<b>Level of Service Description</b>
≤ 10	A	This level of service occurs when the v/c ratio is low and either progression is exceptionally favorable or the cycle length is very short.
> 10-20	B	This level generally occurs when the v/c ratio is low and either progression is highly favorable or the cycle length is short.
> 20-35	C	Average traffic delays. These higher delays may result when progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
> 35-55	D	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and individual cycle failures are noticeable.
> 55-80	E	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
> 80	F	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

<sup>1</sup> Source: *Highway Capacity Manual*, Chapter 18: Signalized Intersections.



**TABLE 3-3**  
**LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM METHODOLOGY)<sup>2</sup>**

Control Delay (sec/veh)	Level of Service (LOS)	Level of Service Description
0-10	A	Little or no delay
> 10-15	B	Short traffic delays
> 15-20	C	Average traffic delays
> 25-35	D	Long traffic delays
> 35-50	E	Very long traffic delays
> 50	F	Severe congestion

<sup>2</sup> Source: *Highway Capacity Manual*, Chapter 19: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

### **3.6 Existing Level of Service Results**

#### **3.6.1 Existing Conditions Intersection Capacity Analysis (ICU Methodology)**

*Table 3-4* summarizes the existing peak hour service level calculations for the fourteen (14) key study intersections based on existing traffic volumes and current street geometrics based on the ICU Method of Analysis. Review of *Table 3-3* indicates that all fourteen (14) key study intersections currently operate at an acceptable LOS C or better during the AM and PM peak hours.

#### **3.6.2 Existing Conditions Intersection Capacity Analysis (HCM Methodology)**

*Table 3-5* summarizes the existing peak hour service level calculations for the fourteen (14) key study intersections based on existing traffic volumes and current street geometrics based on the HCM Method of Analysis. Review of *Table 3-4* indicates that the intersections of State College Boulevard at Lambert Road and State College Boulevard at Imperial Highway currently operate at an unacceptable LOS during the AM and/or PM peak hours. The remaining twelve (12) of the fourteen (14) key study intersections currently operate at an acceptable LOS D or better during the AM and PM peak hours.

*Appendix D* presents the ICU/HCM/LOS calculation worksheets for the fourteen (14) key study intersections for the AM peak hour and PM peak hour.

**TABLE 3-4  
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

<b>Key Intersection</b>	<b>Jurisdiction</b>	<b>Minimum Acceptable LOS</b>	<b>Control Type</b>	<b>Time Period</b>	<b>ICU</b>	<b>LOS</b>
1. Puente Street at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	0.447 0.579	A A
2. Berry Street at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	0.478 0.601	A B
3. Brea Boulevard at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	0.625 0.638	B B
4. State College Boulevard at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	0.660 0.793	B C
5. SR-57 SB Ramps at Lambert Road	Brea/ Caltrans	D	3Ø Traffic Signal	AM PM	0.707 0.680	C B
6. SR-57 NB Ramps at Lambert Road	Brea/ Caltrans	D	3Ø Traffic Signal	AM PM	0.690 0.725	B C
7. Berry Street at Mercury Lane	Brea	D	2Ø Traffic Signal	AM PM	0.212 0.240	A A
8. Brea Boulevard at Birch Street	Brea	D	8Ø Traffic Signal	AM PM	0.368 0.540	A A
9. Puente Street at Imperial Highway	Brea	D	5Ø Traffic Signal	AM PM	0.562 0.569	A A
10. Berry Street at Imperial Highway	Brea	D	6Ø Traffic Signal	AM PM	0.635 0.663	B B
11. Brea Boulevard at Imperial Highway	Brea	D	8Ø Traffic Signal	AM PM	0.767 0.762	C C
12. State College Boulevard at Imperial Highway	Brea	D	8Ø Traffic Signal	AM PM	0.712 0.783	C C
13. SR-57 SB Ramps at Imperial Highway	Brea/ Caltrans	D	2Ø Traffic Signal	AM PM	0.594 0.739	A C
14. SR-57 NB Ramps at Imperial Highway	Brea/ Caltrans	D	4Ø Traffic Signal	AM PM	0.605 0.707	B C

**TABLE 3-5  
EXISTING PEAK HOUR INTERSECTION CAPACITY ANALYSIS - HCM**

<b>Key Intersection</b>	<b>Jurisdiction</b>	<b>Minimum Acceptable LOS</b>	<b>Control Type</b>	<b>Time Period</b>	<b>HCM (sec/veh)</b>	<b>LOS</b>
1. Puente Street at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	38.5 38.0	D D
2. Berry Street at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	36.2 35.9	D D
3. Brea Boulevard at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	42.8 40.8	D D
4. State College Boulevard at Lambert Road	Brea	D	8Ø Traffic Signal	AM PM	37.0 <b>55.9</b>	D <b>E</b>
5. SR-57 SB Ramps at Lambert Road	Brea/ Caltrans	D	3Ø Traffic Signal	AM PM	20.3 30.0	C C
6. SR-57 NB Ramps at Lambert Road	Brea/ Caltrans	D	3Ø Traffic Signal	AM PM	24.4 37.6	C D
7. Berry Street at Mercury Lane	Brea	D	2Ø Traffic Signal	AM PM	2.5 5.9	A A
8. Brea Boulevard at Birch Street	Brea	D	8Ø Traffic Signal	AM PM	33.6 36.4	C D
9. Puente Street at Imperial Highway	Brea/ Caltrans	D	5Ø Traffic Signal	AM PM	21.9 35.8	C D
10. Berry Street at Imperial Highway	Brea/ Caltrans	D	6Ø Traffic Signal	AM PM	48.7 38.9	D D
11. Brea Boulevard at Imperial Highway	Brea/ Caltrans	D	8Ø Traffic Signal	AM PM	33.0 53.4	C D
12. State College Boulevard at Imperial Highway	Brea/ Caltrans	D	8Ø Traffic Signal	AM PM	44.3 <b>77.0</b>	D <b>E</b>
13. SR-57 SB Ramps at Imperial Highway	Brea/ Caltrans	D	2Ø Traffic Signal	AM PM	17.1 29.6	B C
14. SR-57 NB Ramps at Imperial Highway	Brea/ Caltrans	D	4Ø Traffic Signal	AM PM	39.6 35.8	D D

Notes:

- **Bold HCM/LOS** values indicate adverse service levels based on the City and Caltrans LOS standards.

## 4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. The need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

## 5.0 PROJECT TRAFFIC CHARACTERISTICS

### 5.1 Project Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 10<sup>th</sup> Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2018].

*Table 5-1* summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and also presents the project's forecast peak hour and daily traffic volumes. As shown in the upper portion of *Table 5-1*, ITE Land Use 221: Multifamily Housing (Mid-Rise) trip rates will be used to forecast the trip generation potential of the residential component of the Project.

A review of the middle portion of this table indicates that the proposed Project is forecast to generate approximately 653 daily trips, with 43 trips (11 inbound, 32 outbound) produced in the AM peak hour and 53 trips (32 inbound, 21 outbound) produced in the PM peak hour on a "typical" weekday.

For comparison purposes, the trip generation potential for the subject property, under the current C-M zoning, was estimated using ITE Land Use 110: General Light Industrial and assuming development of 21,780 square-feet (SF)<sup>3</sup> of general light industrial. A review of the lower portion of this table indicates that the current zoning entitlement could generate approximately 108 daily trips, with 15 trips (13 inbound, 2 outbound) produced in the AM peak hour and 14 trips (2 inbound, 12 outbound) produced in the PM peak hour on a "typical" weekday.

Direct comparison of the trips generated by the proposed Project to the trips generated by the Entitled Land Use shows that that the implementation of the proposed Project will result in 545 additional daily trips, 28 additional AM peak hour trips and 39 additional PM peak hour trips. To provide a conservative traffic impact assessment, no trip credit for the entitled use has been included. The impact of project-generated trips will be evaluated.

### 5.2 Project Traffic Distribution and Assignment

*Figures 5-1* present the traffic distribution pattern for the proposed Project. Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers and regional access routes,
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns,
- presence of traffic congestion in the surrounding vicinity,

---

<sup>3</sup> Potential light industrial floor area estimated assuming an F.A.R. (Floor Area Ratio) of 0.50 as allowed in the City of Brea Zoning Code for C-M Commercial Industrial Zone property.

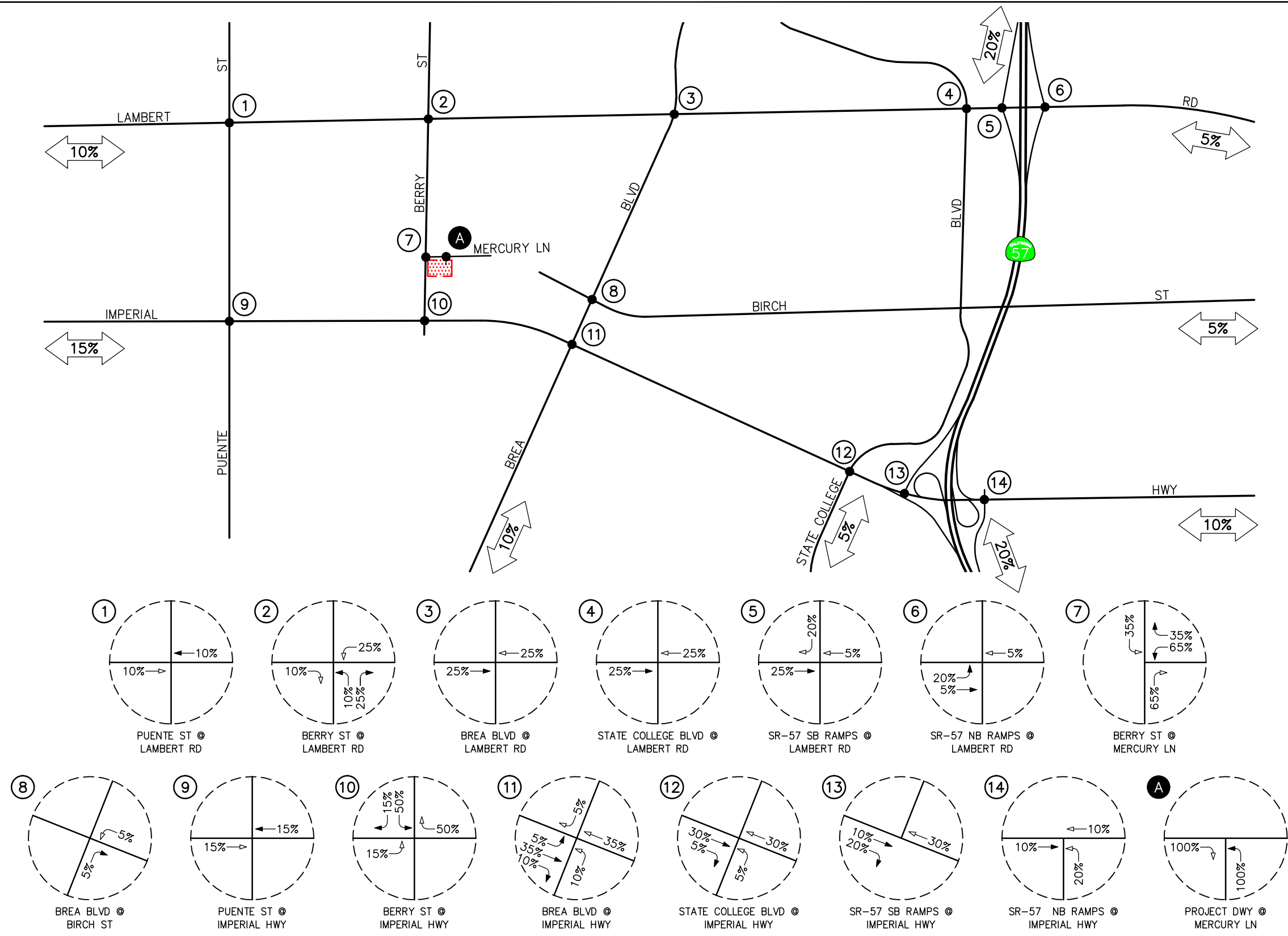
- ingress/egress availability at the project site, and
- discussions with City Staff.

The anticipated near-term AM and PM peak hour project traffic volumes associated with the proposed Project are presented in *Figures 5-2* and *5-3*, respectively. *Figure 5-3* also presents the daily Project traffic volumes. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast presented in *Table 5-1*. *Figure 5-3* also presents the project daily traffic volumes.

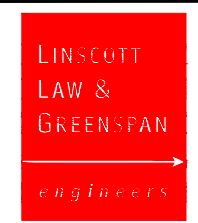
### **5.3 Existing Plus Project Traffic Conditions**

The Existing Plus Project traffic conditions have been generated based upon existing conditions and the estimated project traffic. These forecast traffic conditions have been prepared pursuant to the California Environmental Quality Act (CEQA) guidelines, which require that the potential impacts of a Project be evaluated upon the circulation system as it currently exists. This traffic volume scenario and the related intersection capacity analyses will identify the roadway improvements necessary to mitigate the direct traffic impacts of the Project, if any.

*Figures 5-4* and *5-5* present projected AM and PM peak hour traffic volumes at the fourteen (14) key study intersections and one (1) Project driveway with the addition of the trips generated by the proposed Project to existing traffic volumes, respectively. *Figure 5-5* also presents the Existing Plus Project daily traffic volumes.



n:\3900\2183933 - mercury apartments, brea\dwg\3933 f5-1.dwg LDP 09:52:31 04-05-2018 besa



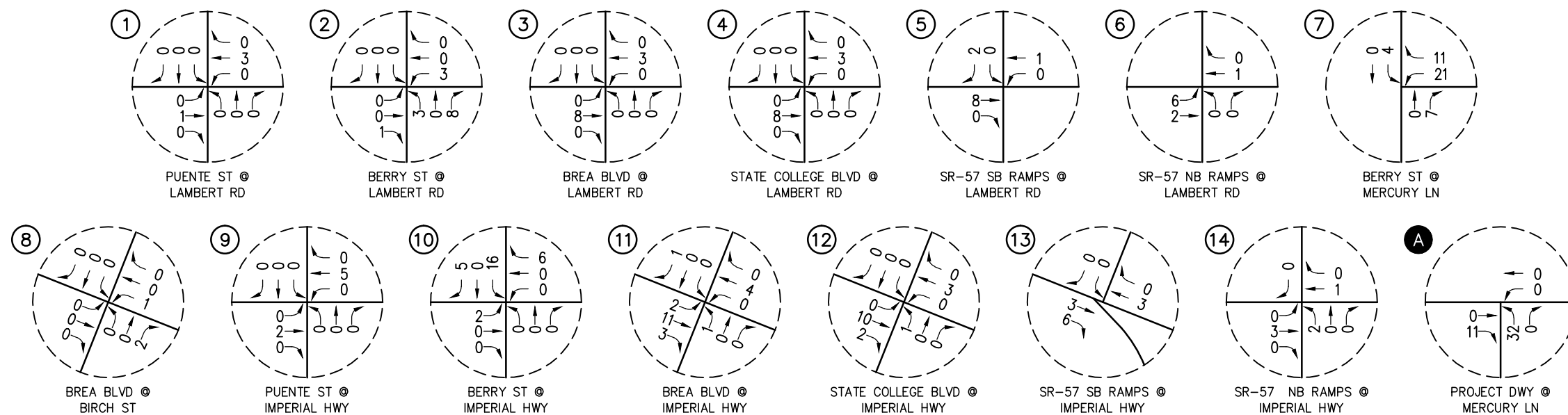
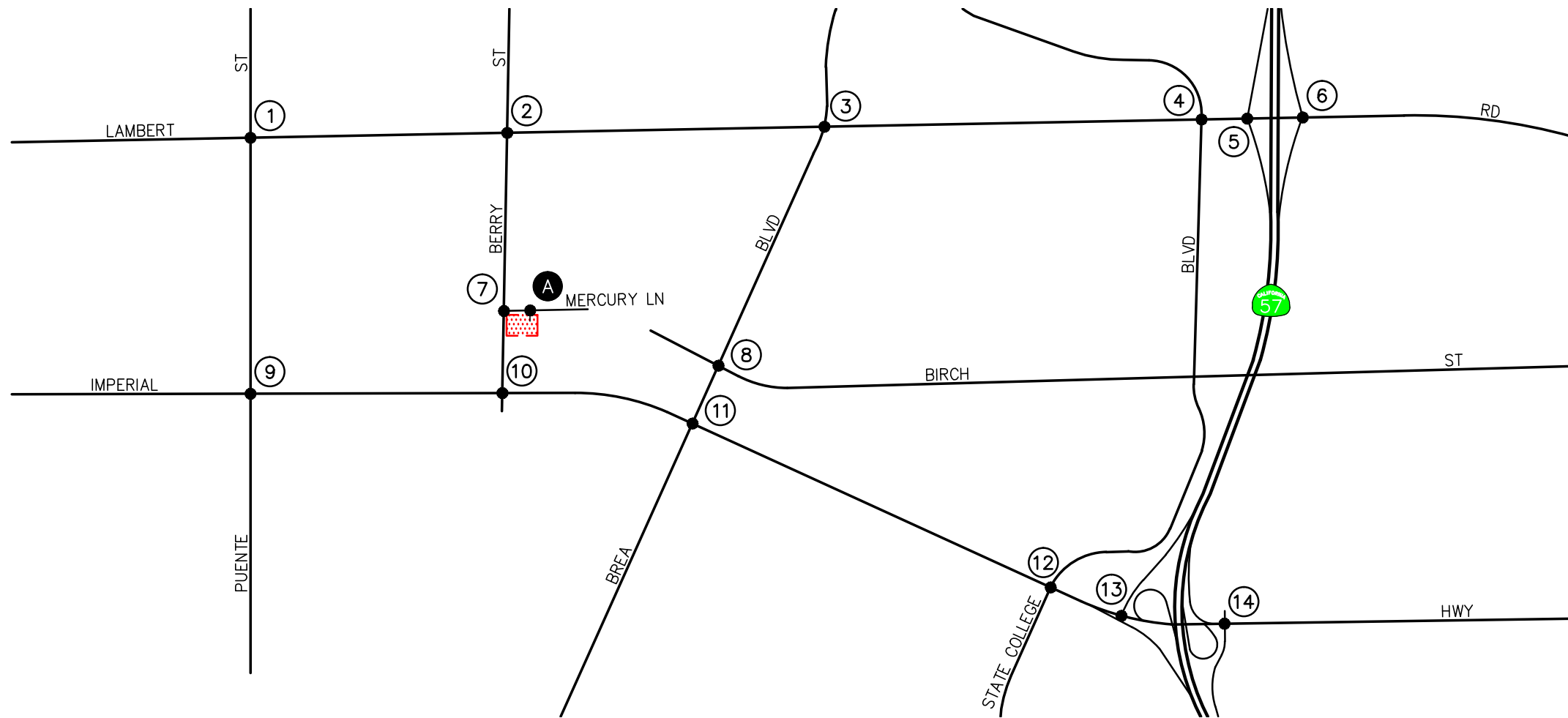
**KEY**

- # = STUDY INTERSECTION
- ← = INBOUND PERCENTAGE
- = OUTBOUND PERCENTAGE
- [Red Hatched Box] = PROJECT SITE

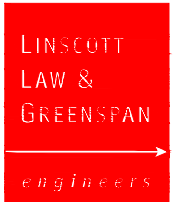
**FIGURE 5-1**

**PROJECT TRIP DISTRIBUTION PATTERN**  
MERCURY APARTMENTS, BREA





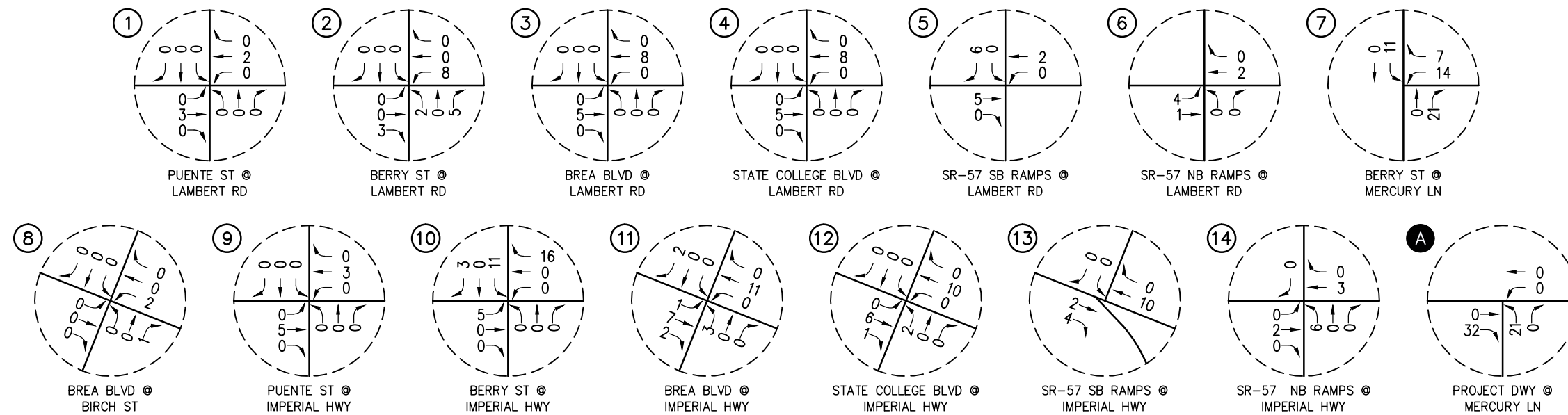
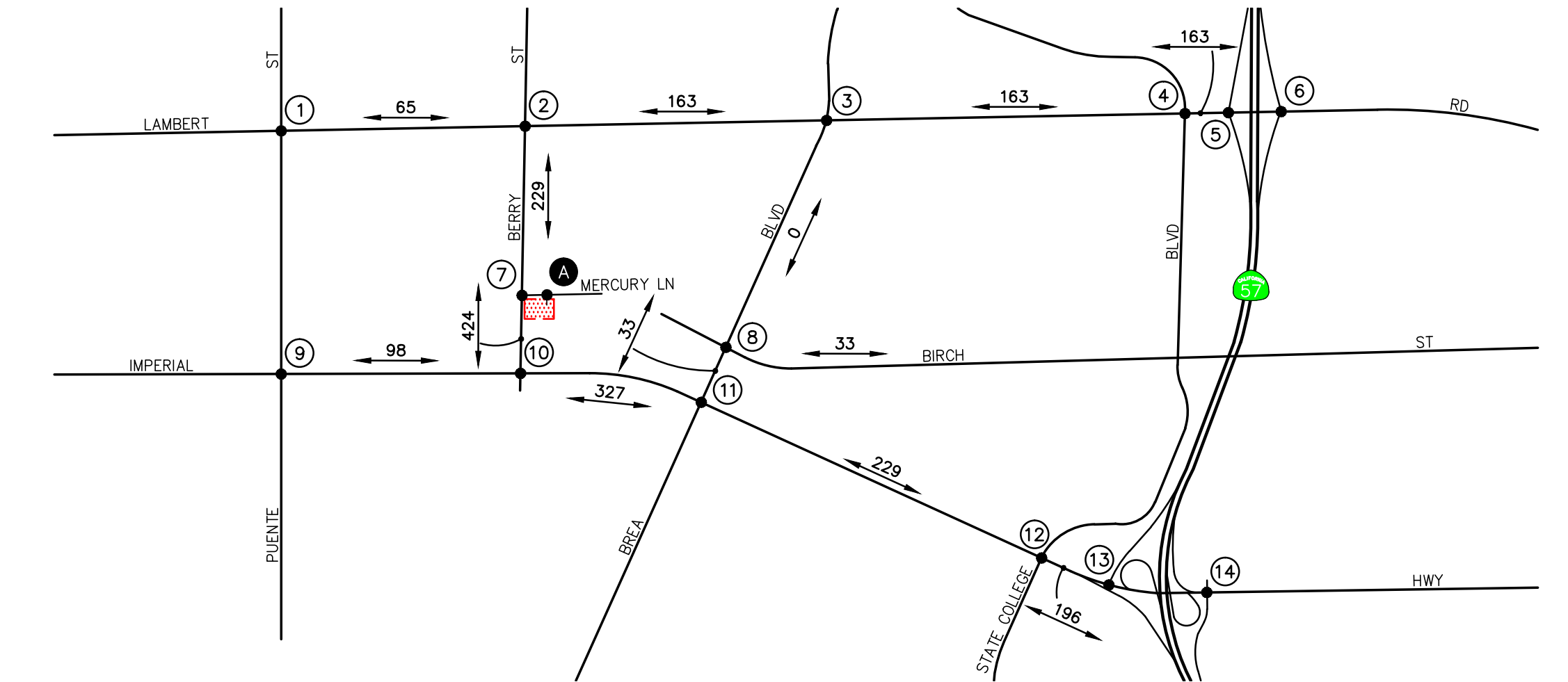
**KEY**  
 # = STUDY INTERSECTION  
 [Red Dotted Box] = PROJECT SITE



**FIGURE 5-2**

**AM PEAK HOUR PROJECT TRAFFIC VOLUMES**  
 MERCURY APARTMENTS, BREA

n:\3900\2183933 - mercury apartments, brea\dwg\3933 f5-2.dwg LDP 10:20:18 08-30-2018 besa

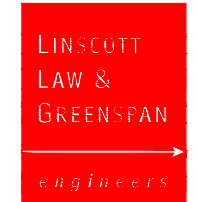


**KEY**

# = STUDY INTERSECTION

XX,XXX = DAILY TRAFFIC VOLUMES

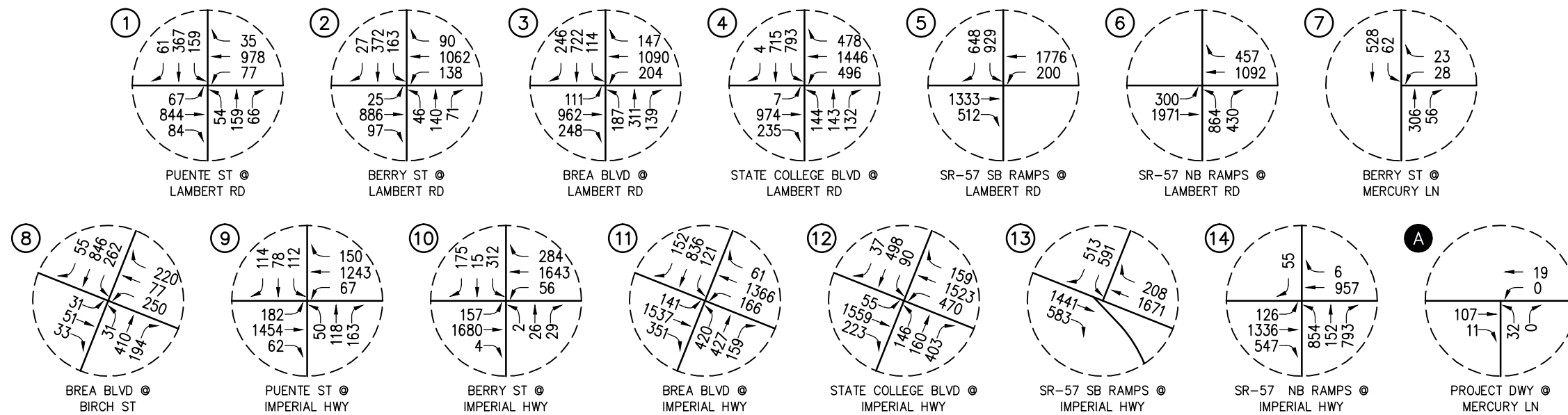
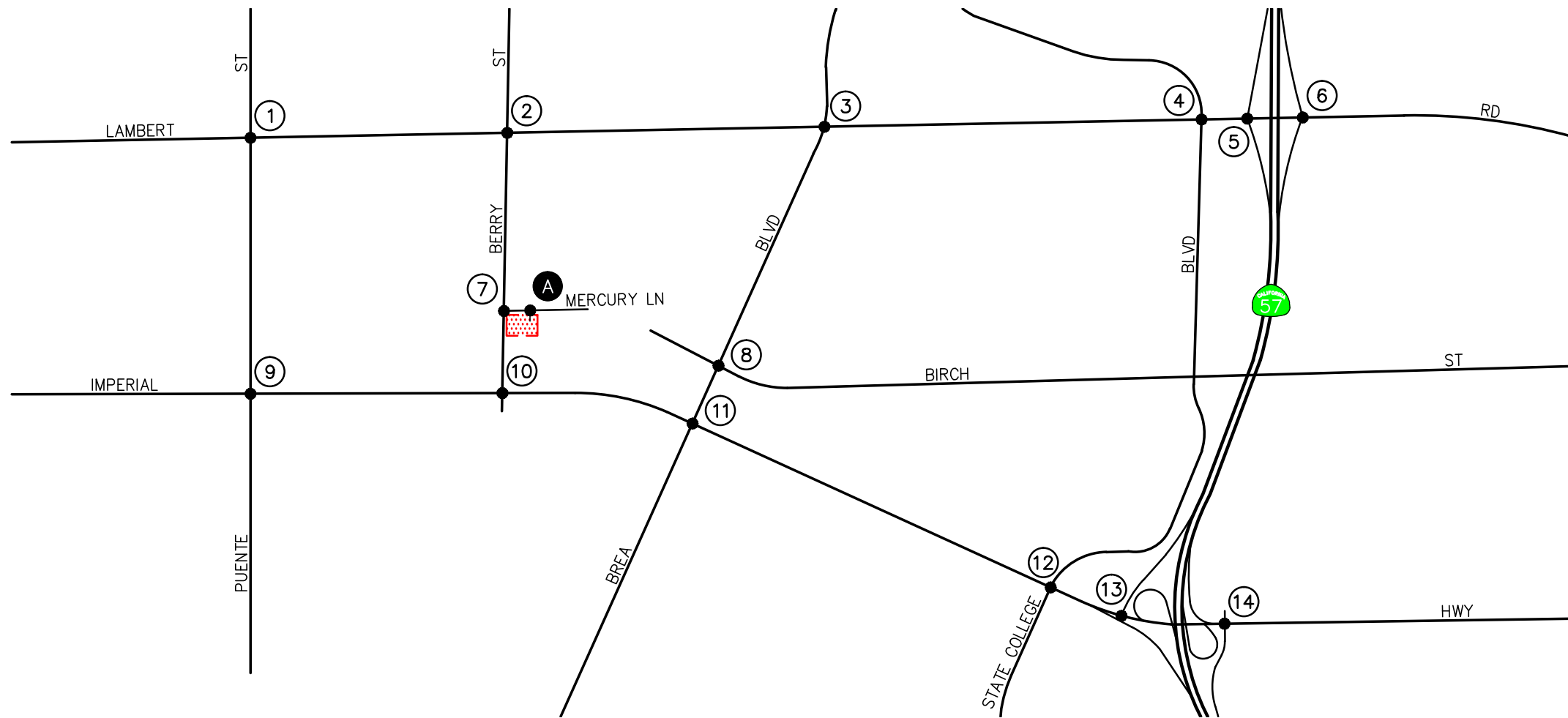
[Red Hatched Box] = PROJECT SITE

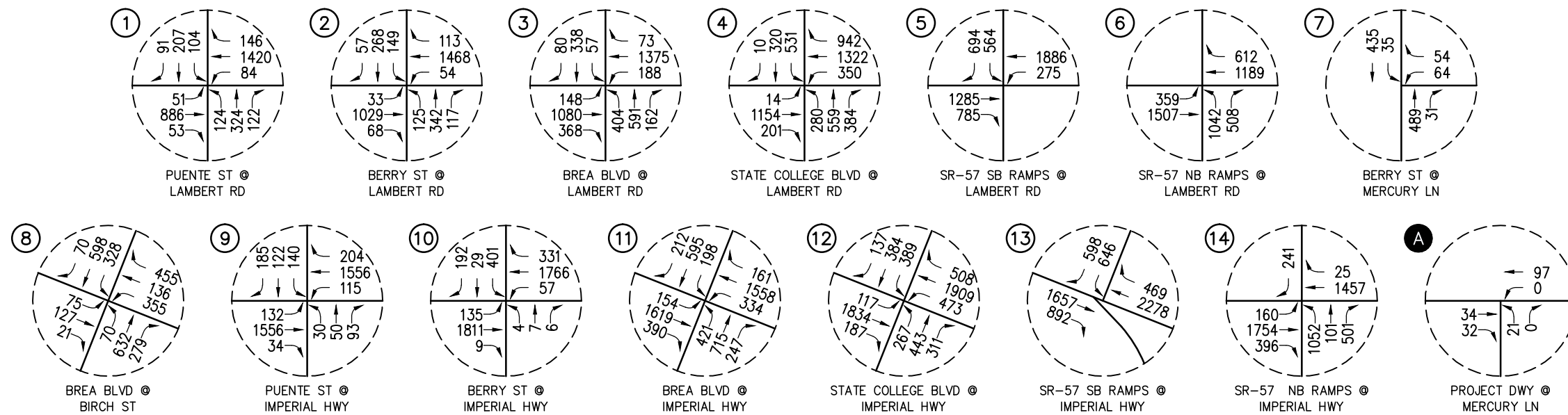
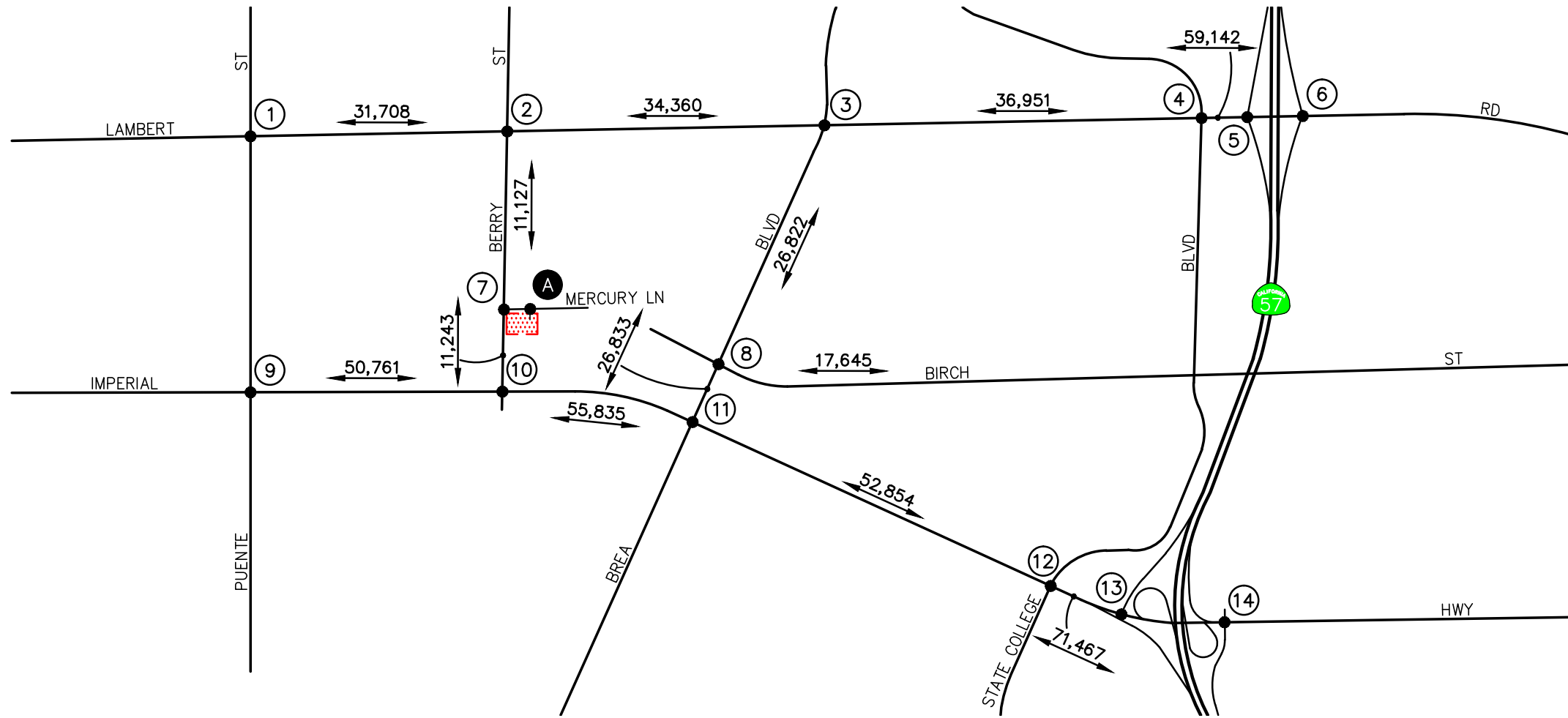


**FIGURE 5-3**

**PM PEAK HOUR AND DAILY PROJECT TRAFFIC VOLUMES**  
MERCURY APARTMENTS, BREA

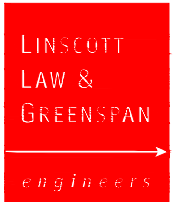
n:\3900\2183933 - mercury apartments, brea\dwg\3933 f5-3.dwg LDP 10:23:11 08-30-2018 besa





**KEY**

- # = STUDY INTERSECTION
- XX,XXX = DAILY TRAFFIC VOLUMES
- [Red Hatched Box] = PROJECT SITE



**FIGURE 5-5**  
**EXISTING PLUS PROJECT PM PEAK HOUR**  
**AND DAILY TRAFFIC VOLUMES**  
 MERCURY APARTMENTS, BREa

n:\3900\2183933 - mercury apartments, brea\dwg\3933 f5-5.dwg LDP 11:41:54 08-30-2018 besa

**TABLE 5-1  
PROJECT TRAFFIC GENERATION RATES AND FORECAST<sup>4</sup>**

Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<b><u>Trip Rates:</u></b>							
▪ 110: General Light Industrial (TE/KSF)	4.96	88%	12%	0.70	13%	87%	0.63
▪ 221: Multifamily Housing (Mid-Rise <sup>5</sup> ) (TE/DU)	5.44	26%	74%	0.36	61%	39%	0.44
<b><u>Proposed Trip Generation:</u></b>							
▪ Mid-Rise Apartments (120 DU)	653	11	32	43	32	21	53
<b><u>Entitled Trip Generation:</u></b>							
▪ General Light Industrial (21,780 SF)	108	13	2	15	2	12	14
<b>Net Trips (Proposed Minus Entitled)</b>	<b>545</b>	<b>-2</b>	<b>30</b>	<b>28</b>	<b>30</b>	<b>9</b>	<b>39</b>

**Notes:**

TE/KSF = Trip End per 1,000 Square Feet  
TE/DU = Trip End per Dwelling Unit

<sup>4</sup> Source: *Trip Generation*, 10<sup>th</sup> Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2018).

<sup>5</sup> Mid-Rise Multifamily Housing consists of buildings that range between 3 and 10 levels.

## 6.0 FUTURE TRAFFIC CONDITIONS

### 6.1 Ambient Traffic Growth

Horizon year, background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown and future related projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The future growth in traffic volumes has been calculated at one percent (1.0%) per year. Applied to the Year 2018 existing traffic volumes, this factor results in a 3.0% growth in existing volumes to the near-term horizon year 2021.

### 6.2 Related Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (related projects) within a two-mile radius of the proposed project has been researched at the City of Brea, City of Fullerton, and City of La Habra. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development.

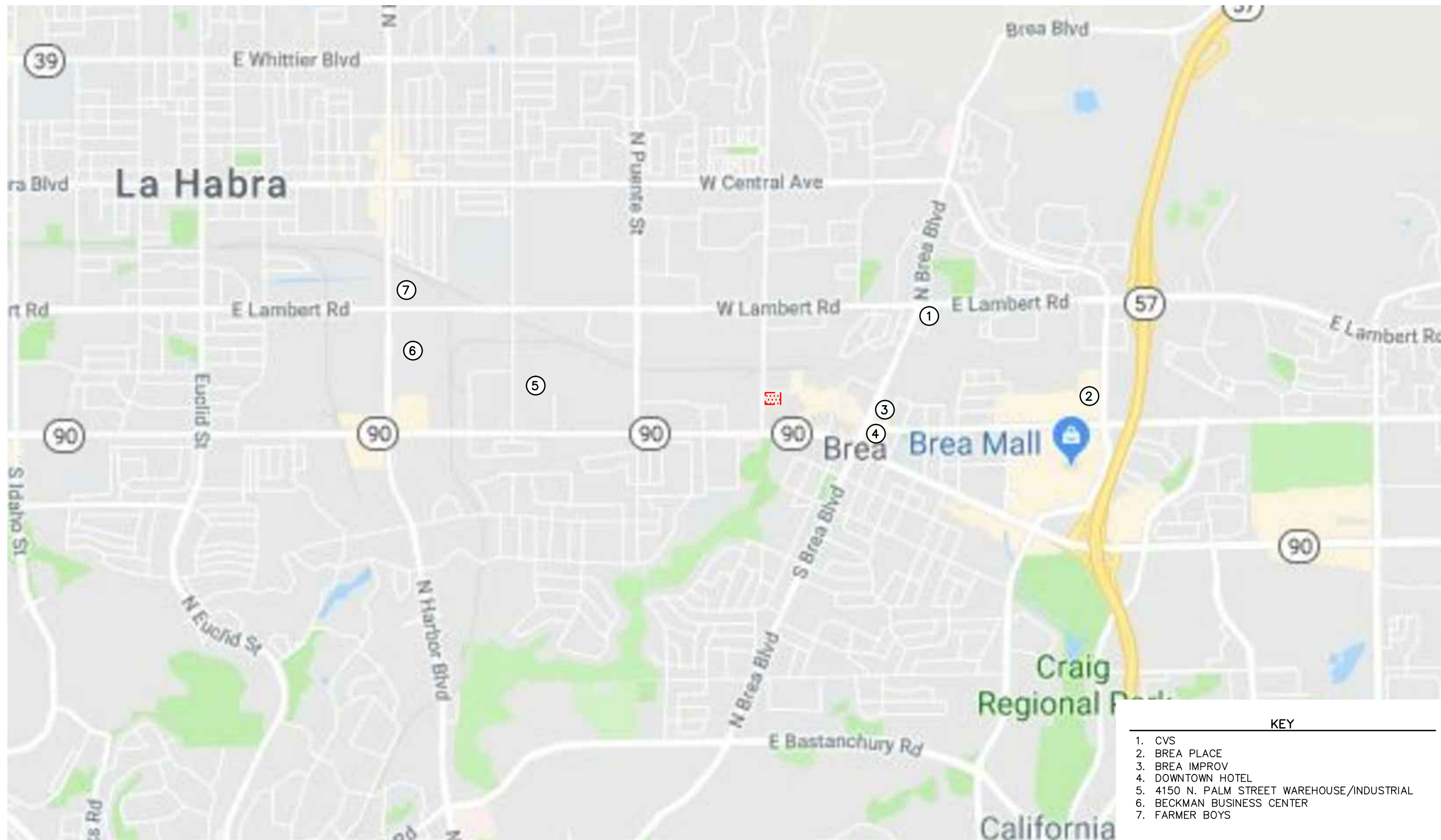
Based on our research during the scoping process, there are four (4) related projects in the City of Brea, two (2) related projects in the City of Fullerton, and one (1) related project in the City of La Habra that are being processed for approval. These seven (7) related projects have been included as part of the cumulative background setting.

*Table 6-1* provides a brief description for each of the seven (7) related projects. *Figure 6-1* graphically illustrates the location of the seven (7) related projects. These related projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

*Table 6-2* summarizes the trip generation potential for all seven (7) related projects on a daily and peak hour basis for a typical weekday. As shown, the related projects are expected to generate 19,601 daily trips, with 1,630 trips (1,008 inbound, 622 outbound) anticipated during the AM peak hour and 1,699 trips (707 inbound, 992 outbound) produced during the PM peak hour.

The AM and PM peak hour traffic volumes associated with the seven (7) related projects in the Year 2021 are presented in *Figures 6-2* and *6-3*, respectively. *Figure 6-3* also presents the daily related project traffic volumes.





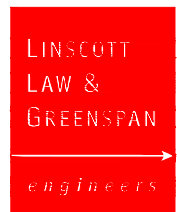
- KEY**
- 1. CVS
  - 2. BREA PLACE
  - 3. BREA IMPROV
  - 4. DOWNTOWN HOTEL
  - 5. 4150 N. PALM STREET WAREHOUSE/INDUSTRIAL
  - 6. BECKMAN BUSINESS CENTER
  - 7. FARMER BOYS

SOURCE: GOOGLE  
KEY

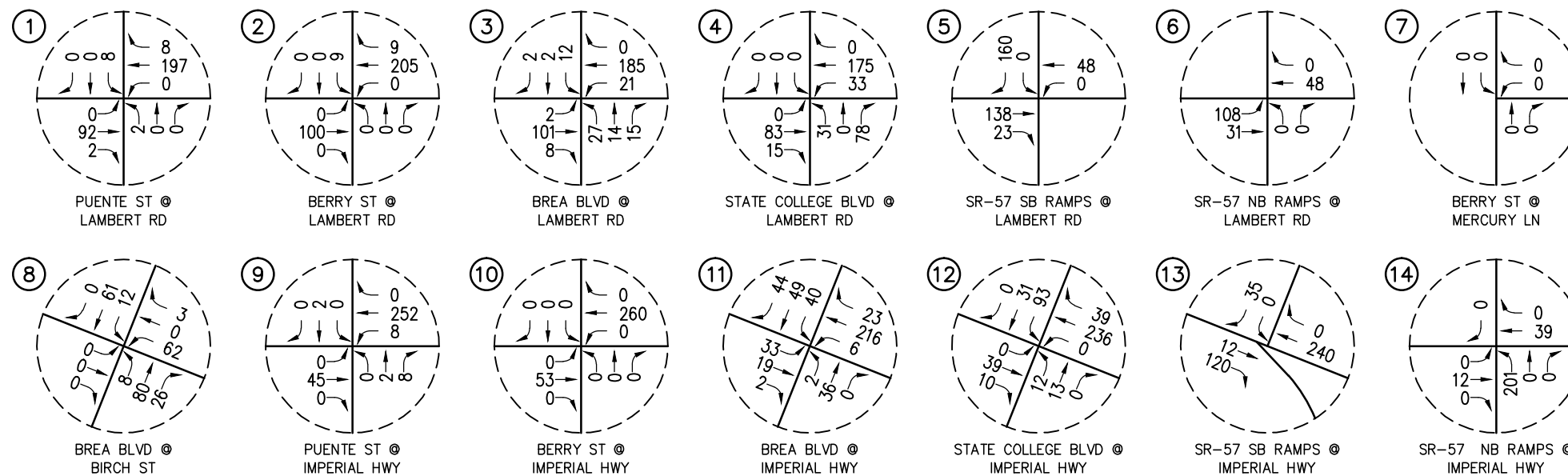
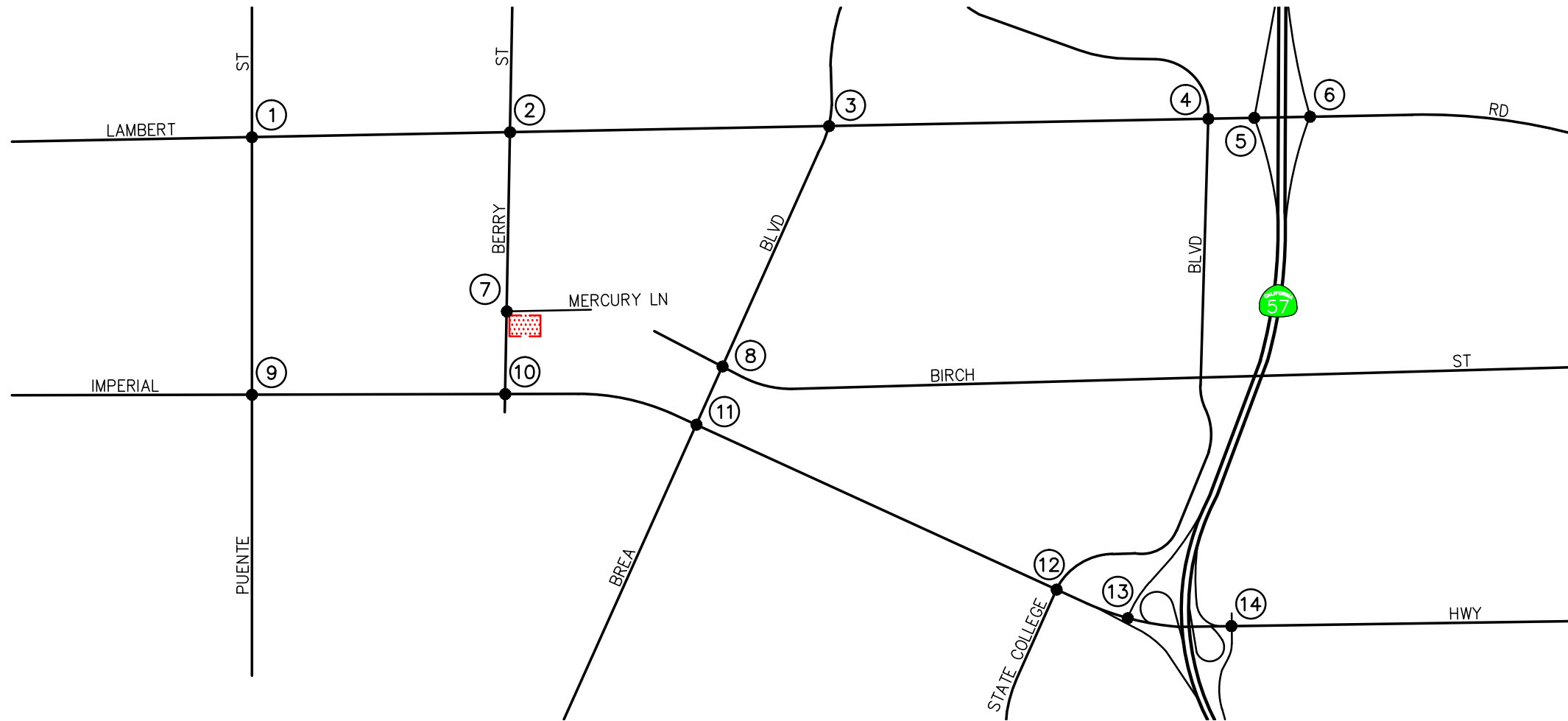
- # = CUMULATIVE PROJECT LOCATION
- [Red Hatched Box] = PROJECT SITE

**FIGURE 6-1**

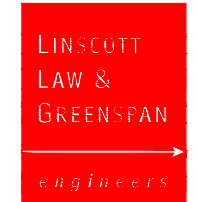
**LOCATION OF CUMULATIVE PROJECTS**  
MERCURY APARTMENTS, BREA



n:\3900\2183933 - mercury apartments, brea\dwg\3933 f6-1.dwg LDP 11:56:27 08-30-2018 besa

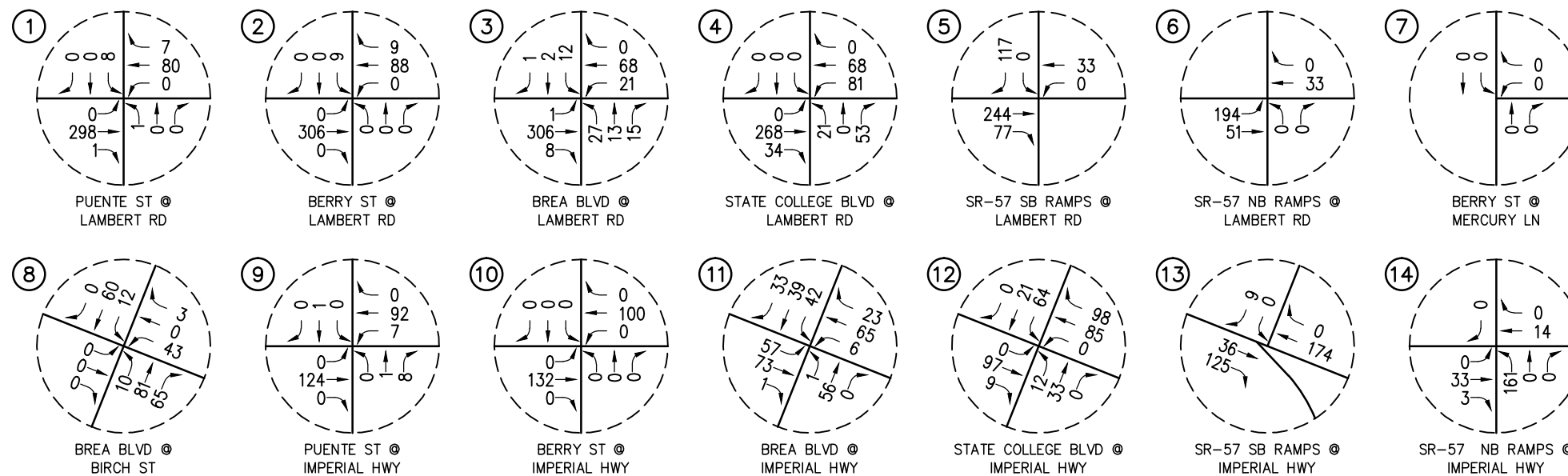
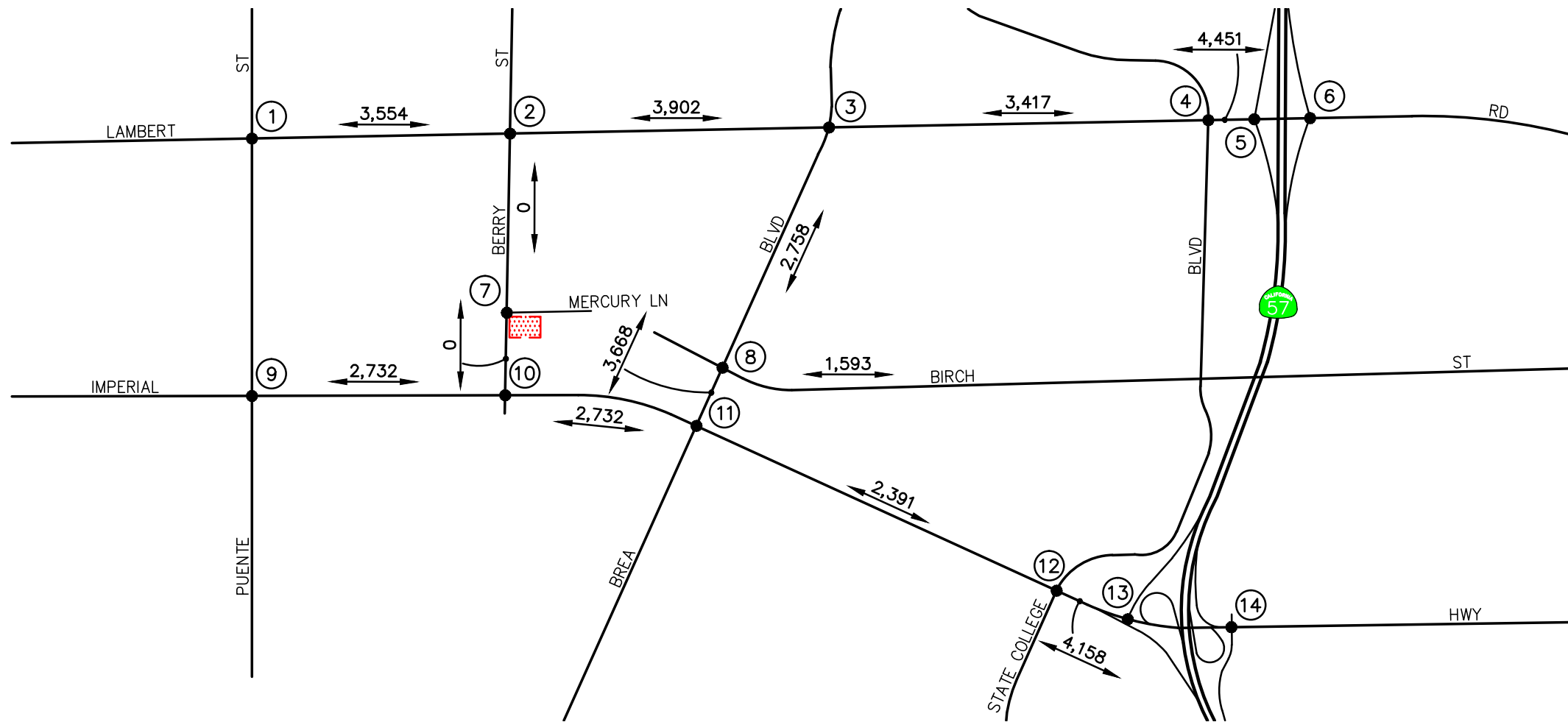


**KEY**  
 # = STUDY INTERSECTION  
 [Red Dotted Box] = PROJECT SITE



**FIGURE 6-2**  
**AM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES**  
 MERCURY APARTMENTS, BREA





**KEY**

① = STUDY INTERSECTION

XX,XXX = DAILY TRAFFIC VOLUMES

▨ = PROJECT SITE

**FIGURE 6-3**

**PM PEAK HOUR AND DAILY CUMULATIVE PROJECTS TRAFFIC VOLUMES**

MERCURY APARTMENTS, BREA

**TABLE 6-1**  
**LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS<sup>6</sup>**

No.	Description	Location/Address	Size
<b><u>City of Brea<sup>7</sup></u></b>			
1.	CVS	390 N. Brea Boulevard	13,000 SF Pharmacy with Drive-Through, 1,700 SF Coffee Shop with Drive-through
2.	Brea Place	State College Boulevard at Birch Street	790 DU Apartments, 5,000 SF Office, 150 Room Hotel
3.	Brea Improv	180 S. Brea Boulevard	530 Seat Theater, 7,450 SF High-Turnover Sit Down Restaurant, 5,500 SF Quality Restaurant
4.	Downtown Hotel	220 S. Brea Boulevard	116 Room Hotel, 4,000 SF High Turnover Sit Down Restaurant
<b><u>City of Fullerton</u></b>			
5.	4150 N. Palm Street Warehouse/Industrial	4150 N. Palm Street	181,069 SF Warehousing
6.	Beckman Business Center	4300 North Harbor Boulevard	978,665 SF Warehousing/ Manufacturing/ Industrial
<b><u>City of La Habra</u></b>			
7.	Farmer Boys	600 S. Harbor Boulevard	3,200 SF Fast-Food Restaurant With Drive-Through

<sup>6</sup> Source: City of Brea, Fullerton, and La Habra Planning Departments.

<sup>7</sup> Per the direction of City staff the Brea 265 Project has been included as a related project as part of Year 2040 background traffic conditions.

**TABLE 6-2**  
**CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST<sup>8</sup>**

Cumulative Project Description		Daily 2-Way	AM Peak Hour			PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
1.	CVS	2,323	62	58	120	62	61	123
2.	Brea Place	7,086	130	310	440	325	213	538
3.	Brea Improv	1,167	41	30	71	42	24	66
4.	Downtown Hotel	1,257	47	36	83	46	39	85
5.	4150 N. Palm Street Warehouse/Industrial <sup>9</sup>	645	43	11	54	14	44	58
6.	Beckman Business Center <sup>10</sup>	5,767	651	145	796	191	586	777
7.	Farmer Boys	1,356	34	32	66	27	25	52
<b>Cumulative Projects Total Trip Generation Potential</b>		<b>19,601</b>	<b>1,008</b>	<b>622</b>	<b>1,630</b>	<b>707</b>	<b>992</b>	<b>1,699</b>

<sup>8</sup> Source: *Trip Generation*, 10<sup>th</sup> Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

<sup>9</sup> Source: *4150 N. Palm Street Warehouse/Industrial Building Traffic Impact Analysis*, prepared by LLG Engineers, dated March 14, 2016.

<sup>10</sup> Source: *Beckman Business Center EIR Traffic Impact Analysis*, prepared by LLG Engineers., dated November 10, 2016.

### **6.3 Year 2040 Traffic Conditions**

As coordinated with City staff, the Year 2040 traffic volume forecasts for this traffic study were developed via the utilization of the OCTAM4.0 Year 2040 traffic model provided by OCTA. Specifically, daily, AM peak period and PM peak period link traffic volumes were provided by OCTA for the existing base year (i.e. Year 2012) and for the Year 2040 year. The AM peak period corresponds to a three-hour morning commute period while the PM peak period corresponds to a four-hour afternoon commute period. Using the peak period model runs and the OCTA approved peak hour factors (i.e. AM = 0.3566 and PM = 0.2662), the one-hour peak hour link traffic volumes were determined. These future year 2040 link traffic volumes were post-processed based on the relationship of the base year validation model run output to the base year ground traffic counts resulting in Year 2040 without project daily traffic volumes for the key roadway segments and AM peak hour/PM peak hour turning movements for the key study intersections.

Per the direction of City staff the Brea 265 Project has been included as a related project as part of Year 2040 background traffic conditions.

Copies of the model post-processing worksheets are contained in *Appendix C*.

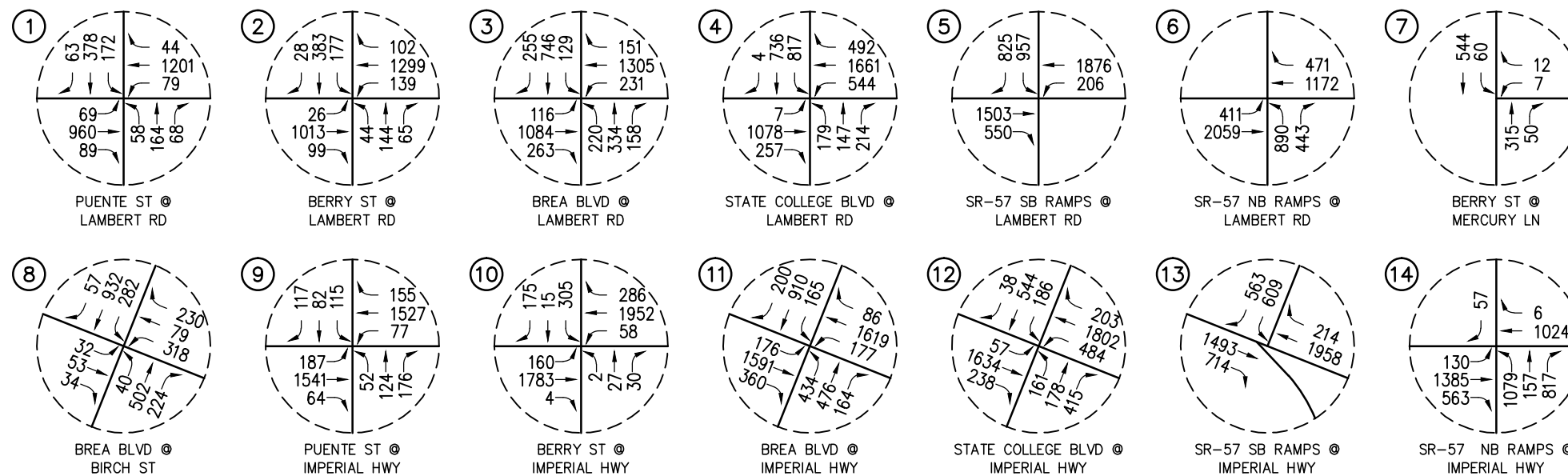
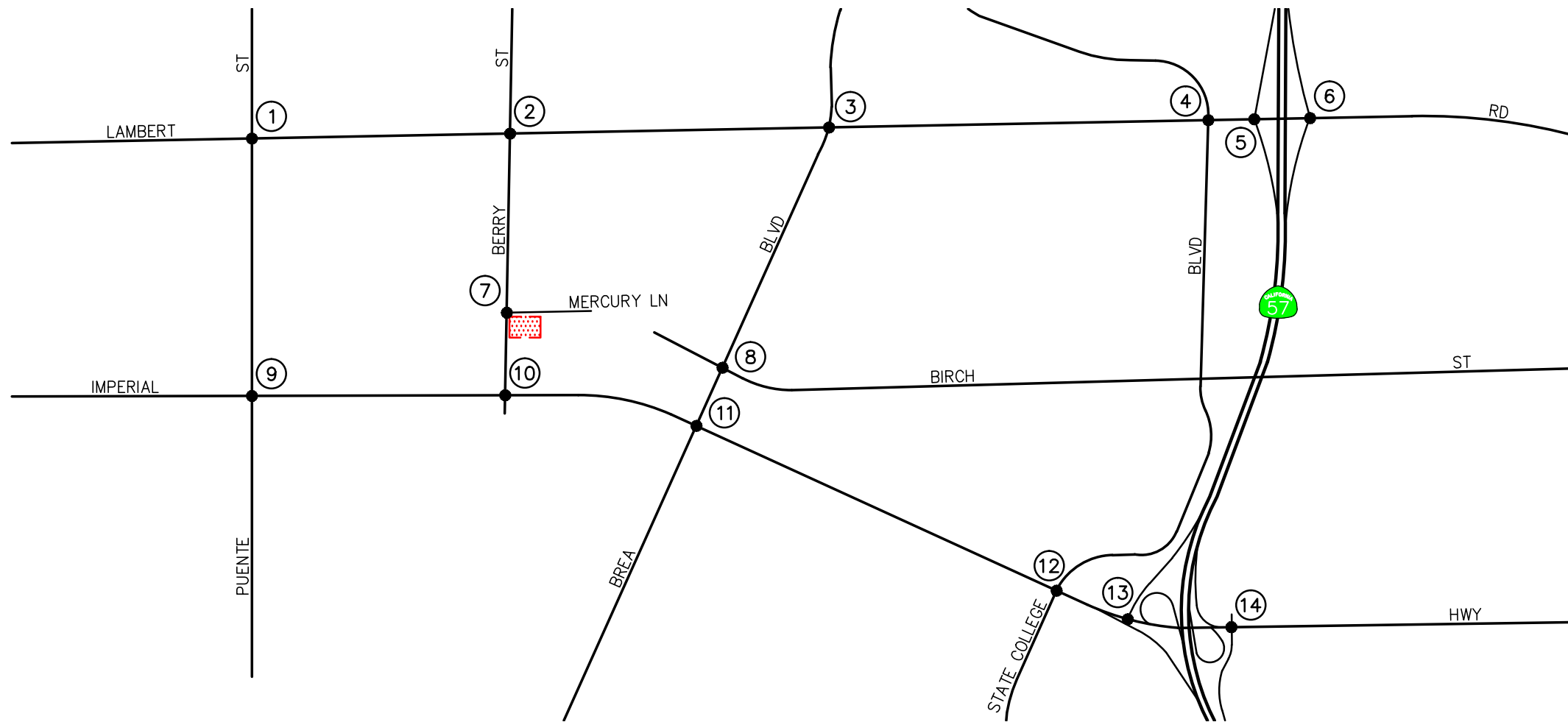
### **6.4 Year 2021 and Year 2040 Traffic Volumes**

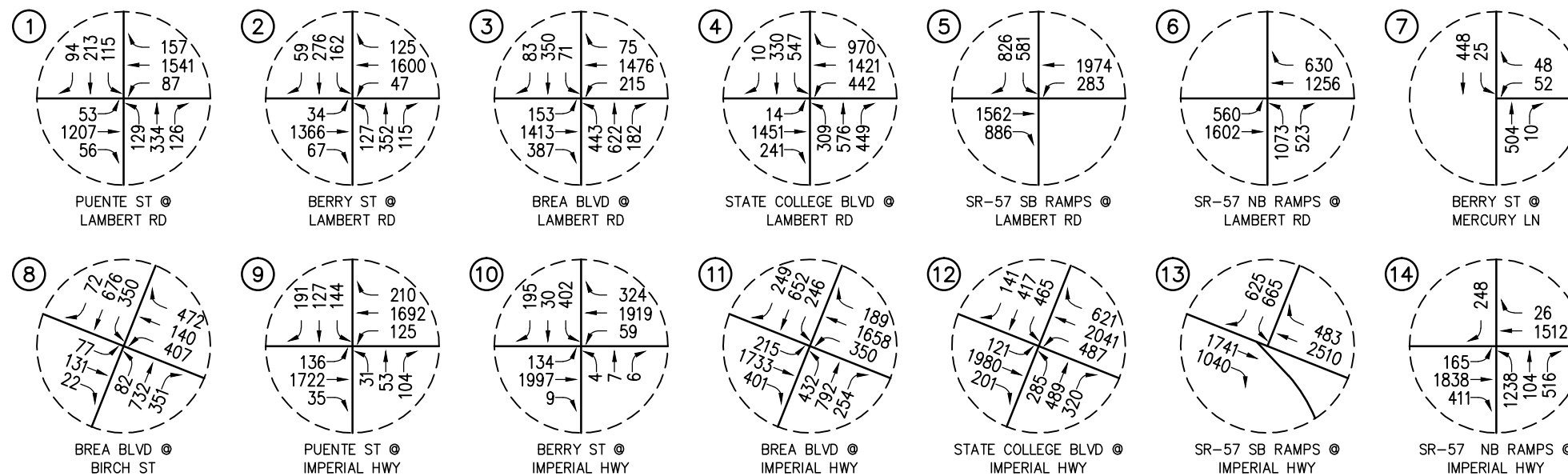
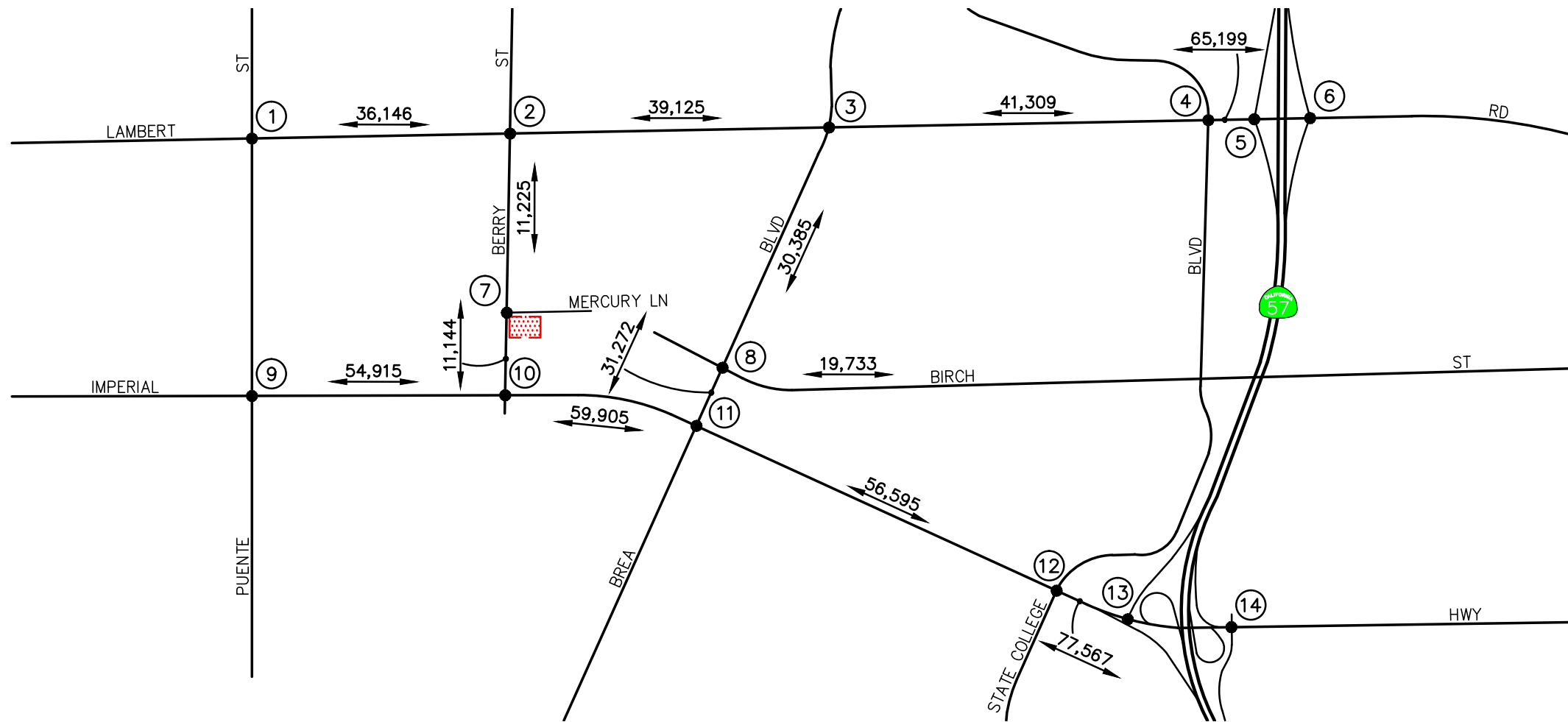
#### **6.4.1 Year 2021 Traffic Volumes**

*Figures 6-4* and *6-5* present the AM and PM peak hour cumulative traffic volumes (existing traffic + ambient growth + related projects) at the fourteen (14) key study intersections for the Year 2021, respectively. *Figure 6-5* also presents the Year 2021 daily cumulative traffic volumes. *Figures 6-6* and *6-7* illustrate the Year 2021 forecast AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively. *Figure 6-7* also presents the Year 2021 daily cumulative plus project traffic volumes.

#### **6.4.2 Year 2040 Traffic Volumes**

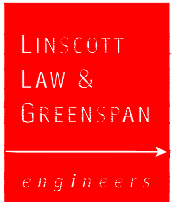
*Figures 6-8* and *6-9* present the Year 2040 AM and PM peak hour cumulative traffic volumes at the fourteen (14) key study intersections, respectively. *Figure 6-9* also presents the Year 2040 daily cumulative traffic volumes. *Figures 6-10* and *6-11* illustrate the Year 2040 forecast AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively. *Figure 6-11* also presents the Year 2040 daily cumulative plus project traffic volumes.





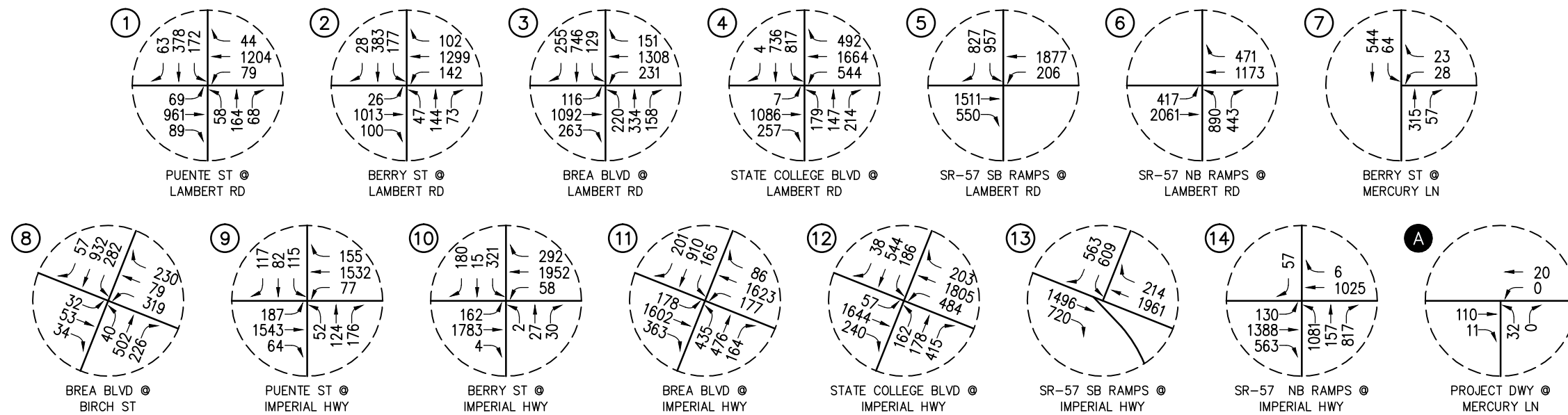
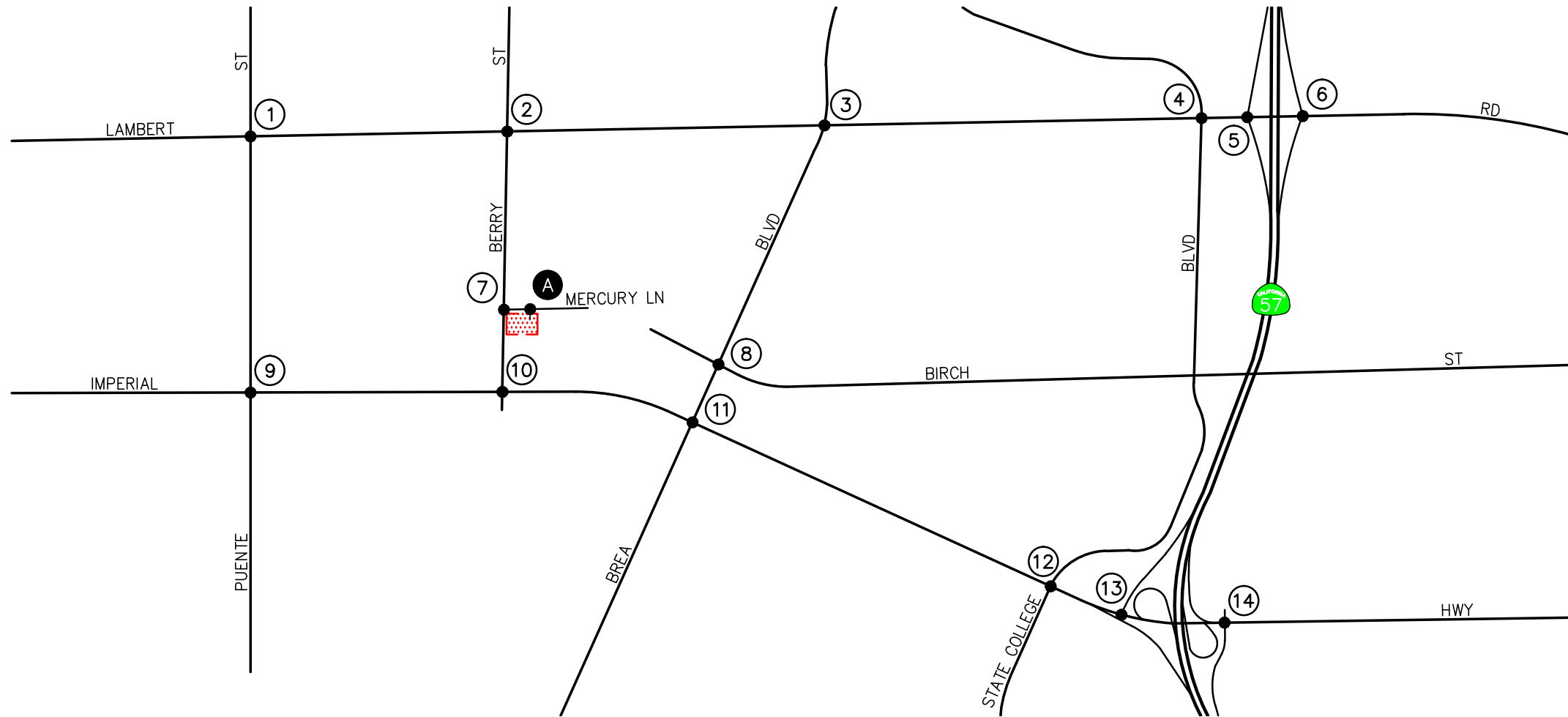
**KEY**

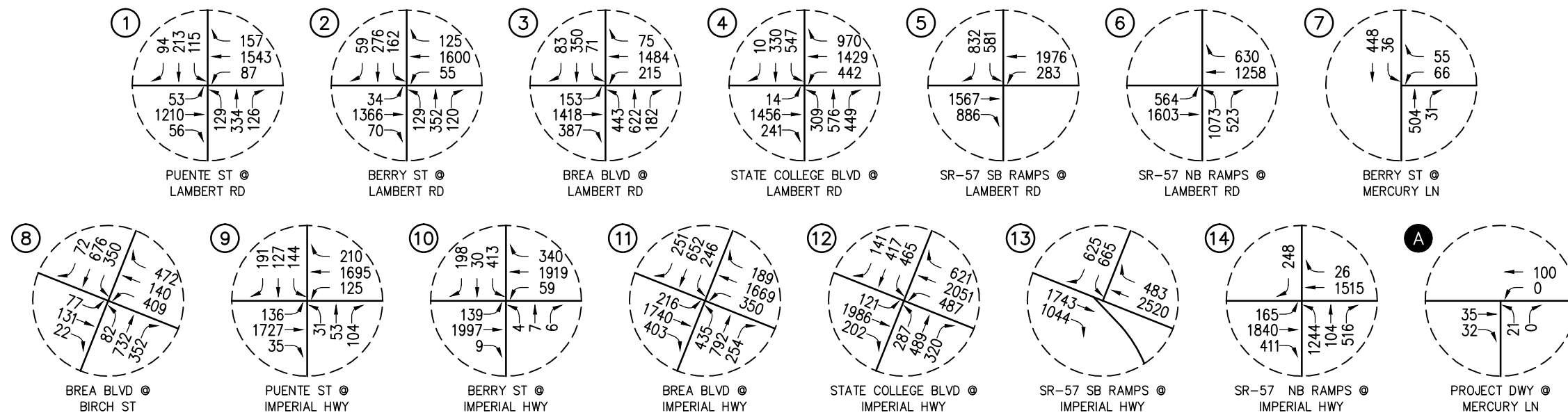
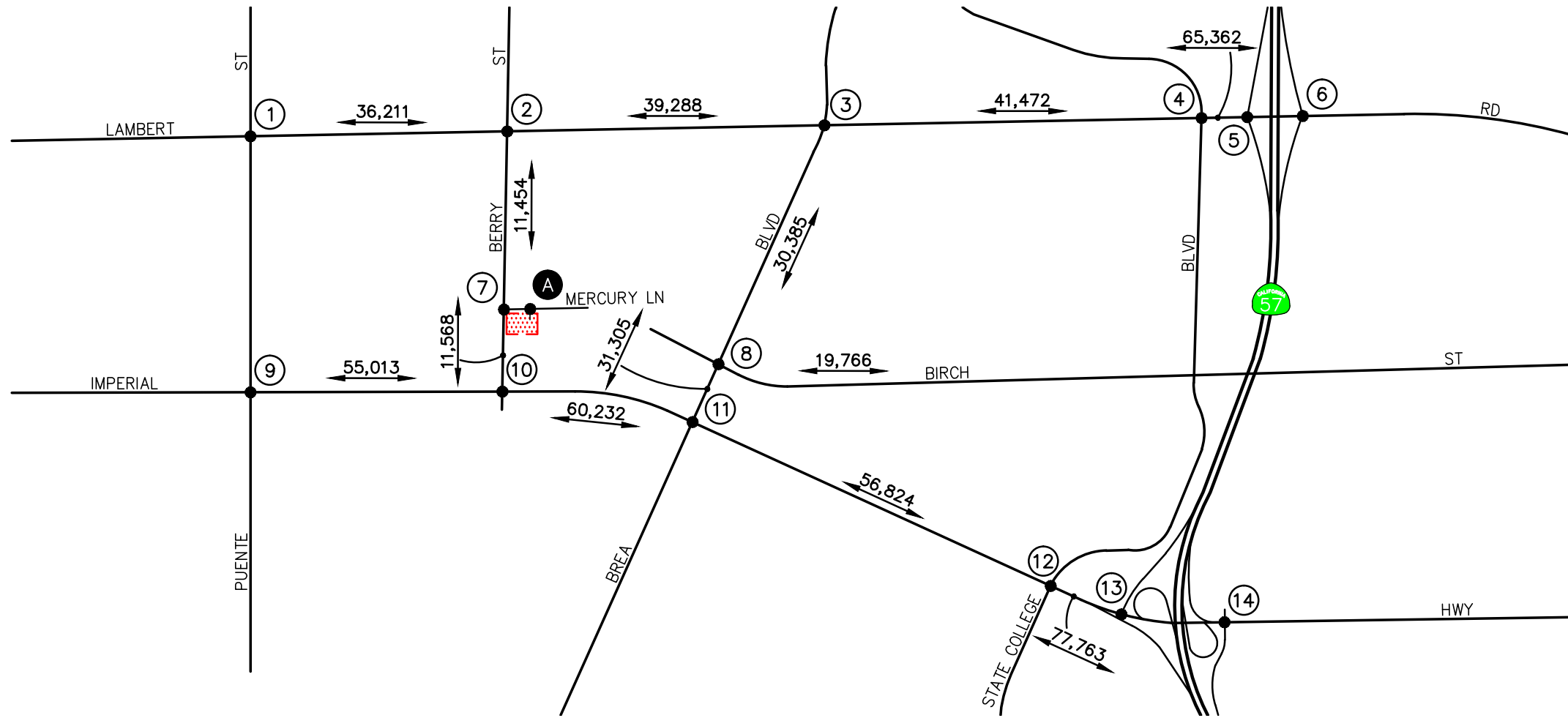
- # = STUDY INTERSECTION
- XX,XXX = DAILY TRAFFIC VOLUMES
- [Red Hatched Box] = PROJECT SITE



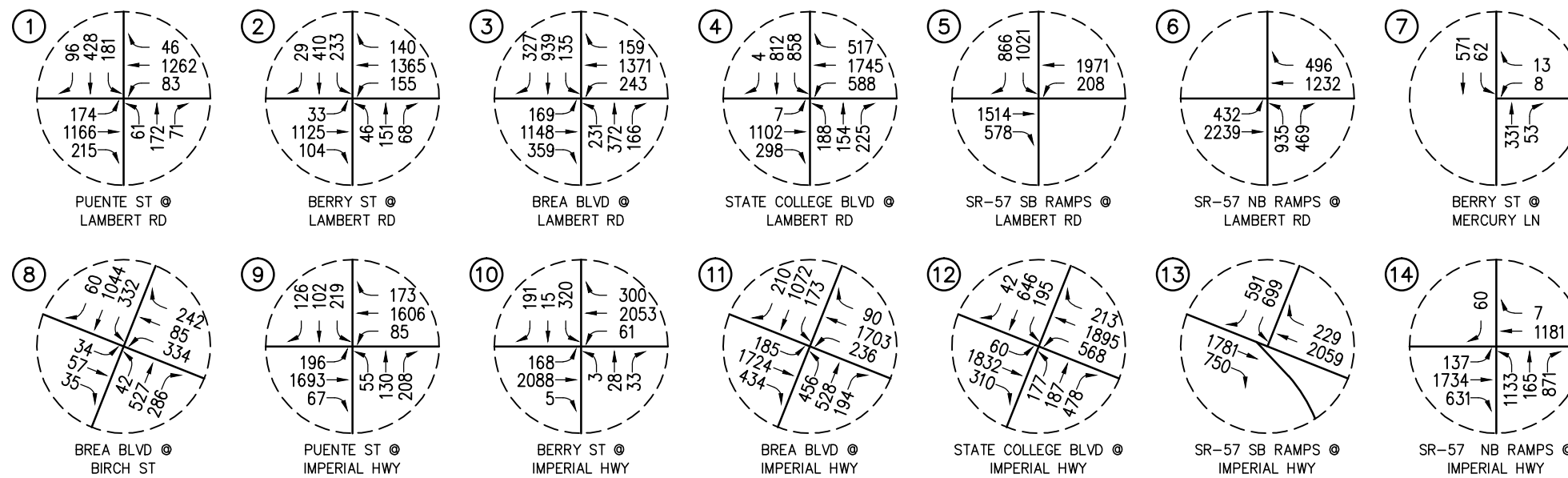
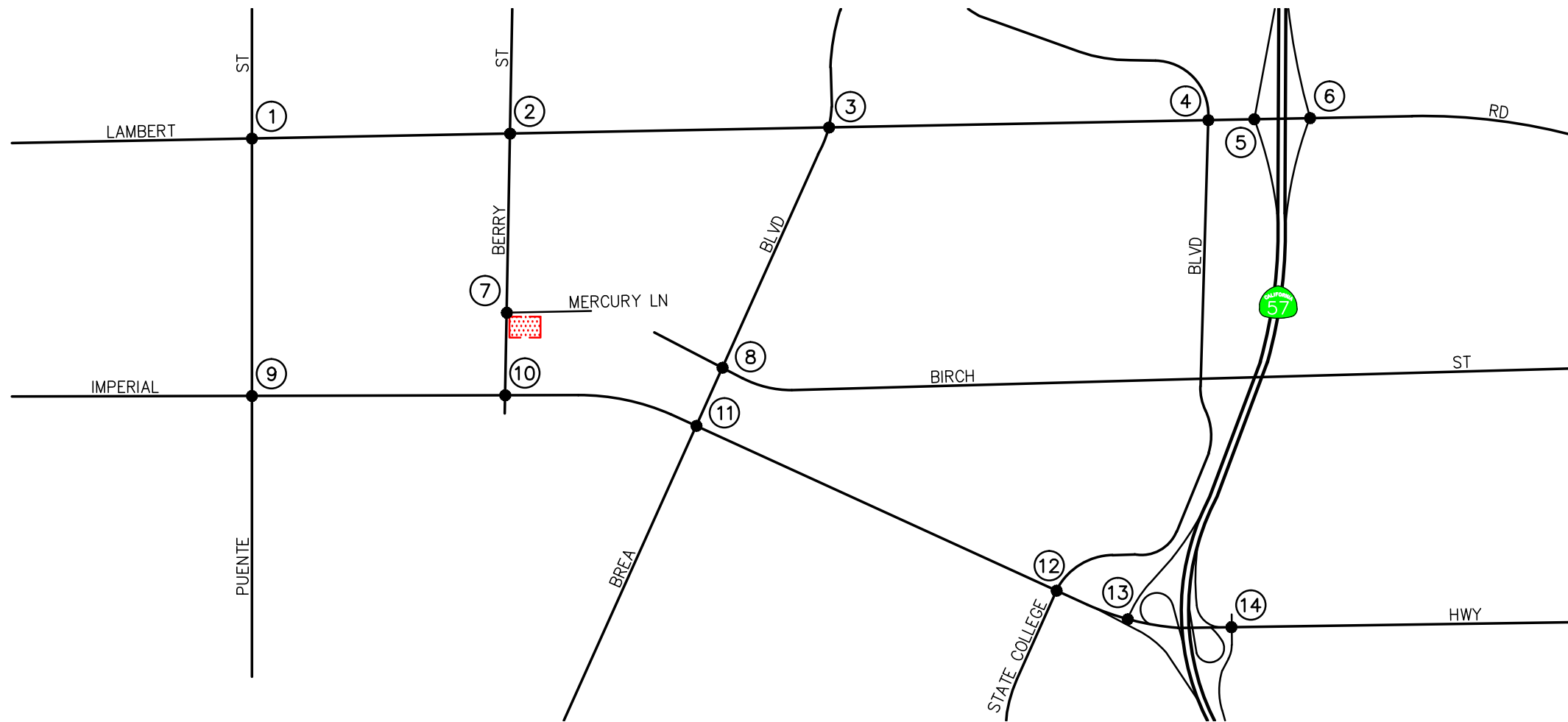
**FIGURE 6-5**  
**YEAR 2021 PM PEAK HOUR AND DAILY CUMULATIVE TRAFFIC VOLUMES**  
 MERCURY APARTMENTS, BREA

n:\3900\2183933 - mercury apartments, brea\dwg\3933 f6-5.dwg LDP 10:54:02 08-30-2018 besa

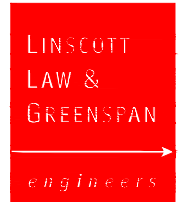








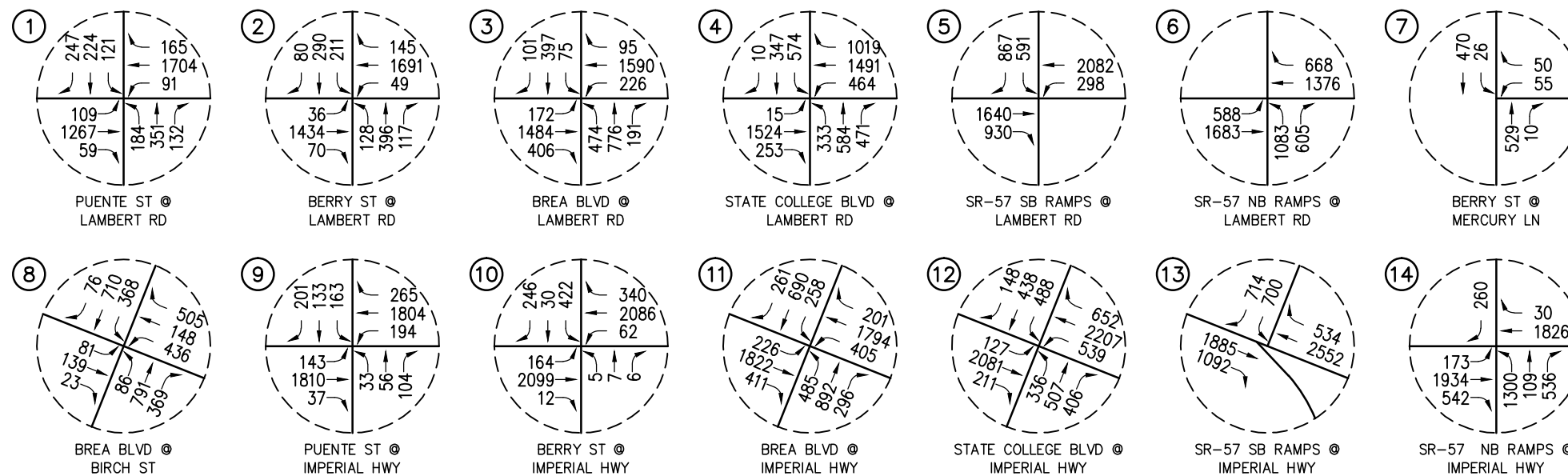
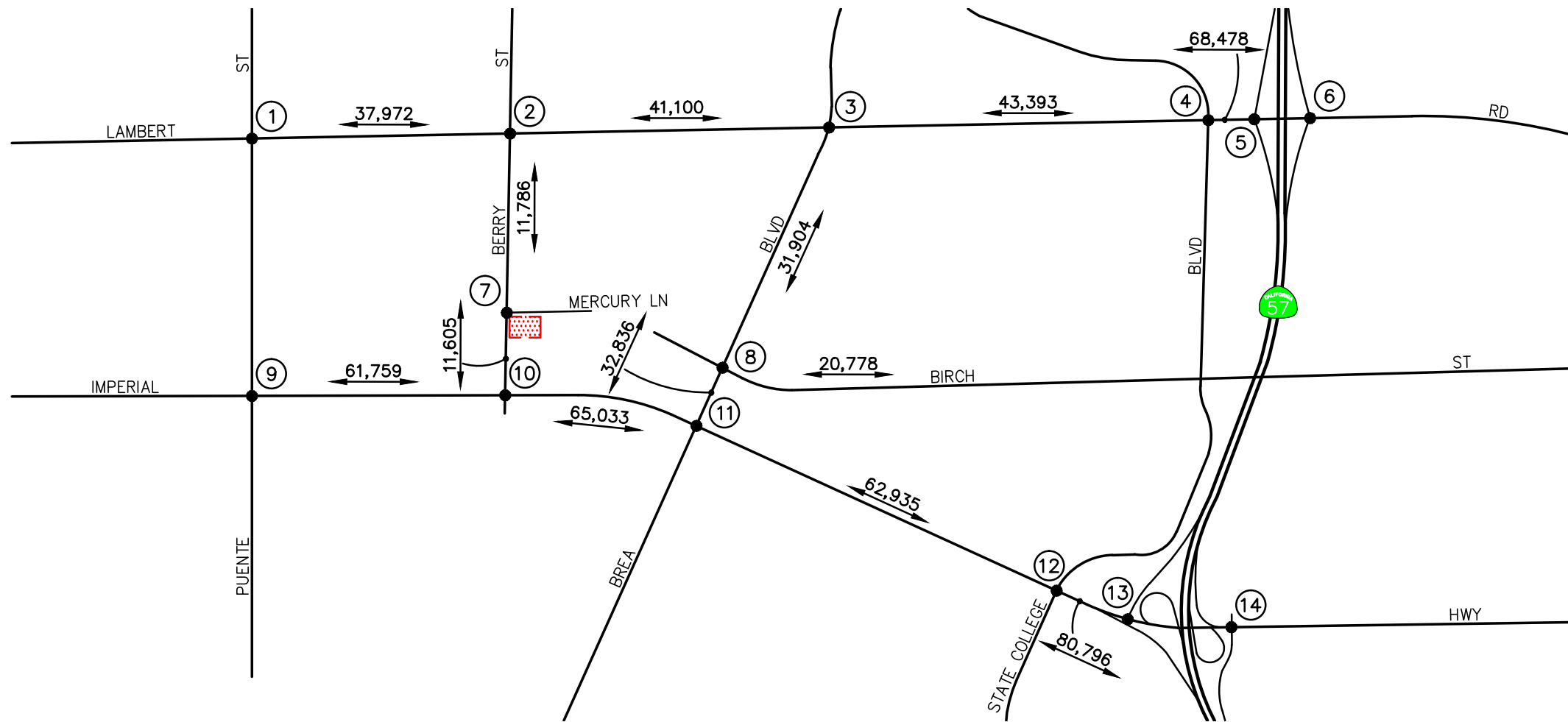
**KEY**  
 # = STUDY INTERSECTION  
 [Red Hatched Box] = PROJECT SITE



**FIGURE 6-8**

**YEAR 2040 AM PEAK HOUR TRAFFIC VOLUMES**  
 MERCURY APARTMENTS, BREA

n:\3900\2183933 - mercury apartments, brea\dwg\3933 f6-8.dwg LDP 10:16:49 02-13-2019 besa

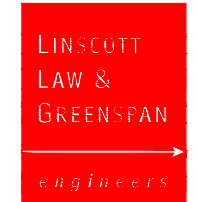


**KEY**

# = STUDY INTERSECTION

XX,XXX = DAILY TRAFFIC VOLUMES

[Red Hatched Box] = PROJECT SITE

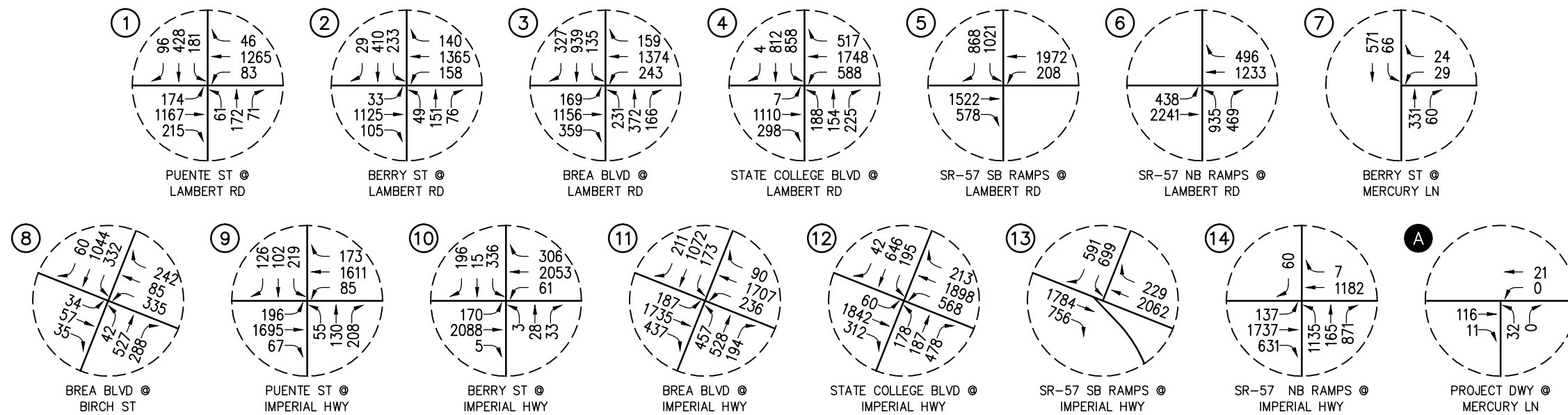
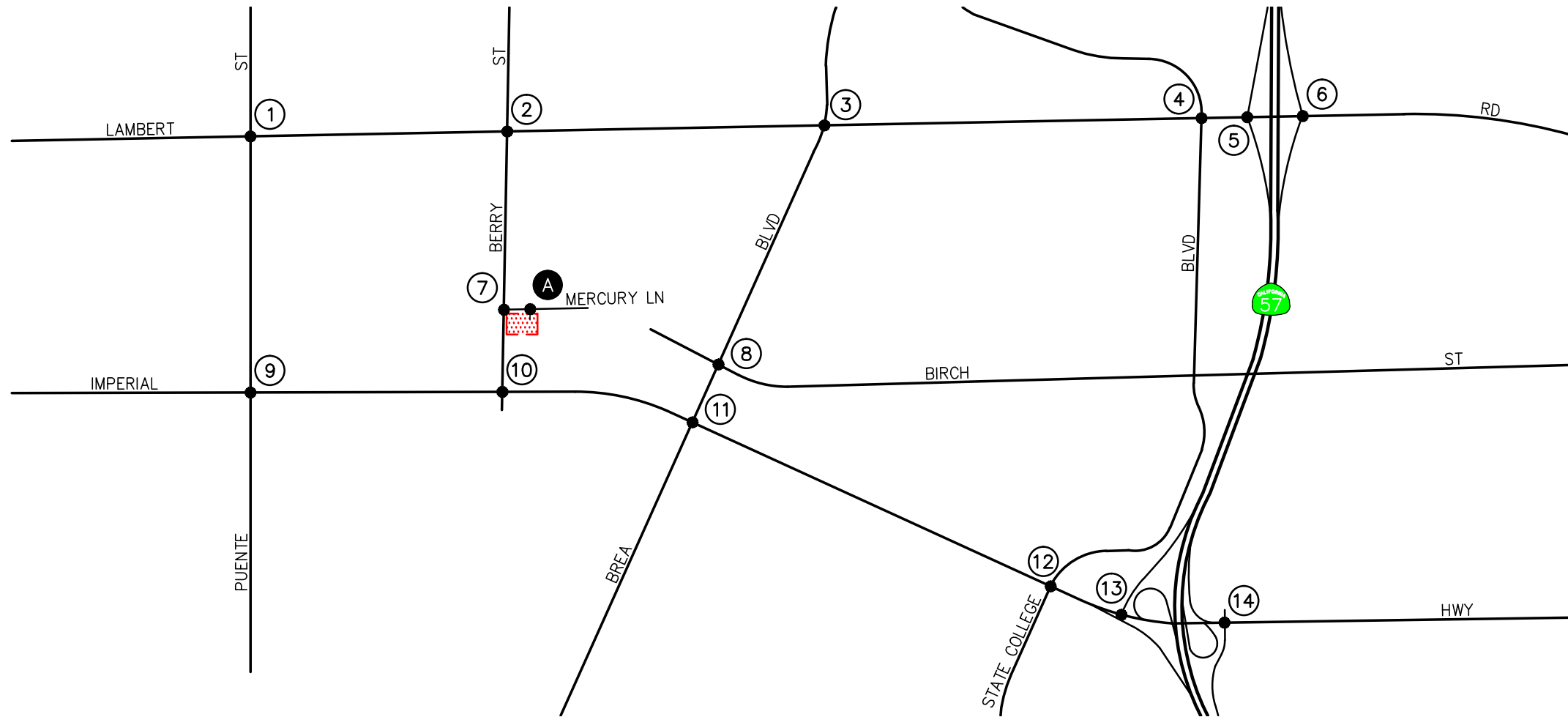


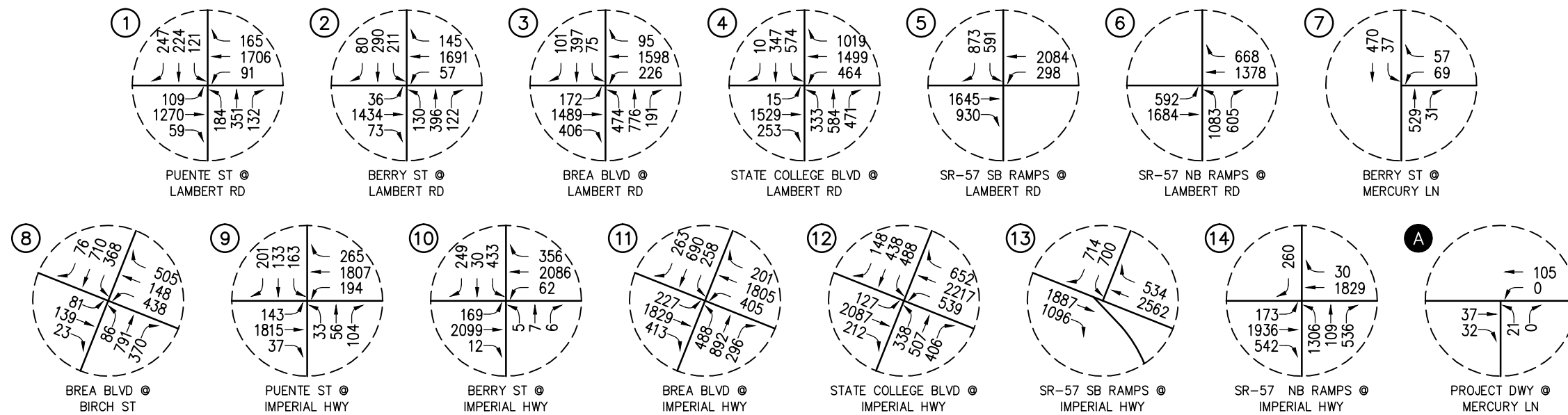
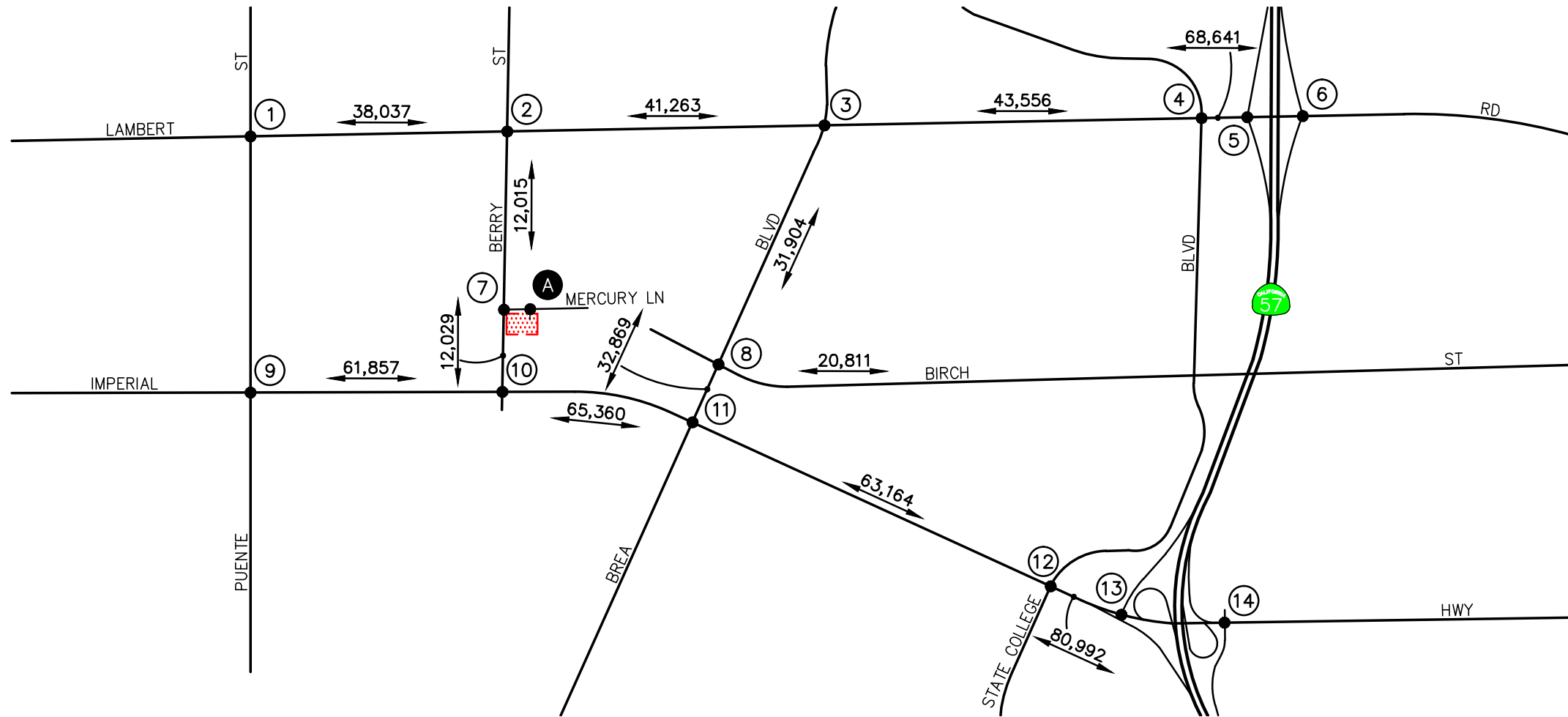
**FIGURE 6-9**

**YEAR 2040 PM PEAK HOUR AND DAILY TRAFFIC VOLUMES**

MERCURY APARTMENTS, BREA

n:\3900\2183933 - mercury apartments, brea\dwg\3933 f6-9.dwg LDP 13:41:08 02-13-2019 besa





## 7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

The relative impact of the proposed Project during the AM peak hour and PM peak hour was evaluated based on analysis of future operating conditions at the fourteen (14) key study intersections, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the Project at each key intersection was then evaluated using the following traffic impact criteria.

### 7.1 Impact Criteria and Thresholds

#### 7.1.1 City of Brea

For the ICU analysis, an impact is considered to be significant if the Project causes an intersection at LOS D or better to degrade to LOS E or F, or if the Project increases traffic demand at a signalized study intersection by 0.020 or greater and the intersection is forecast to operate at LOS E or F.

For the HCM analysis, a significant LOS impact occurs when the proposed Project causes the level of service at an intersection to fall below LOS D with the addition of Project traffic to baseline conditions. For intersections that already operate at unacceptable LOS E or F under the baseline conditions, a significant impact is defined as the proposed Project causing an increase in average critical delay value by 2.0 seconds or more. This significant impact criteria would only apply to those intersections located within the City of Brea and under its sole jurisdiction. At locations within the City of Brea but under the jurisdiction of Caltrans (i.e. study locations located along Imperial (SR-90) Highway), Caltrans LOS standards and impact criteria noted in the following Section 7.1.2 would apply.

#### 7.1.2 Caltrans

Consistent with the *Caltrans Guide for the Preparation of Traffic Impact Studies*, the following criteria has been utilized to determine project impacts at the state-controlled study intersections:

- Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has established that LOS D is the operating standard for all Caltrans facilities. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e. LOS D); the existing service level should be maintained.

## 7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which volume/capacity calculations have been performed at the fourteen (14) key intersections for existing plus project, near-term (Year 2021) and long-term (Year 2040) traffic conditions:

- A. Existing Traffic Conditions;
- B. Existing Plus Project Traffic Conditions;
- C. Scenario (B) with Improvements, if necessary;
- D. Near-Term (Year 2021) Cumulative Traffic Conditions,
- E. Near-Term (Year 2021) Cumulative plus Project Traffic Conditions;
- F. Scenario (E) with Improvements, if necessary;
- G. Long-Term (Year 2040) Future Traffic Conditions;
- H. Long-Term (Year 2040) Future Traffic Conditions plus Project Traffic; and
- I. Scenario (H) with Improvements, if necessary.

## 7.3 City of Brea Nexus Program

To satisfy the AB 1600 legislative requirement, development impact fees have been established for future traffic impacts within the City of Brea. Ensuring that every development project contributes a fair share of transportation improvements in the community, the City has introduced the “Transportation Improvement Nexus Program”. In 2011, the Nexus Program was updated to reflect transportation needs and incorporate capacity improvements in an orderly fashion. The program ensures all future development with the City of Brea contributes on a fair share basis.

## 8.0 PEAK HOUR INTERSECTION CAPACITY ANALYSIS

### 8.1 Existing Plus Project Analysis - ICU

*Table 8-1* summarizes the peak hour Level of Service results at the fourteen (14) key study intersections for existing plus project traffic conditions. The first column (1) of ICU/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-4*). The second column (2) lists existing plus project traffic conditions. The third column (3) shows the increase in ICU value due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fourth column (4) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

#### 8.1.1 Existing Plus Project Traffic Conditions

Review of columns (2) and (3) of *Table 8-1* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS C or better with the addition of project generated traffic.

*Appendix D* presents the Existing Plus Project HCM/LOS calculations for the fourteen (14) key study intersections.

**TABLE 8-1  
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project Plus Improvements Traffic Conditions	
			ICU	LOS	ICU	LOS	Increase	Yes/No	ICU	LOS
1. Puente Street at Lambert Road	D	AM	0.447	A	0.448	A	0.001	No	--	--
		PM	0.579	A	0.579	A	0.000	No	--	--
2. Berry Street at Lambert Road	D	AM	0.478	A	0.482	A	0.004	No	--	--
		PM	0.601	B	0.602	B	0.001	No	--	--
3. Brea Boulevard at Lambert Road	D	AM	0.625	B	0.626	B	0.001	No	--	--
		PM	0.638	B	0.639	B	0.001	No	--	--
4. State College Boulevard at Lambert Road	D	AM	0.660	B	0.661	B	0.001	No	--	--
		PM	0.793	C	0.793	C	0.000	No	--	--
5. SR-57 SB Ramps at Lambert Road	D	AM	0.707	C	0.707	C	0.000	No	--	--
		PM	0.680	B	0.682	B	0.002	No	--	--
6. SR-57 NB Ramps at Lambert Road	D	AM	0.690	B	0.691	B	0.001	No	--	--
		PM	0.725	C	0.727	C	0.002	No	--	--
7. Berry Street at Mercury Lane	D	AM	0.212	A	0.222	A	0.010	No	--	--
		PM	0.240	A	0.261	A	0.021	No	--	--

Note:

- **Bold ICU/LOS** values indicate adverse service levels based on the City LOS standards.



**TABLE 8-1 (CONTINUED)**  
**EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact		(4) Existing Plus Project Plus Improvements Traffic Conditions	
			ICU	LOS	ICU	LOS	Increase	Yes/No	ICU	LOS
8. Brea Boulevard at Birch Street	D	AM	0.368	A	0.368	A	0.000	No	--	--
		PM	0.540	A	0.540	A	0.000	No	--	--
9. Puente Street at Imperial Highway	D	AM	0.562	A	0.563	A	0.001	No	--	--
		PM	0.569	A	0.570	A	0.001	No	--	--
10. Berry Street at Imperial Highway	D	AM	0.635	B	0.640	B	0.005	No	--	--
		PM	0.663	B	0.672	B	0.009	No	--	--
11. Brea Boulevard at Imperial Highway	D	AM	0.767	C	0.770	C	0.003	No	--	--
		PM	0.762	C	0.765	C	0.003	No	--	--
12. State College Boulevard at Imperial Highway	D	AM	0.712	C	0.714	C	0.002	No	--	--
		PM	0.783	C	0.784	C	0.001	No	--	--
13. SR-57 SB Ramps at Imperial Highway	D	AM	0.594	A	0.594	A	0.000	No	--	--
		PM	0.739	C	0.741	C	0.002	No	--	--
14. SR-57 NB Ramps at Imperial Highway	D	AM	0.605	B	0.606	B	0.001	No	--	--
		PM	0.707	C	0.708	C	0.001	No	--	--

Note:

- **Bold ICU/LOS** values indicate adverse service levels based on the City LOS standards.

## 8.2 Existing Plus Project Analysis - HCM

**Table 8-2** summarizes the peak hour level of service results at the fourteen (14) key study intersections for Existing Plus Project traffic conditions. The first column (1) of HCM//LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-5*). The second column (2) lists existing plus project traffic conditions. The third column (3) shows the increase in delay due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on City LOS standards and significant impact criteria defined in this report. The fourth column (4) indicates whether the traffic associated with the Project will have a significant impact based on Caltrans LOS standards and significant impact criteria defined in this report. The fifth column (5) indicates the anticipated LOS with recommended improvements, if any.

### 8.2.1 Existing Plus Project Traffic Conditions

Review of columns (2), (3), and (4) of *Table 8-2* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of State College Boulevard at Lambert Road and State College Boulevard at Imperial Highway are forecast to operate at unacceptable LOS E during the PM peak hour with the addition of Project traffic, the Project is expected to add less than the allowable threshold to the delay based on City and Caltrans LOS standards. The remaining twelve (12) key study intersections are expected to continue to operate at acceptable LOS D or better.

*Appendix D* presents the Existing Plus Project HCM/LOS calculations for the fourteen (14) key study intersections.

**TABLE 8-2  
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS - HCM**

Key Intersections	Jurisdiction	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing Plus Project Traffic Conditions		(3) Significant Impact Per Brea Criteria		(4) Significant Impact Per Caltrans Guidelines	(5) Existing Plus Project Plus Improvements Traffic Conditions	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay Increase	Yes/No	Yes/No	Delay (sec/veh)	LOS
1. Puente Street at Lambert Road	Brea	D	AM	38.5	D	38.5	D	0.0	No	--	--	--
			PM	38.0	D	37.9	D	0.0	No	--	--	--
2. Berry Street at Lambert Road	Brea	D	AM	36.2	D	36.5	D	0.3	No	--	--	--
			PM	35.9	D	36.2	D	0.3	No	--	--	--
3. Brea Boulevard at Lambert Road	Brea	D	AM	42.8	D	42.8	D	0.0	No	--	--	--
			PM	40.8	D	40.8	D	0.0	No	--	--	--
4. State College Boulevard at Lambert Road	Brea	D	AM	37.0	D	37.1	D	0.1	No	--	--	--
			PM	<b>55.9</b>	<b>E</b>	<b>55.9</b>	<b>E</b>	0.0	No	--	--	--
5. SR-57 SB Ramps at Lambert Road	Brea/Caltrans	D	AM	20.3	C	20.3	C	N/A	N/A	No	--	--
			PM	30.0	C	30.2	C	N/A	N/A	No	--	--
6. SR-57 NB Ramps at Lambert Road	Brea/Caltrans	D	AM	24.4	C	24.5	C	N/A	N/A	No	--	--
			PM	37.6	D	37.6	D	N/A	N/A	No	--	--
7. Berry Street at Mercury Lane	Brea	D	AM	2.5	A	4.1	A	1.6	No	--	--	--
			PM	5.9	A	6.6	A	0.7	No	--	--	--
8. Brea Boulevard at Birch Street	Brea	D	AM	33.6	C	33.7	C	0.1	No	--	--	--
			PM	36.4	D	36.5	D	0.1	No	--	--	--
9. Puente Street at Imperial Highway	Brea/Caltrans	D	AM	21.9	C	21.9	C	N/A	N/A	No	--	--
			PM	35.8	D	35.8	D	N/A	N/A	No	--	--
10. Berry Street at Imperial Highway	Brea/Caltrans	D	AM	48.7	D	48.9	D	N/A	N/A	No	--	--
			PM	38.9	D	41.4	D	N/A	N/A	No	--	--
11. Brea Boulevard at Imperial Highway	Brea/Caltrans	D	AM	33.0	C	33.4	C	N/A	N/A	No	--	--
			PM	53.4	D	54.0	D	N/A	N/A	No	--	--
12. State College Boulevard at Imperial Highway	Brea/Caltrans	D	AM	44.3	D	44.8	D	N/A	N/A	No	--	--
			PM	<b>77.0</b>	<b>E</b>	<b>77.8</b>	<b>E</b>	N/A	N/A	No	--	--
13. SR-57 SB Ramps at Imperial Highway	Brea/Caltrans	D	AM	17.1	B	17.1	B	N/A	N/A	No	--	--
			PM	29.6	C	29.8	C	N/A	N/A	No	--	--
14. SR-57 NB Ramps at Imperial Highway	Brea/Caltrans	D	AM	39.6	D	39.6	D	N/A	N/A	No	--	--
			PM	35.8	D	35.9	D	N/A	N/A	No	--	--

Note:

- **Bold HCM/LOS** values indicate adverse service levels based on the City and Caltrans LOS standards.
- **N/A** = City of Brea impact criteria is Not Applicable (N/A) for intersections within the City of Brea that are under Caltrans jurisdiction. See Section 7.1.1 and 7.1.2 for definition of significant impact criteria.

### 8.3 Year 2021 Traffic Conditions - ICU

**Table 8-3** summarizes the peak hour Level of Service results at the fourteen (14) key study intersections for the Year 2021 horizon year. The first column (1) of ICU/LOS values in *Table 8-3* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists projected cumulative traffic conditions (existing plus ambient plus related projects traffic) based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents forecast Year 2021 near-term traffic conditions with the addition of Project traffic. The fourth column (4) shows the increase in ICU value due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

#### 8.3.1 Year 2021 Cumulative Traffic Conditions - ICU

An analysis of future (Year 2021) background traffic conditions indicates that the addition of ambient traffic growth and related projects traffic will not adversely impact any of the fourteen (14) key study intersections. The fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS D or better based on the LOS criteria identified in this report.

#### 8.3.2 Year 2021 Cumulative Plus Project Conditions - ICU

Review of columns (3) and (4) of *Table 8-3* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS D or better with the addition of project generated traffic in the Year 2021.

*Appendix D* also presents the near-term ICU/LOS calculations for the fourteen (14) key study intersections.

**TABLE 8-3  
YEAR 2021 PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2021 Traffic Conditions		(3) Year 2021 Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2021 Plus Project Plus Improvements Traffic Conditions	
			ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Puente Street at Lambert Road	D	AM	0.447	A	0.504	A	0.505	A	0.001	No	--	--
		PM	0.579	A	0.617	B	0.617	B	0.000	No	--	--
2. Berry Street at Lambert Road	D	AM	0.478	A	0.515	A	0.520	A	0.005	No	--	--
		PM	0.601	B	0.641	B	0.642	B	0.001	No	--	--
3. Brea Boulevard at Lambert Road	D	AM	0.625	B	0.688	B	0.688	B	0.000	No	--	--
		PM	0.638	B	0.687	B	0.688	B	0.001	No	--	--
4. State College Boulevard at Lambert Road	D	AM	0.660	B	0.717	C	0.719	C	0.002	No	--	--
		PM	0.793	C	0.826	D	0.826	D	0.000	No	--	--
5. SR-57 SB Ramps at Lambert Road	D	AM	0.707	C	0.767	C	0.768	C	0.001	No	--	--
		PM	0.680	B	0.769	C	0.771	C	0.002	No	--	--
6. SR-57 NB Ramps at Lambert Road	D	AM	0.690	B	0.715	C	0.716	C	0.001	No	--	--
		PM	0.725	C	0.808	D	0.809	D	0.001	No	--	--
7. Berry Street at Mercury Lane	D	AM	0.212	A	0.217	A	0.226	A	0.009	No	--	--
		PM	0.240	A	0.246	A	0.771	C	0.525	No	--	--

Notes:

- **Bold ICU/LOS** values indicate adverse service levels based on the City LOS standards.

**TABLE 8-3 (CONTINUED)**  
**YEAR 2021 PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2021 Traffic Conditions		(3) Year 2021 Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2021 Plus Project Plus Improvements Traffic Conditions	
			ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
8. Brea Boulevard at Birch Street	D	AM	0.368	A	0.420	A	0.421	A	0.001	No	--	--
		PM	0.540	A	0.585	A	0.585	A	0.000	No	--	--
9. Puente Street at Imperial Highway	D	AM	0.562	A	0.631	B	0.632	B	0.001	No	--	--
		PM	0.569	A	0.614	B	0.615	B	0.001	No	--	--
10. Berry Street at Imperial Highway	D	AM	0.635	B	0.703	C	0.709	C	0.006	No	--	--
		PM	0.663	B	0.701	C	0.710	C	0.009	No	--	--
11. Brea Boulevard at Imperial Highway	D	AM	0.767	C	0.815	D	0.816	D	0.001	No	--	--
		PM	0.762	C	0.812	D	0.814	D	0.002	No	--	--
12. State College Boulevard at Imperial Highway	D	AM	0.712	C	0.766	C	0.768	C	0.002	No	--	--
		PM	0.783	C	0.839	D	0.840	D	0.001	No	--	--
13. SR-57 SB Ramps at Imperial Highway	D	AM	0.594	A	0.664	B	0.664	B	0.000	No	--	--
		PM	0.739	C	0.795	C	0.797	C	0.002	No	--	--
14. SR-57 NB Ramps at Imperial Highway	D	AM	0.605	B	0.640	B	0.641	B	0.001	No	--	--
		PM	0.707	C	0.757	C	0.758	C	0.001	No	--	--

Notes:

- **Bold ICU/LOS** values indicate adverse service levels based on the City LOS standards.

## 8.4 Year 2021 Traffic Conditions - HCM

**Table 8-4** summarizes the peak hour Level of Service results at the fourteen (14) key study intersections for the Year 2021 horizon year. The first column (1) of HCM/LOS values in *Table 8-4* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists projected cumulative traffic conditions (existing plus ambient plus related projects traffic) based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents forecast Year 2021 near-term traffic conditions with the addition of Project traffic. The fourth column (4) shows the increase in delay due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on City LOS standards and significant impact criteria defined in this report. The fifth column (5) indicates whether the traffic associated with the Project will have a significant impact based on Caltrans LOS standards and significant impact criteria defined in this report. The sixth column (6) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

### 8.4.1 Year 2021 Cumulative Traffic Conditions - HCM

An analysis of future (Year 2021) background traffic conditions indicates that the addition of ambient traffic growth and related projects traffic will adversely impact four (4) of the fourteen (14) key study intersections during the AM and/or PM peak hours. The remaining ten (10) key study intersections are forecast to continue to operate at acceptable LOS based on the LOS criteria defined in this report. The locations identified below are forecast to operate at unacceptable levels of service:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (sec/veh)</u>	<u>LOS</u>	<u>Delay (sec/veh)</u>	<u>LOS</u>
4. State College Boulevard at Lambert Road	--	--	57.2	E
10. Berry Street at Imperial Highway	57.4	E	103.4	F
11. Brea Boulevard at Imperial Highway	63.1	E	--	--
12. State College Boulevard at Imperial Highway	67.2	E	102.9	F

It should be noted that forecast service levels at the intersection of Imperial Highway and Berry Avenue reflect the anticipated operating conditions with implementation of traffic signal coordination and equipment improvements planned by Caltrans at this location. According to information provided by City staff, the existing pedestrian push button post that is currently located within the median on Imperial Highway east of Berry Street, will be eliminated, thus eliminating the existing “pedestrian refuge” at this intersection. The improvements are expected to be completed prior to Opening Year 2021. Therefore, the pedestrian crossing times have been updated to reflect this removal for all near-term and long-term level of service calculations.



#### 8.4.2 Year 2021 Cumulative Plus Project Conditions - HCM

Review of columns (3), (4), and (5) of *Table 8-4* indicates that traffic associated with the proposed Project will cumulatively impact three (3) of the fourteen (14) key study intersections, when compared to LOS standards and significant impact criteria specified in this report. Although the intersection of State College Boulevard at Lambert Road is forecast to operate at LOS E during the PM peak hour with the addition of Project traffic, the proposed Project is expected to add less than allowable threshold to the delay based on City and Caltrans LOS standards. The remaining eleven (11) key study intersections are forecast to continue to operate at an acceptable LOS with addition of Project generated traffic in the Year 2021. The three (3) locations significantly impacted by the proposed Project under Year 2021 Cumulative Plus Project traffic conditions are as follows:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (sec/veh)</u>	<u>LOS</u>	<u>Delay (sec/veh)</u>	<u>LOS</u>
10. Berry Street at Imperial Highway	61.8	E	107.0	F
11. Brea Boulevard at Imperial Highway	63.9	E	--	--
12. State College Boulevard at Imperial Highway	68.1	E	103.9	F

However, as shown in column (6) of *Table 8-4*, the implementation of recommended mitigation measures at the impacted intersections offsets the Project's impact. After implementation of the recommended mitigation measures, the impacted intersections are forecast to operate at acceptable service levels.

*Appendix D* also presents the near-term HCM/LOS calculations for the fourteen (14) key study intersections.

**TABLE 8-4  
YEAR 2021 PEAK HOUR INTERSECTION CAPACITY ANALYSIS - HCM**

Key Intersections	Jurisdiction	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2021 Traffic Conditions		(3) Year 2021 Plus Project Traffic Conditions		(4) Significant Impact Per Brea Criteria		(5) Significant Impact Per Caltrans Guidelines	(6) Year 2021 Plus Project Plus Improvements Traffic Conditions	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay Increase	Yes/No	Yes/No	Delay (sec/veh)	LOS
1. Puente Street at Lambert Road	Brea	D	AM	38.5	D	40.3	D	40.3	D	0.0	No	--	--	--
			PM	38.0	D	40.8	D	40.8	D	0.0	No	--	--	--
2. Berry Street at Lambert Road	Brea	D	AM	36.2	D	37.1	D	37.4	D	0.3	No	--	--	--
			PM	35.9	D	35.7	D	36.3	D	0.6	No	--	--	--
3. Brea Boulevard at Lambert Road	Brea	D	AM	42.8	D	47.6	D	47.7	D	0.1	No	--	--	--
			PM	40.8	D	46.0	D	46.0	D	0.0	No	--	--	--
4. State College Boulevard at Lambert Road	Brea	D	AM	37.0	D	47.1	D	47.3	D	0.2	No	--	--	--
			PM	<b>55.9</b>	<b>E</b>	<b>57.2</b>	<b>E</b>	<b>57.2</b>	<b>E</b>	0.0	No	--	--	--
5. SR-57 SB Ramps at Lambert Road	Brea/ Caltrans	D	AM	20.3	C	26.1	C	26.2	C	N/A	N/A	No	--	--
			PM	30.0	C	21.2	C	21.4	C	N/A	N/A	No	--	--
6. SR-57 NB Ramps at Lambert Road	Brea/ Caltrans	D	AM	24.4	C	27.6	C	27.7	C	N/A	N/A	No	--	--
			PM	37.6	D	40.0	D	40.1	D	N/A	N/A	No	--	--
7. Berry Street at Mercury Lane	Brea	D	AM	2.5	A	2.5	A	4.1	A	1.6	No	--	--	--
			PM	5.9	A	5.8	A	6.6	A	0.8	No	--	--	--
8. Brea Boulevard at Birch Street	Brea	D	AM	33.6	C	33.4	C	33.5	C	0.1	No	--	--	--
			PM	36.4	D	39.0	D	39.1	D	0.1	No	--	--	--
9. Puente Street at Imperial Highway	Brea/ Caltrans	D	AM	21.9	C	34.9	C	34.9	C	N/A	N/A	No	--	--
			PM	35.8	D	17.6	B	17.6	B	N/A	N/A	No	--	--
10. Berry Street at Imperial Highway	Brea/ Caltrans	D	AM	48.7	D	<b>57.4</b>	<b>E</b>	<b>61.8</b>	<b>E</b>	N/A	N/A	<b>Yes</b>	35.8	D
			PM	38.9	D	<b>103.4</b>	<b>F</b>	<b>107.0</b>	<b>F</b>	N/A	N/A	<b>Yes</b>	44.7	D
11. Brea Boulevard at Imperial Highway	Brea/ Caltrans	D	AM	33.0	C	<b>63.1</b>	<b>E</b>	<b>63.9</b>	<b>E</b>	N/A	N/A	<b>Yes</b>	49.6	D
			PM	53.4	D	45.8	D	46.6	D	N/A	N/A	No	52.6	D
12. State College Boulevard at Imperial Highway	Brea/ Caltrans	D	AM	44.3	D	<b>67.2</b>	<b>E</b>	<b>68.1</b>	<b>E</b>	N/A	N/A	<b>Yes</b>	44.4	D
			PM	<b>77.0</b>	<b>E</b>	<b>102.9</b>	<b>F</b>	<b>103.9</b>	<b>F</b>	N/A	N/A	<b>Yes</b>	54.9	D
13. SR-57 SB Ramps at Imperial Highway	Brea/ Caltrans	D	AM	17.1	B	27.2	C	27.3	C	N/A	N/A	No	--	--
			PM	29.6	C	32.9	C	33.2	C	N/A	N/A	No	--	--
14. SR-57 NB Ramps at Imperial Highway	Brea/ Caltrans	D	AM	39.6	D	39.8	D	39.8	D	N/A	N/A	No	--	--
			PM	35.8	D	37.2	D	37.3	D	N/A	N/A	No	--	--

**Notes:**

- **Bold HCM/LOS** values indicate adverse service levels based on the City and Caltrans LOS standards.
- **N/A** = City of Brea impact criteria is Not Applicable (N/A) for intersections within the City of Brea that are under Caltrans jurisdiction. See Section 7.1.1 and 7.1.2 for definition of significant impact criteria.

## 8.5 Year 2040 Traffic Conditions - ICU

**Table 8-5** summarizes the peak hour Level of Service results at the fourteen (14) key study intersections for the Year 2040. The first column (1) of ICU/LOS values in **Table 8-5** presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists projected Year 2040 long-term traffic conditions based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents forecast Year 2040 long-term traffic conditions with the addition of Project traffic. The fourth column (4) shows the increase in ICU value due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

### 8.5.1 Year 2040 Traffic Conditions - ICU

Review of column (2) of **Table 8-5** shows that projected long-term (Year 2040) without project traffic will adversely impact two (2) of the fourteen (14) key study intersections during the AM and PM peak hours when compared to the LOS standards specified in this report. The remaining twelve (12) key study intersections are forecast to operate at an acceptable LOS D or better for long-term (Year 2040) traffic conditions. The locations projected to operate at an adverse LOS are as follows:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU</u>	<u>LOS</u>	<u>ICU</u>	<u>LOS</u>
11. Brea Boulevard at Imperial Highway	0.907	E	--	--
12. State College Boulevard at Imperial Highway	--	--	0.928	E

### 8.5.2 Year 2040 Plus Project Traffic Conditions - ICU

Review of columns (3) and (4) of **Table 8-5** indicates that traffic associated with the proposed Project **will not** have a cumulative significant impact at any of the fourteen (14) key study intersections during the AM and/or PM peak hours when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Brea Boulevard at Imperial Highway and State College Boulevard at Imperial Highway are forecast to operate at unacceptable LOS during the AM and/or PM peak hours with the addition of Project traffic, the proposed Project is expected to add less than 0.020 to the ICU value. The remaining twelve (12) key study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours in the Year 2040 with the proposed Project. The locations projected to operate at an adverse LOS are as follows:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>ICU/HCM</u>	<u>LOS</u>	<u>ICU/HCM</u>	<u>LOS</u>
11. Brea Boulevard at Imperial Highway	0.909	E	--	--
12. State College Boulevard at Imperial Highway	--	--	0.929	E

*Appendix D* presents the long-term ICU/LOS calculations for the fourteen (14) key study intersections.

**TABLE 8-5  
YEAR 2040 PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 Traffic Conditions		(3) Year 2040 Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2040 Plus Project Plus Improvements Traffic Conditions	
			ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
1. Puente Street at Lambert Road	D	AM	0.447	A	0.599	A	0.599	A	0.000	No	--	--
		PM	0.579	A	0.727	C	0.728	C	0.001	No	--	--
2. Berry Street at Lambert Road	D	AM	0.478	A	0.584	A	0.588	A	0.004	No	--	--
		PM	0.601	B	0.706	C	0.708	C	0.002	No	--	--
3. Brea Boulevard at Lambert Road	D	AM	0.625	B	0.794	C	0.794	C	0.000	No	--	--
		PM	0.638	B	0.754	C	0.755	C	0.001	No	--	--
4. State College Boulevard at Lambert Road	D	AM	0.660	B	0.755	C	0.757	C	0.002	No	--	--
		PM	0.793	C	0.861	D	0.861	D	0.000	No	--	--
5. SR-57 SB Ramps at Lambert Road	D	AM	0.707	C	0.806	D	0.807	D	0.001	No	--	--
		PM	0.680	B	0.801	D	0.803	D	0.002	No	--	--
6. SR-57 NB Ramps at Lambert Road	D	AM	0.690	B	0.765	C	0.765	C	0.000	No	--	--
		PM	0.725	C	0.879	D	0.881	D	0.002	No	--	--
7. Berry Street at Mercury Lane	D	AM	0.212	A	0.226	A	0.235	A	0.009	No	--	--
		PM	0.240	A	0.256	A	0.277	A	0.021	No	--	--

Notes:

- **Bold ICU/LOS** values indicate adverse service levels based on the City LOS standards.

**TABLE 8-5 (CONTINUED)**  
**YEAR 2040 PEAK HOUR INTERSECTION CAPACITY ANALYSIS - ICU**

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 Traffic Conditions		(3) Year 2040 Plus Project Traffic Conditions		(4) Significant Impact		(5) Year 2040 Plus Project Plus Improvements Traffic Conditions	
			ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	Increase	Yes/No	ICU/HCM	LOS
8. Brea Boulevard at Birch Street	D	AM	0.368	A	0.459	A	0.460	A	0.001	No	--	--
		PM	0.540	A	0.622	B	0.622	B	0.000	No	--	--
9. Puente Street at Imperial Highway	D	AM	0.562	A	0.731	C	0.732	C	0.001	No	--	--
		PM	0.569	A	0.683	B	0.684	B	0.001	No	--	--
10. Berry Street at Imperial Highway	D	AM	0.635	B	0.741	C	0.747	C	0.006	No	--	--
		PM	0.663	B	0.772	C	0.780	C	0.008	No	--	--
11. Brea Boulevard at Imperial Highway	D	AM	0.767	C	<b>0.907</b>	<b>E</b>	<b>0.909</b>	<b>E</b>	0.002	No	--	--
		PM	0.762	C	0.872	D	0.874	D	0.002	No	--	--
12. State College Boulevard at Imperial Highway	D	AM	0.712	C	0.871	D	0.872	D	0.001	No	--	--
		PM	0.783	C	<b>0.928</b>	<b>E</b>	<b>0.929</b>	<b>E</b>	0.001	No	--	--
13. SR-57 SB Ramps at Imperial Highway	D	AM	0.594	A	0.707	C	0.707	C	0.000	No	--	--
		PM	0.739	C	0.828	D	0.830	D	0.002	No	--	--
14. SR-57 NB Ramps at Imperial Highway	D	AM	0.605	B	0.727	C	0.728	C	0.001	No	--	--
		PM	0.707	C	0.792	C	0.793	C	0.001	No	--	--

Notes:

- **Bold ICU/LOS** values indicate adverse service levels based on the City LOS standards.

## 8.6 Year 2040 Traffic Conditions - HCM

**Table 8-6** summarizes the peak hour Level of Service results at the fourteen (14) key study intersections for the Year 2040. The first column (1) of HCM/LOS values in *Table 8-6* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists projected Year 2040 long-term traffic conditions based on existing intersection geometry, but without any traffic generated from the proposed Project. The third column (3) presents forecast Year 2040 long-term traffic conditions with the addition of Project traffic. The fourth column (4) shows the increase in delay due to the added peak hour Project trips and indicates whether the traffic associated with the Project will have a significant impact based on City LOS standards and significant impact criteria defined in this report. The fifth column (5) indicates whether the traffic associated with the Project will have a significant impact based on Caltrans LOS standards and significant impact criteria defined in this report. The sixth column (6) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve pre-Project conditions.

### 8.6.1 Year 2040 Traffic Conditions - HCM

Review of column (2) of *Table 8-6* shows that projected long-term (Year 2040) without Project traffic will adversely impact four (4) of the fourteen (14) key study intersections during the AM and/or PM peak hours when compared to the LOS standards specified in this report. The remaining ten (10) key study intersections are forecast to operate at an acceptable LOS D or better for long-term (Year 2040) traffic conditions. The locations identified below are forecast to operate at unacceptable levels of service:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (sec/veh)</u>	<u>LOS</u>	<u>Delay (sec/veh)</u>	<u>LOS</u>
4. State College Boulevard at Lambert Road	--	--	55.1	E
10. Berry Street at Imperial Highway	77.5	E	105.5	F
11. Brea Boulevard at Imperial Highway	68.1	E	70.5	E
12. State College Boulevard at Imperial Highway	59.7	E	107.4	F

It should be noted that forecast service levels at the intersection of Imperial Highway and Berry Avenue reflect the anticipated operating conditions with implementation of traffic signal coordination and equipment improvements planned by Caltrans at this location. According to information provided by City staff, the existing pedestrian push button post that is currently located within the median on Imperial Highway east of Berry Street, will be eliminated, thus eliminating the existing “pedestrian refuge” at this intersection. The improvements are expected to be completed prior to Opening Year 2021. Therefore, the pedestrian crossing times have been updated to reflect this removal for all near-term and long-term level of service calculations.



### 8.6.2 Year 2040 Plus Project Traffic Conditions – HCM

Review of columns (3), (4), and (5) of *Table 8-6* indicates that traffic associated with the proposed Project will cumulatively impact three (3) of the fourteen (14) key study intersections, when compared to LOS standards and significant impact criteria specified in this report. Although the intersection of State College Boulevard at Lambert Road is forecast to operate at LOS E during the PM peak hour with the addition of Project traffic, the proposed Project is expected to add less than allowable threshold to the delay based on City and Caltrans LOS standards. The remaining eleven (11) key study intersections are forecast to continue to operate at an acceptable LOS with addition of Project generated traffic in the Year 2040. The three (3) locations significantly impacted by the proposed Project under Year 2040 Plus Project traffic conditions are as follows:

<u>Key Intersection</u>	<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
	<u>Delay (sec/veh)</u>	<u>LOS</u>	<u>Delay (sec/veh)</u>	<u>LOS</u>
10. Berry Street at Imperial Highway	80.1	F	109.7	F
11. Brea Boulevard at Imperial Highway	68.9	E	71.3	E
12. State College Boulevard at Imperial Highway	60.3	E	108.3	F

However, as shown in column (6) of *Table 8-6*, the implementation of recommended mitigation measures at the impacted intersections offsets the Project’s impact. After implementation of the recommended mitigation measures, the impacted intersections are forecast to operate at better service levels than pre-Project conditions.

*Appendix D* presents the long-term HCM/LOS calculations for the fourteen (14) key study intersections.

**TABLE 8-6  
YEAR 2040 PEAK HOUR INTERSECTION CAPACITY ANALYSIS - HCM**

Key Intersections	Jurisdiction	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 Traffic Conditions		(3) Year 2040 Plus Project Traffic Conditions		(4) Significant Impact Per Brea Criteria		(5) Significant Impact Per Caltrans Guidelines	(6) Year 2040 Plus Project Plus Improvements Traffic Conditions	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay Increase	Yes/No	Yes/No	Delay (sec/veh)	LOS
1. Puente Street at Lambert Road	Brea	D	AM	38.5	D	37.1	D	37.1	D	0.0	No	--	--	--
			PM	38.0	D	41.9	D	41.9	D	0.0	No	--	--	--
2. Berry Street at Lambert Road	Brea	D	AM	36.2	D	35.7	D	36.0	D	0.3	No	--	--	--
			PM	35.9	D	36.0	D	36.5	D	0.5	No	--	--	--
3. Brea Boulevard at Lambert Road	Brea	D	AM	42.8	D	50.0	D	50.1	D	0.1	No	--	--	--
			PM	40.8	D	47.6	D	47.7	D	0.1	No	--	--	--
4. State College Boulevard at Lambert Road	Brea	D	AM	37.0	D	36.1	D	36.2	D	0.1	No	--	--	--
			PM	<b>55.9</b>	<b>E</b>	<b>55.1</b>	<b>E</b>	<b>55.1</b>	<b>E</b>	0.0	No	--	--	--
5. SR-57 SB Ramps at Lambert Road	Brea/ Caltrans	D	AM	20.3	C	20.8	C	20.8	C	N/A	N/A	No	--	--
			PM	30.0	C	22.3	C	22.7	C	N/A	N/A	No	--	--
6. SR-57 NB Ramps at Lambert Road	Brea/ Caltrans	D	AM	24.4	C	25.8	C	25.8	C	N/A	N/A	No	--	--
			PM	37.6	D	48.8	D	49.1	D	N/A	N/A	No	--	--
7. Berry Street at Mercury Lane	Brea	D	AM	2.5	A	2.1	A	3.2	A	1.1	No	--	--	--
			PM	5.9	A	4.7	A	5.1	A	0.4	No	--	--	--
8. Brea Boulevard at Birch Street	Brea	D	AM	33.6	C	34.8	C	34.8	C	0.0	No	--	--	--
			PM	36.4	D	38.5	D	38.5	D	0.0	No	--	--	--
9. Puente Street at Imperial Highway	Brea/ Caltrans	D	AM	21.9	C	21.7	C	21.7	C	N/A	N/A	No	--	--
			PM	35.8	D	28.1	C	28.1	C	N/A	N/A	No	--	--
10. Berry Street at Imperial Highway	Brea/ Caltrans	D	AM	48.7	D	<b>77.5</b>	<b>E</b>	<b>80.1</b>	<b>F</b>	N/A	N/A	<b>Yes</b>	28.2	C
			PM	38.9	D	<b>105.5</b>	<b>F</b>	<b>109.7</b>	<b>F</b>	N/A	N/A	<b>Yes</b>	19.8	B
11. Brea Boulevard at Imperial Highway	Brea/ Caltrans	D	AM	33.0	C	<b>68.1</b>	<b>E</b>	<b>68.9</b>	<b>E</b>	N/A	N/A	<b>Yes</b>	47.7	D
			PM	53.4	D	<b>70.5</b>	<b>E</b>	<b>71.3</b>	<b>E</b>	N/A	N/A	<b>Yes</b>	<b>57.8</b>	<b>E<sup>13</sup></b>
12. State College Boulevard at Imperial Highway	Brea/ Caltrans	D	AM	44.3	D	<b>59.7</b>	<b>E</b>	<b>60.3</b>	<b>E</b>	N/A	N/A	<b>Yes</b>	49.7	D
			PM	<b>77.0</b>	<b>E</b>	<b>107.4</b>	<b>F</b>	<b>108.3</b>	<b>F</b>	N/A	N/A	<b>Yes</b>	<b>89.2</b>	<b>F<sup>13</sup></b>
13. SR-57 SB Ramps at Imperial Highway	Brea/ Caltrans	D	AM	17.1	B	19.0	B	19.0	B	N/A	N/A	No	--	--
			PM	29.6	C	31.0	C	31.2	C	N/A	N/A	No	--	--
14. SR-57 NB Ramps at Imperial Highway	Brea/ Caltrans	D	AM	39.6	D	40.6	D	40.6	D	N/A	N/A	No	--	--
			PM	35.8	D	38.5	D	38.6	D	N/A	N/A	No	--	--

Notes:

- **Bold HCM/LOS** values indicate adverse service levels based on the City and Caltrans LOS standards.
- **N/A** = City of Brea impact criteria is Not Applicable (N/A) for intersections within the City of Brea that are under Caltrans jurisdiction. See Section 7.1.1 and 7.1.2 for definition of significant impact criteria.

<sup>13</sup> It is noted that the mitigation improves to pre-Project conditions in the PM peak hour.

## 9.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

### 9.1 Site Access

Access to the Project will be provided via one (1) full access unsignalized driveway along Mercury Lane.

*Table 9-1* summarizes the intersection level of service results for the one (1) proposed Project driveway under near-term (Year 2021) and long-term (Year 2040) traffic conditions at completion and full occupancy of the proposed Project. As shown, these key study intersections are forecast to operate at LOS A during the AM peak hour and PM peak hour.

*Appendix E* presents the near-term and long-term HCM/LOS calculations for the one (1) Project driveway.

### 9.2 Internal Circulation Evaluation

The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the preliminary site plan, the overall layout does not create any unsafe vehicle-pedestrian conflict points and the driveway throating is sufficient such that access to parking spaces is not impacted by internal vehicle queuing/stacking. The on-site circulation is very good based on our review of the proposed site plan, whereas the alignment, spacing, and throating of the Project driveways is adequate. The circulation around the buildings is adequate with sufficient sight distance along the drive aisles.

**TABLE 9-1  
PROJECT DRIVEWAY PEAK HOUR INTERSECTION CAPACITY ANALYSIS**

Key Intersection	Intersection Control	Time Period	(1) Year 2021 Plus Project Traffic Conditions		(2) Year 2040 Plus Project Traffic Conditions	
			HCM (sec/veh)	LOS	HCM (sec/veh)	LOS
A. Project Drive at Mercury Lane	One-Way Stop	AM	9.4	A	9.4	A
		PM	9.4	A	9.4	A

## 10.0 RECOMMENDED INTERSECTION IMPROVEMENTS

For those intersections where projected traffic volumes are expected to result in unacceptable operating conditions, this report recommends (identifies) improvement measures that change the intersection geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) to specific approaches of a key intersection. The identified improvements are expected to:

- mitigate the impact of existing traffic, Project traffic and future non-project (ambient traffic growth and cumulative project) traffic and
- improve Levels of Service to an acceptable range and/or to pre-project conditions.

### 10.1 Existing Plus Project Traffic Conditions

The results of the intersection capacity analysis presented previously in *Table 8-1 and 8-2* shows that the proposed Project is not expected to have a significant impact at any of the fourteen (14) key study intersections under Existing Plus Project traffic conditions. As such, no intersection improvements are recommended under these conditions.

### 10.2 Year 2021 Plus Project Traffic Conditions

The results of the intersection capacity analyses presented previously in *Table 8-3 and 8-4* shows that the proposed Project is expected to have a significant impact at three (3) of the fourteen (14) key study intersections under Year 2021 Plus Project traffic conditions. As such, the following intersection improvements are recommended to mitigate the cumulative impacts of the proposed Project under these conditions. Per City requirements, the Project may be expected to pay a fair-share/local fee to cover the Project's fair share of the full construction costs needed to implement these mitigation measures.

- **No. 10 – Berry Street at Imperial Highway:** Remove the existing east leg crosswalk and stripe west leg and south leg crosswalks. To achieve this, a pedestrian landing area is needed in the southwest corner of the intersection. Modify the existing traffic signal, as well as signing and striping, accordingly. Note that this improvement could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
- **No. 11 – Brea Boulevard at Imperial Highway:** Restripe the southbound approach to provide a third southbound through lane. Modify the existing traffic signal. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.

**No. 12 – State College Boulevard at Imperial Highway:** Modify the existing traffic signal to include a northbound right-turn overlap phase. Upgrading the signal phasing could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements that are located in the City of Brea and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.

### 10.3 Year 2040 Plus Project Traffic Conditions

The results of the intersection capacity analyses presented previously in *Table 8-5 and 8-6* shows that the proposed Project is expected to have a significant impact at three (3) of the fourteen (14) key study intersections under Year 2040 Plus Project traffic conditions. As such, the following intersection improvements are recommended to mitigate the cumulative impacts of the proposed Project under these conditions to achieve pre-Project levels of service. Per City requirements, the Project may be expected to pay a fair-share/local fee to cover the Project's fair share of the full construction costs needed to implement these mitigation measures.

- **No. 10 – Berry Street at Imperial Highway:** *Same as those identified in Section 10.2 and 10.2.* Remove the existing east leg crosswalk and stripe west leg and south leg crosswalks. To achieve this, a pedestrian landing area is needed in the southwest corner of the intersection. Modify the existing traffic signal, as well as signing and striping, accordingly. Note that this improvement could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
- **No. 11 – Brea Boulevard at Imperial Highway:** Restripe the southbound approach to provide a third southbound through lane. Modify the traffic signal to include a northbound and eastbound right-turn overlap phase. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.

**No. 12 – State College Boulevard at Imperial Highway:** *Same as those identified in Section 10.2.* Modify the existing traffic signal to include a northbound right-turn overlap phase. Upgrading the signal phasing could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements that are located

in the City of Brea and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.

**Figure 10-1** graphically illustrates the recommended improvements for Existing Plus Project, Year 2021 Plus Project, and Year 2040 Plus Project traffic conditions.

#### **10.4 Project-Related Fair-Share Contribution**

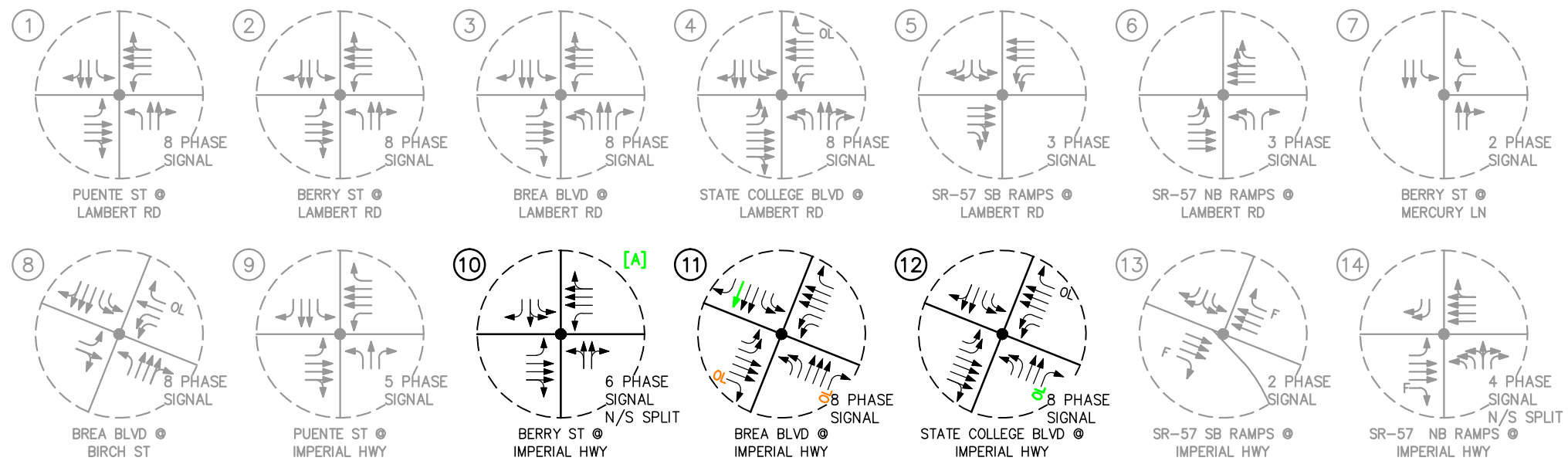
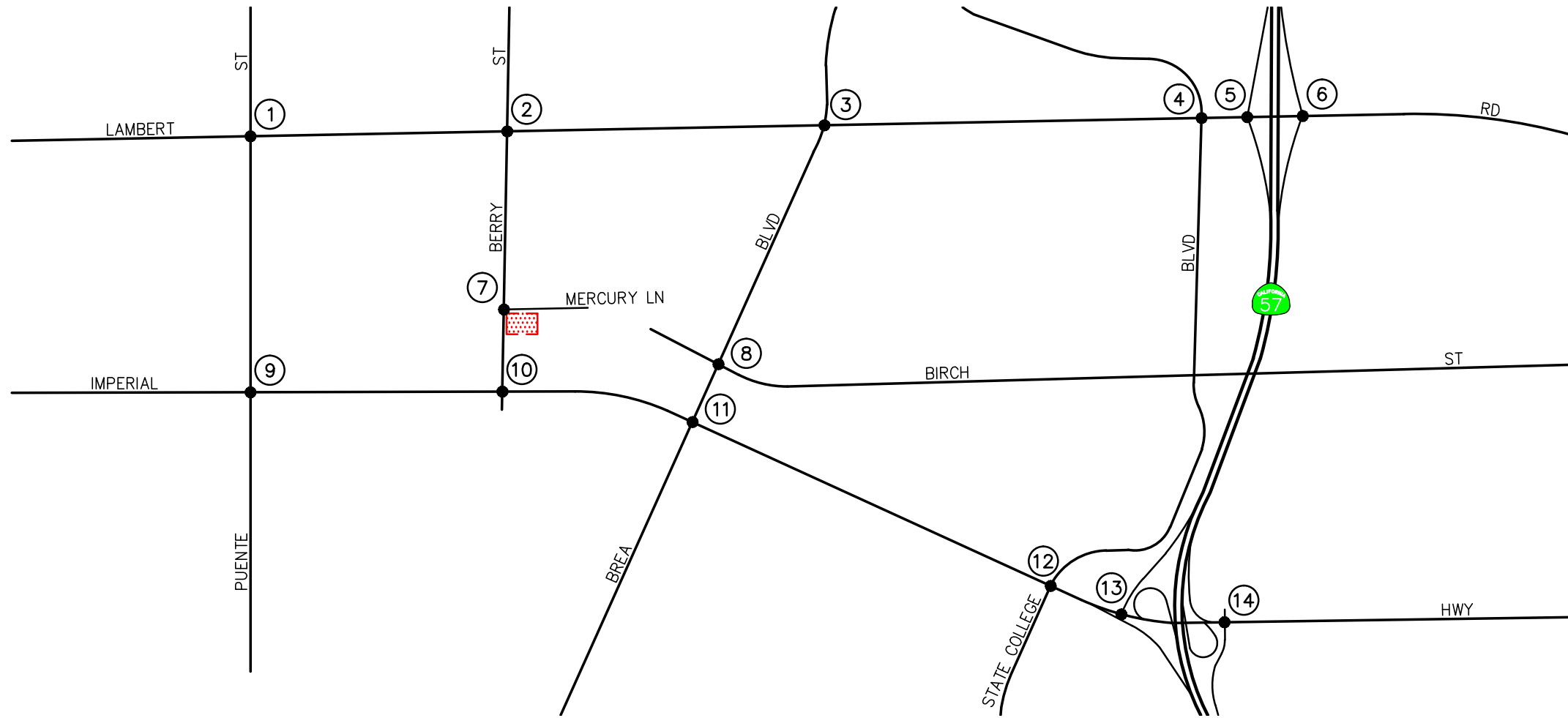
The transportation impacts associated with the development of the Project were determined based on the future conditions analysis with and without the proposed Project. The key study locations forecast to operate at adverse levels of service are discussed below. As such, the proposed Project's "fair share" of the recommended improvements has been calculated for the key study intersections that are forecast to operate at adverse levels of service in the Existing Plus Project, Year 2020 Plus Project, and Year 2040 Plus Project traffic conditions.

As such the Project may be expected to construct improvements and/or can be expected to pay a proportional "fair-share" of the improvement costs of the impacted intersection to mitigate the Project's traffic impact.

**Table 10-1** presents Project's fair-share contribution to construct the recommended improvements at the three (3) study intersections projected to operate at an unacceptable LOS and/or inadequate queuing in the Year 2040 Plus Project traffic conditions.

As presented in this *Table 10-1*, the first column (1) presents a total of all intersection peak hour movements for existing conditions. The second column (2) presents project only traffic. The third column (3) presents Year 2040 buildout traffic conditions with Project traffic. The fourth column (4) represents what percentage of total intersection peak hour traffic is Project-related traffic.





**TABLE 10-1**  
**YEAR 2040 PROJECT FAIR-SHARE CONTRIBUTION**

<b>Key Intersection</b>		<b>City/ Jurisdiction</b>	<b>Time Period</b>	<b>(1) Existing Traffic</b>	<b>(2) Project Traffic</b>	<b>(3) Year 2040 Plus Project Traffic</b>	<b>(4) Project Fair-Share Percent<sup>14</sup></b>
10.	Berry Street at Imperial Highway	Brea/ Caltrans	AM	4,354	29	5,294	3.09%
			PM	4,713	35	5,514	<b>4.37%</b>
11.	Brea Boulevard at Imperial Highway	Brea/ Caltrans	AM	5,715	22	7,027	1.68%
			PM	6,578	26	7,767	<b>2.19%</b>
12.	State College Boulevard at Imperial Highway	Brea/ Caltrans	AM	5,307	16	6,619	1.22%
			PM	6,940	19	8,159	<b>1.56%</b>

<sup>14</sup> Project fair-share percentage Column (4) = [Column (2)] / [Column (3) – Column (1)].

## 10.5 City of Brea Traffic Impact Fees

Based on information published on the City of Brea website, the Brea City Council adopted Ordinance 966 in July 1995, establishing Traffic Impact Fees for all new development in Brea and annexed portions of its sphere-of-influence. Based on a Transportation Improvement Nexus Program study conducted in 2011, the City Council adopted Resolution 2011-096, which updated the impact fees, which became effective February 4, 2012. These fees are required, in part, by Orange County's Measure M, a transportation initiative passed by voters in 1990. More importantly, these are fair-share based fees that will serve to offset, or mitigate, the traffic impacts caused by new development.

Review of *Table 10-2* indicates that the City's Traffic Impact Fee rate for residential land uses range from \$1,203 per dwelling unit to \$1,974 per dwelling unit. For Commercial, general mixed use and office/industrial land uses, the City's rate ranges between \$1.25 per gross square foot and \$2.53 per gross square foot.

Subject to confirmation by City staff, the proposed Project's Traffic Impact Fee (i.e. 120 dwelling units) total \$144,360.00, assuming the application of the high density residential rate (13 du per acre and over) would be applicable. The precise fee will be determined upon issuance of Project building permits by the City of Brea Community Development Department.

In some cases, a developer may be required to make certain traffic improvements in addition to, or in-lieu of paying traffic impact fees. In this case, however, the total cost of traffic improvements and/or fees will not exceed the development's fair-share toward mitigating its own impacts.

With respect to project impacts at intersections under the jurisdiction of the City of Brea and Caltrans, it should also be noted that under CEQA, a fair share monetary contribution to a mitigation fund is adequate mitigation if the fund is tied to a reasonable plan that the relevant agency is committed to implementing. However, the City and Caltrans do not have mitigation fund programs in place for these improvements to which a development project in the City of Brea can contribute.

**TABLE 10-2**  
**CITY OF BREA TRAFFIC IMPACT FEE RATES<sup>15</sup>**

<b>Land Use Category</b>	<b>Unit of Development</b>	<b>Fee</b>
▪ Low density residential (Up to 6 du per acre)	Per dwelling unit	\$1,974
▪ Medium density residential (7 to 12 du per acre)	Per dwelling unit	\$1,453
▪ High density residential (13 du per acre and over)	Per dwelling unit	\$1,203
▪ Commercial, general, mixed use	Per gross square foot	\$2.53
▪ Regional commercial	Per gross square foot	\$2.24
▪ Office / industrial	Per gross square foot	\$1.25
▪ School	Student	\$0
▪ All other uses	Per trip end	\$89

<sup>15</sup> Source: City of Brea website - <http://www.ci.brea.ca.us/162/Traffic-Impact-Fees>

## 11.0 CONGESTION MANAGEMENT PROGRAM (CMP) COMPLIANCE ASSESSMENT

This analysis is consistent with the requirements and procedures outlined in the current *Orange County Congestion Management Program (CMP)*. The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). As noted in Section 5.0 of this traffic study, the proposed Project is forecast to generate approximately 653 daily trip-ends and thus does not meet the criteria requiring a CMP TIA.

## 12.0 SUMMARY OF FINDINGS AND CONCLUSIONS

- **Project Description** – The Project site is located within the Brea Downtown area. The subject property is a square-shaped 1.0± acre parcel of land that is currently vacant/unimproved. The Project consists of the development of a five-story apartment building with 120 apartment units on the 2<sup>nd</sup> through 5<sup>th</sup> floors over ground floor parking and two levels of subterranean parking. It should be noted that the most current site plan on file has up to 114 units. To provide a conservative assessment 120 units has been assumed. The Project is expected to be constructed over the next two years or so and completed by 2020. However, to provide a conservative assessment, Year 2021 has been utilized to assess the Project’s potential traffic impacts at full occupancy within a near-term cumulative traffic setting. Vehicular access to the Project will be provided via one (1) full access unsignalized driveway along Mercury Lane.
- **Study Scope** – The following fourteen (14) key study intersections were selected for detailed peak hour level of service analyses under Existing Traffic Conditions, Existing Plus Project Traffic Conditions, Year 2021 Cumulative Traffic Conditions, Year 2021 Cumulative Plus Project, Year 2040 Traffic Conditions, and Year 2040 Plus Project Traffic Conditions.

### Key Study Intersections

1. Puente Street at Lambert Road
  2. Berry Street at Lambert Road
  3. Brea Boulevard at Lambert Road
  4. State College Boulevard at Lambert Road
  5. SR-57 SB Ramps at Lambert Road
  6. SR-57 NB Ramps at Lambert Road
  7. Berry Street at Mercury Lane
  8. Brea Boulevard at Birch Street
  9. Puente Street at Imperial Highway
  10. Berry Street at Imperial Highway
  11. Brea Boulevard at Imperial Highway
  12. State College Boulevard at Imperial highway
  13. SR-57 SB Ramps at Imperial Highway
  14. SR-57 NB Ramps at Imperial Highway
- **Existing Traffic Conditions** – The intersections of State College Boulevard at Lambert Road, Berry Street at Imperial Highway, and State College Boulevard at Imperial Highway currently operate at an unacceptable LOS during the AM and/or PM peak hours. The remaining eleven (11) of the fourteen (14) key study intersections currently operate at an acceptable LOS D or better during the AM and PM peak hours.
  - **Project Trip Generation** – The proposed Project is forecast to generate approximately 653 daily trips, with 43 trips (11 inbound, 32 outbound) produced in the AM peak hour and 53 trips (32 inbound, 21 outbound) produced in the PM peak hour on a “typical” weekday.
  - **Related Projects Traffic Characteristics** – Seven (7) related projects were considered as part of the cumulative background setting. The seven (7) related projects are forecast to generate 19,601

daily trips, with 1,630 trips (1,008 inbound, 622 outbound) anticipated during the AM peak hour and 1,699 trips (707 inbound, 992 outbound) produced during the PM peak hour.

- ***Existing Plus Project Traffic Conditions ICU*** – The proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS C or better with the addition of project generated traffic.
- ***Existing Plus Project Traffic Conditions HCM*** – The proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of State College Boulevard at Lambert Road and State College Boulevard at Imperial Highway are forecast to operate at unacceptable LOS E during the PM peak hour with the addition of Project traffic, the Project is expected to add less than the allowable threshold to the delay based on City and Caltrans LOS standards. The remaining twelve (12) key study intersections are expected to continue to operate at acceptable LOS D or better.
- ***Year 2021 Cumulative Traffic Conditions Plus Project ICU*** – The proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. The fourteen (14) key study intersections are forecast to continue to operate at an acceptable LOS D or better with the addition of project generated traffic.
- ***Year 2021 Cumulative Traffic Conditions Plus Project HCM*** – The proposed Project will have a cumulative impact at the following three (3) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report.

Key Intersection

- 10. Berry Street at Imperial Highway
- 11. Brea Boulevard at Imperial Highway
- 12. State College Boulevard at Imperial Highway

However, implementation of recommended improvements will off-set the incremental impact of Project-related traffic.

- ***Year 2040 Traffic Conditions Plus Project ICU*** – The proposed Project ***will not*** significantly impact any of the fourteen (14) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersections of Brea Boulevard at Imperial Highway and State College Boulevard at Imperial Highway are forecast to operate at unacceptable LOS during the AM and/or PM peak hours with the addition of Project traffic, the proposed Project is expected to add less than 0.020 to the ICU value. The remaining twelve (12) key study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours in the Year 2040 with the proposed Project.



- **Year 2040 Traffic Conditions Plus Project HCM** – The proposed Project will have a cumulative impact at the following three (3) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report.

Key Intersection

10. Berry Street at Imperial Highway
11. Brea Boulevard at Imperial Highway
12. State College Boulevard at Imperial Highway

However, implementation of recommended improvements will off-set the incremental impact of Project-related traffic.

- **Existing Plus Project Recommended Improvements** – The proposed Project is not expected to have a significant impact at any of the fourteen (14) key study intersections under Existing Plus Project traffic conditions. As such, no intersection improvements are recommended under these conditions. following improvements listed below have been identified to mitigate the existing plus project traffic impacts at the following intersection:
- **Year 2021 Cumulative Plus Project Recommended Improvements** – The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the Year 2021 at the following intersection:
  - **No. 10 – Berry Street at Imperial Highway:** Remove the existing east leg crosswalk and stripe west leg and south leg crosswalks. To achieve this, a pedestrian landing area is needed in the southwest corner of the intersection. Modify the existing traffic signal, as well as signing and striping, accordingly. Note that this improvement could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
  - **No. 11 – Brea Boulevard at Imperial Highway:** Restripe the southbound approach to provide a third southbound through lane. Modify the existing traffic signal. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
  - **No. 12 – State College Boulevard at Imperial Highway:** Modify the existing traffic signal to include a northbound right-turn overlap phase. Upgrading the signal phasing could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The

installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements that are located in the City of Brea and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.

- **Year 2040 Buildout Plus Project Recommended Improvements** – The following improvements listed below have been identified to mitigate the cumulative traffic impacts of the Project in the Year 2040 at the following intersection:
  - **No. 10 – Berry Street at Imperial Highway:** *Same as those identified in Year 2021 cumulative plus project recommended improvements.* Remove the existing east leg crosswalk and stripe west leg and south leg crosswalks. To achieve this, a pedestrian landing area is needed in the southwest corner of the intersection. Modify the existing traffic signal, as well as signing and striping, accordingly. Note that this improvement could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
  - **No. 11 – Brea Boulevard at Imperial Highway:** Restripe the southbound approach to provide a third southbound through lane. Modify the traffic signal to include a northbound and eastbound right-turn overlap phase. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements which are under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
  - **No. 12 – State College Boulevard at Imperial Highway:** *Same as those identified in Year 2021 cumulative plus project recommended improvements.* Modify the existing traffic signal to include a northbound right-turn overlap phase. Upgrading the signal phasing could trigger the need to upgrade the entire intersection to current ADA standards which would result in ramp modifications as required by Caltrans. The installation of these improvements is subject to the approval of Caltrans and the City of Brea. Since the proposed Project cannot guarantee that these improvements that are located in the City of Brea and/or also under the jurisdiction of Caltrans will be implemented, a statement of overriding considerations would be required for this location.
- **Site Access Assessment** – The one (1) proposed Project driveway under near-term (Year 2021) and long-term (Year 2040) traffic conditions at completion and full occupancy of the proposed

Project. Motorists entering and exiting the Project site will be able to do so comfortably, safely, and without undue congestion.

- **Year 2040 Project Fair-Share Contribution** – The implementation of recommended cumulative improvements at the three (3) intersections impacted by the proposed Project in the Year 2040 ensures acceptable operating conditions are achieved/maintained. The Project can be expected to pay a proportional “fair-share” of the improvement which is identified below.

<u>Key Intersection</u>	<u>City/ Jurisdiction</u>	<u>Project Fair- Share Contribution</u>
10. Berry Street at Imperial Highway	Brea/ Caltrans	4.37%
11. Brea Boulevard at Imperial Highway	Brea/ Caltrans	2.19%
12. State College Boulevard at Imperial Highway	Brea/ Caltrans	1.56%

- **Traffic Impact Fees** – The proposed Project’s Traffic Impact Fee (i.e. 120 dwelling units) total \$144,360.00, assuming the application of the high density residential rate (13 du per acre and over) would be applicable. The precise fee will be determined upon issuance of Project building permits by the City of Brea Community Development Department.
- **CMP Compliance Assessment** – The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). The proposed Project is forecast to generate approximately 653 daily trip-ends and thus does not meet the criteria requiring a CMP TIA.

# APPENDIX A

## TRAFFIC STUDY SCOPE OF WORK

MEMORANDUM

To: Mr. Farhad Iranitalab, P.E.,  
Public Works, Traffic Engineering  
City of Brea

Date: November 18, 2018

---

From: Richard E. Barretto, P.E., Principal  
LLG Ref: 2.18.3933.1  
Linscott, Law & Greenspan, Engineers

---

Subject: ***Traffic Impact Analysis Scope of Work for Mercury Apartments  
Brea, California***

Engineers & Planners  
Traffic  
Transportation  
Parking

Linscott, Law &  
Greenspan, Engineers

2 Executive Circle  
Suite 250  
Irvine, CA 92614  
949.825.6175 T  
949.825.6173 F  
www.llgengineers.com

Pasadena  
Irvine  
San Diego  
Woodland Hills

Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Traffic Impact Analysis Scope of Work for the proposed Mercury Apartments project in the City of Brea for your review and approval. The work program summarized below considers the City of Brea requirements.

**Traffic Study Scope of Work**

The Traffic Impact Analysis for the Mercury Apartments project (herein after referred to as Project) will satisfy the traffic impact requirements of the City of Brea and will be consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County*. Given the location of the Project site, the criteria outlined in the current Caltrans *Guide for the Preparation of Traffic Impact Studies* will also be considered.

**A. Project Location:** The Project site is located within the Brea Downtown area. The subject property is a square-shaped 1.0± acre parcel of land that is currently vacant/unimproved. The site is zoned Commercial Industrial (C-M), thus requiring a General Plan Amendment Zone Change. Additionally, the City does not have a residential zone that would allow this level of density so a Zoning Ordinance Amendment or some other mechanism would be required to create this type of zoning to accommodate the proposed Project. See **Figure 1-1**, a Vicinity Map that illustrates the general location of the Project and surrounding street system. **Figure 2-1** is an existing aerial photograph of the Project site.

**B. Project Description:** The final project description is still being finalized however, the most current plan provided consists of the development of a five-story apartment building with 120 apartment units on the 2<sup>nd</sup> through 5<sup>th</sup> floors over ground floor parking and two levels of subterranean parking. Vehicular access to the Project will be provided via an access driveway along Mercury Lane.

**Figure 2-2** illustrates the conceptual site plan for the Project prepared by CallisonRTKL. It is our understanding that the Project's site plan is still in progress.

Philip M. Linscott, PE (1924-2000)  
Jack M. Greenspan, PE (Ret.)  
William A. Law, PE (Ret.)  
Paul W. Wilkinson, PE  
John P. Keating, PE  
David S. Shender, PE  
John A. Boarman, PE  
Clare M. Look-Jaeger, PE  
Richard E. Barretto, PE  
Keil D. Maberry, PE

**C. Traffic Study Locations:** The following fourteen (14) key study intersections have been selected for evaluation. Thirteen (13) key roadway segments volumes will be provided for informational purposes only. *Figure 1-1* identifies the study locations.

**Key Study Intersections**

1. Puente Street at Lambert Road
2. Berry Street at Lambert Road
3. Brea Boulevard at Lambert Road
4. State College Boulevard at Lambert Road
5. SR-57 SB Ramps at Lambert Road
6. SR-57 NB Ramps at Lambert Road
7. Berry Street at Mercury Lane
8. Brea Boulevard at Birch Street
9. Puente Street at Imperial Highway
10. Berry Street at Imperial Highway
11. Brea Boulevard at Imperial Highway
12. State College Boulevard at Imperial highway
13. SR-57 SB Ramps at Imperial Highway
14. SR-57 NB Ramps at Imperial Highway

**Key Roadway Segments**

- a. Lambert Road, west of Berry Street
- b. Lambert Road, east of Berry Street
- c. Lambert Road, east of Brea Boulevard
- d. Lambert Road, east of State College Boulevard
- e. Berry Street, north of Mercury Lane
- f. Brea Boulevard, north of Birch Street
- g. Birch Street, east of Brea Boulevard
- h. Berry Street, south of Mercury Lane
- i. Brea Boulevard, south of Birch Street
- j. Imperial Highway, west of Berry Street
- k. Imperial Highway, east of Berry Street
- l. Imperial Highway, east of Brea Boulevard
- m. Imperial Highway, east of State College Boulevard

**D. Traffic Counts:** Daily, AM peak hour and PM peak hour traffic counts for the fourteen (14) key study intersections and thirteen (13) key roadway segments will be conducted the week of April 16, 2018.

**E. Project Traffic Generation:** The trip generation potential of the proposed Project will be estimated using trip rates contained in the 10<sup>th</sup> Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE), [Washington, D.C., 2017]. As shown in the upper portion of *Table 5-1*, ITE Land Use 221:

Multifamily Housing (Mid-Rise) trip rates will be used to forecast the trip generation potential of the residential component of the Project. ITE Land Use 220: Multifamily Housing (Low-Rise) has been included for comparison purposes only.

A review of the middle portion of this table indicates that the proposed Project is forecast to generate approximately 653 daily trips, with 43 trips (11 inbound, 32 outbound) produced in the AM peak hour and 53 trips (32 inbound, 21 outbound) produced in the PM peak hour on a “typical” weekday.

For comparison purposes, the trip generation potential for the subject property, under the current C-M zoning, was estimated using ITE Land Use 110: General Light Industrial and assuming development of 21,780 square-feet (SF)<sup>1</sup> of general light industrial. A review of the lower portion of this table indicates that the current zoning entitlement could generate approximately 108 daily trips, with 15 trips (13 inbound, 2 outbound) produced in the AM peak hour and 14 trips (2 inbound, 12 outbound) produced in the PM peak hour on a “typical” weekday.

Direct comparison of the trips generated by the proposed Project to the trips generated by the Entitled Land Use shows that that the implementation of the proposed Project will result in 545 additional daily trips, 28 additional AM peak hour trips and 39 additional PM peak hour trips. To provide a conservative traffic impact assessment, no trip credit for the entitled use has been included. The impact of project-generated trips will be evaluated.

**F. Project Trip Distribution Pattern:** See attached *Figure 5-1* for the Project Trip Distribution for review by the City. Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- location of site access points in relation to the surrounding street system,
- the site's proximity to major traffic carriers and regional access routes,
- physical characteristics of the circulation system such as lane channelization and presence of traffic signals that affect travel patterns,
- presence of traffic congestion in the surrounding vicinity, and
- ingress/egress availability at the project site.

**G. Near-Term Cumulative Background Traffic:**

- **Project Completion Year:** The Project is expected to be constructed over the next two years or so and completed by 2020. However, to provide a

---

<sup>1</sup> Potential light industrial floor area estimated assuming an F.A.R. (Floor Area Ratio) of 0.50 as allowed in the City of Brea Zoning Code for C-M Commercial Industrial Zone property.

conservative assessment, Year 2021 has been utilized to assess the Project's potential traffic impacts at full occupancy within a near-term cumulative traffic setting.

- Ambient Growth Rate: 1% per year
- Cumulative Projects: Planned and/or approved projects within a two-mile radius and in the vicinity of the Project site that may contribute traffic to the Project study area have been researched at the City of Brea and adjacent jurisdictions (i.e. Fullerton, La Habra). See attached **Figure 6-1** for all cumulative projects within the three jurisdictions. However, after reviewing a two-mile radius around the Project site, only seven (7) projects are proposed for inclusion. **Table 6-1** shows the seven (7) cumulative projects that will be included in the analysis.

**H. Long-Term Buildout Traffic:** Long-Term traffic volume forecasts will be developed based on OCTA prepared models. Contact OCTA and formally request preparation of OCTAM 4.0 approved computer traffic model runs for baseline conditions and buildout conditions for the AM and PM peak periods and daily traffic conditions.

Forecast future buildout traffic volumes using the following methodology:

- a. Peak period traffic volumes will be converted to peak hour (i.e., one-hour) traffic volumes using a conversion factor of 0.3566 for the AM peak hour and 0.2662 for the PM peak hour;
- b. Calculate the difference between the baseline and buildout peak period traffic volumes and convert to AM and PM peak hour (i.e., one-hour) link traffic volumes;
- c. Link traffic volumes (i.e., two-way directional traffic volumes on each roadway segment) will be post-processed using the "b-turns" program and the relationship of the base year validation model run output to the base year "ground" traffic counts to develop buildout AM and PM peak hour traffic volumes.

**I. Analysis Scenarios:** Prepare AM peak hour and PM peak hour and daily Level of Service (LOS) calculations at up to fourteen (14) study intersections and thirteen (13) roadway segments to determine the potential impacts of the proposed Project. The following traffic scenarios will be prepared.

1. Existing Traffic Conditions;
2. Existing Plus Project Traffic Conditions;
3. Scenario (2) with Mitigation, if necessary;
4. Near-Term (Year 2021) Background Traffic Conditions (Existing plus Ambient Growth plus Related Projects);
5. Near-Term (Year 2021) Background Plus Project Traffic Conditions;



6. Scenario (5) with Mitigation, if necessary;
7. Long-Term Buildout Traffic Conditions;
8. Long-Term Buildout Plus Project Traffic Conditions; and
9. Scenario (8) with Mitigation, if necessary.

The LOS calculations will be based on the Highway Capacity Manual (HCM) methodology for signalized intersections and unsignalized intersections.

The key study intersections at the SR-57 Freeway and along Imperial Highway will also be evaluated using the HCM signalized methodology per Caltrans requirements.

- J. Impact Criteria and Thresholds:** For intersections under City of Brea jurisdiction, a significant LOS impact occurs when the proposed Project causes the level of service at an intersection to fall below LOS D with the addition of Project traffic to baseline conditions. For intersections that already operate at unacceptable LOS E or F under the baseline conditions, a significant impact is defined as the proposed Project causing an increase in average critical delay value by 2.0 seconds or more.

For intersection under Caltrans jurisdiction, Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has established that LOS D is the operating standard for all Caltrans facilities. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e. LOS D); the existing service level should be maintained.

**K. Other Issues:**

- Evaluate Site Access and Internal Circulation.
- Identify measures to mitigate the impact of project traffic including roadway and intersection widening, traffic signals installation & modification signing, localized street improvement striping/channelization and all others improvements to provide acceptable LOS.

Mr. Farhad Iranitalab  
November 18, 2018  
Page 6



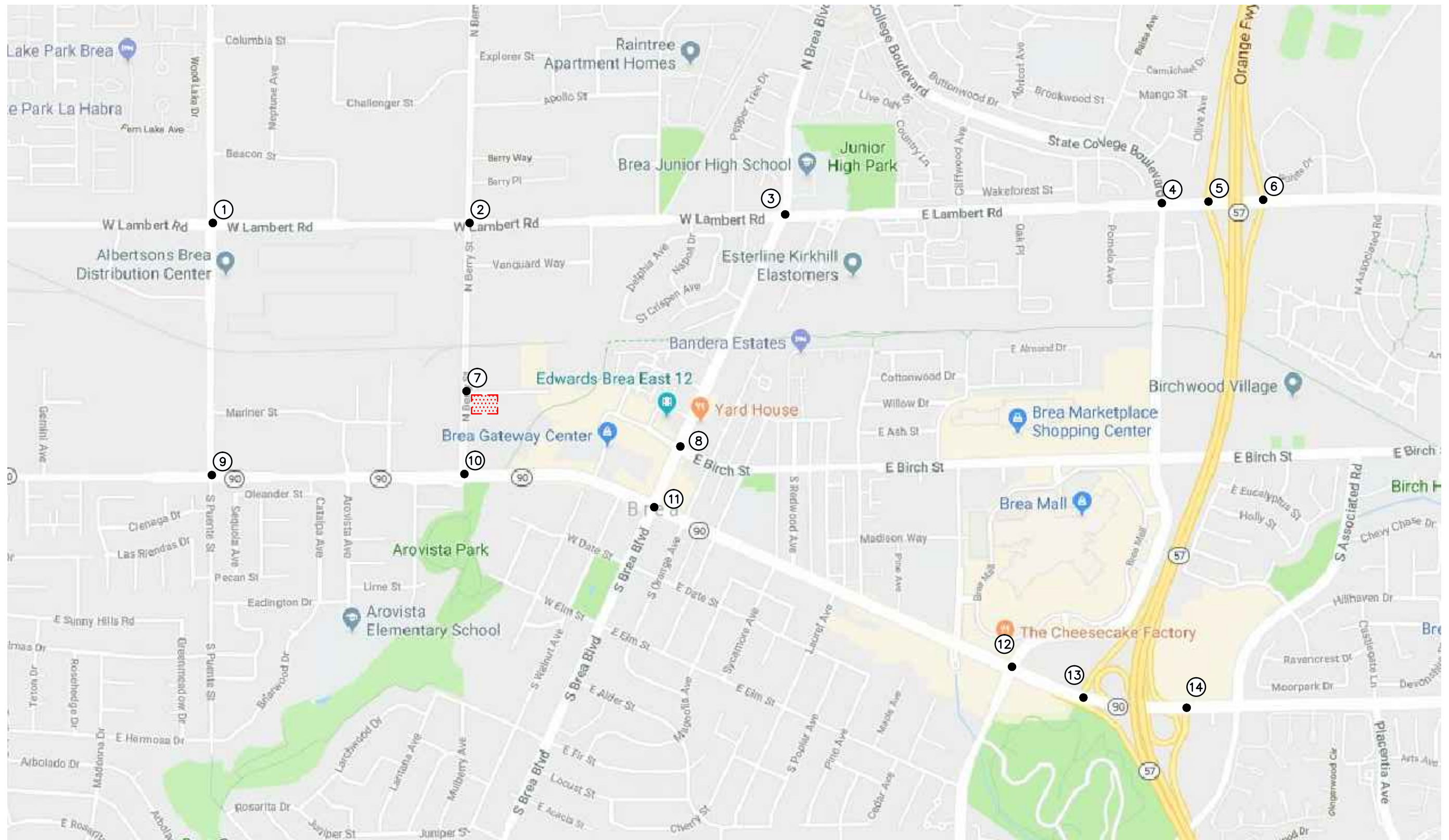
We appreciate the opportunity to provide this scope of work. Should you have any questions, please call us at (949)825-6175. Thank you.

**Approved by:**

\_\_\_\_\_  
City of Brea

\_\_\_\_\_  
Date

cc. File  
Shane Green, P.E., LLG



n:\3900\2183933 - mercury apartments, brea\dwg\3933 f1-1.dwg LDP 15:23:49 04-03-2018 besa

SOURCE: GOOGLE

KEY

- = STUDY INTERSECTION
- = PROJECT SITE

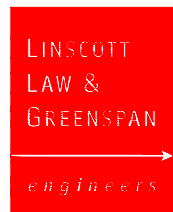
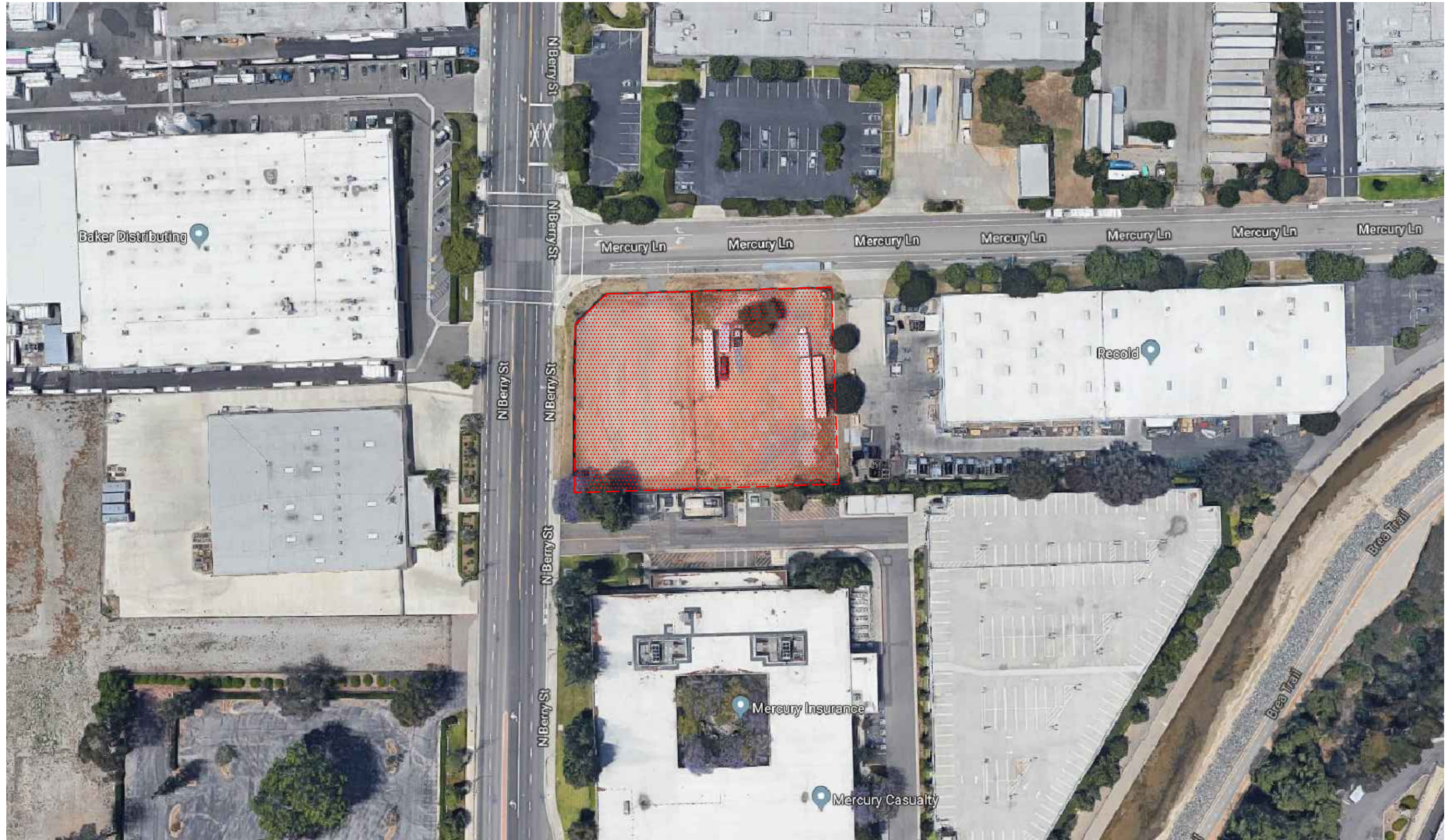


FIGURE 1-1

VICINITY MAP  
MERCURY APARTMENTS, BREA



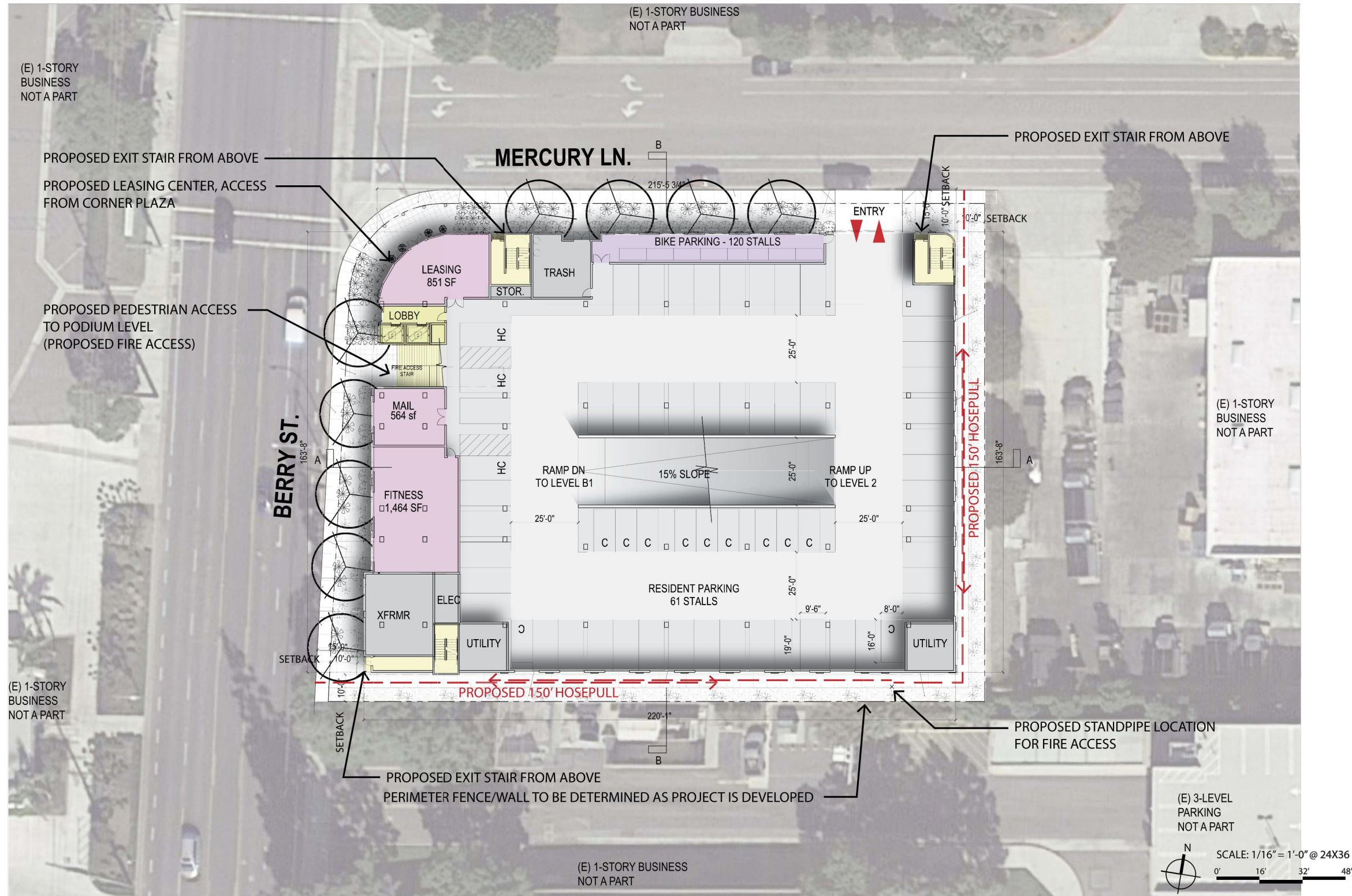


n:\3900\2183933 - mercury apartments, brea\dwg\3933 f2-1.dwg LDP 14:51:03 04-02-2018 besa

FIGURE 2-1

EXISTING SITE AERIAL  
MERCURY APARTMENTS, BREA





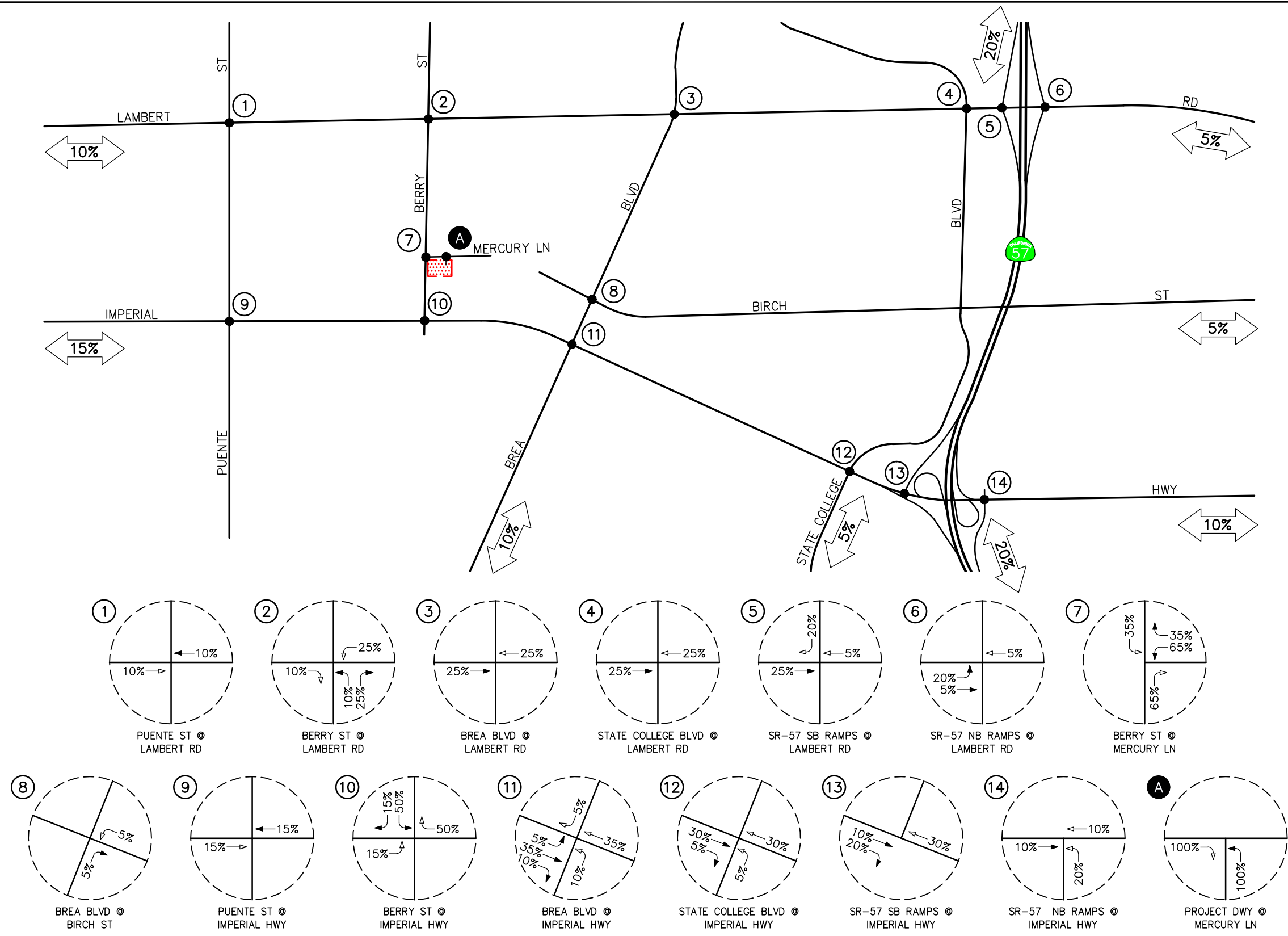
n:\3900\2183933 - mercury apartments, brea\dwg\3933 f2-2.dwg LDP 08:40:24 08-31-2018 besa

SOURCE: HUMPHREYS & PARTNERS ARCHITECTS, L.P.

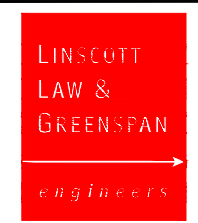


FIGURE 2-2

PROPOSED SITE PLAN  
MERCURY APARTMENTS, BREA



n:\3900\2183933 - mercury apartments, brea\dwg\3933 f5-1.dwg LDP 09:52:31 04-05-2018 besa

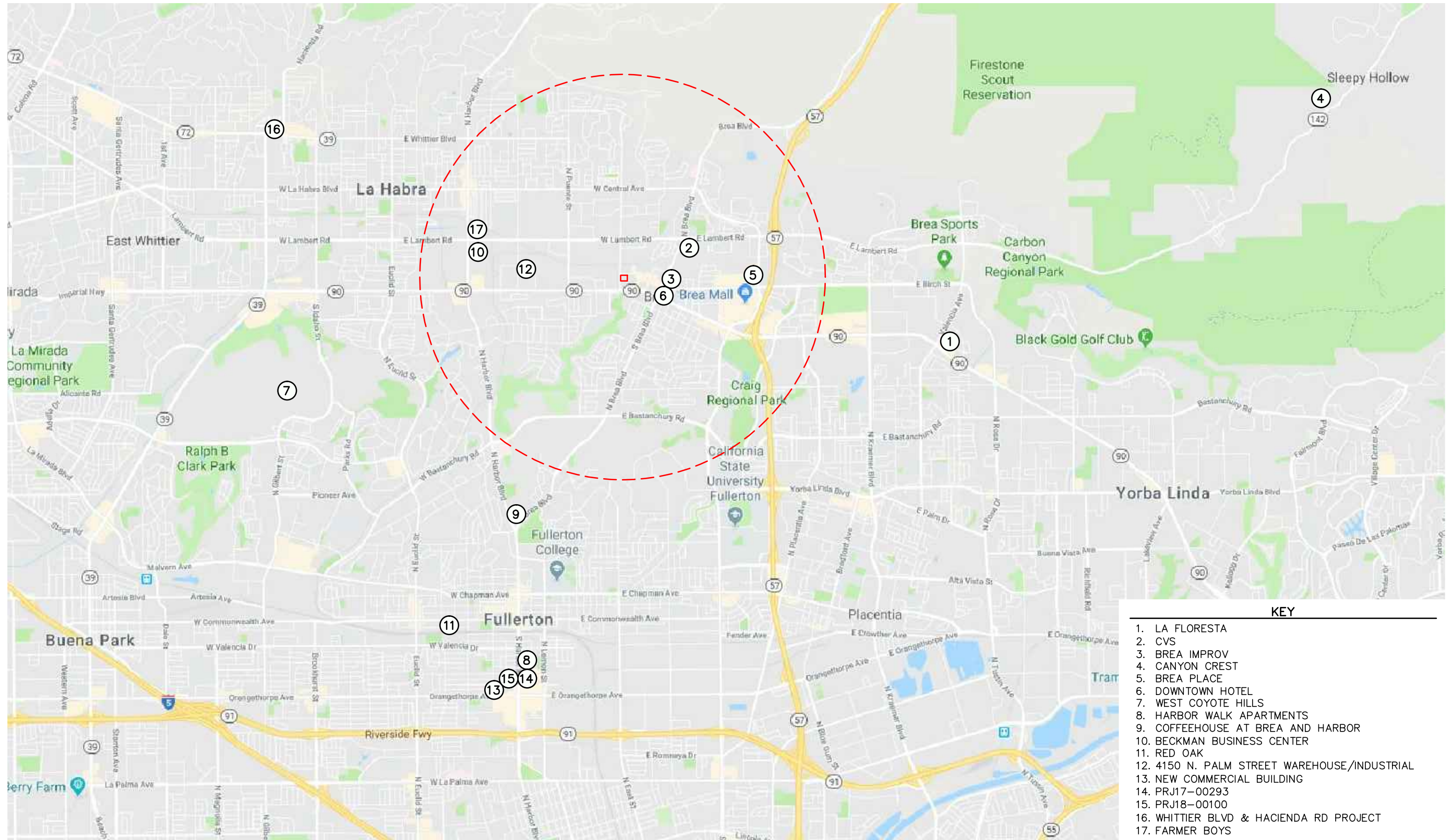


**KEY**  
 # = STUDY INTERSECTION  
 ← = INBOUND PERCENTAGE  
 → = OUTBOUND PERCENTAGE  
 [Red Hatched Box] = PROJECT SITE

**FIGURE 5-1**

**PROJECT TRIP DISTRIBUTION PATTERN**  
 MERCURY APARTMENTS, BREA





**KEY**

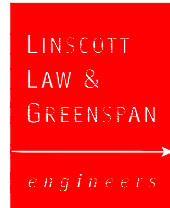
1. LA FLORESTA
2. CVS
3. BREA IMPROV
4. CANYON CREST
5. BREA PLACE
6. DOWNTOWN HOTEL
7. WEST COYOTE HILLS
8. HARBOR WALK APARTMENTS
9. COFFEEHOUSE AT BREA AND HARBOR
10. BECKMAN BUSINESS CENTER
11. RED OAK
12. 4150 N. PALM STREET WAREHOUSE/INDUSTRIAL
13. NEW COMMERCIAL BUILDING
14. PRJ17-00293
15. PRJ18-00100
16. WHITTIER BLVD & HACIENDA RD PROJECT
17. FARMER BOYS

n:\3900\2183933 - mercury apartments, brea\dwg\3933 rp map.dwg LDP 08:56:40 07-30-2018 besa

SOURCE: GOOGLE

**KEY**

- # = CUMULATIVE PROJECT LOCATION
- - - = 2 MILE RADIUS
- [Red Square] = PROJECT SITE



**FIGURE 6-1**

**CUMULATIVE PROJECTS LOCATION MAP**  
MERCURY APARTMENTS, BREA

**TABLE 5-1  
PROJECT TRAFFIC GENERATION RATES AND FORECAST<sup>2</sup>**

Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<b><u>Trip Rates:</u></b>							
▪ 110: General Light Industrial (TE/KSF)	4.96	88%	12%	0.70	13%	87%	0.63
▪ 220: Multifamily Housing (Low-Rise <sup>3</sup> ) (TE/DU)	7.32	23%	77%	0.46	63%	37%	0.56
▪ 221: Multifamily Housing (Mid-Rise <sup>4</sup> ) (TE/DU)	5.44	26%	74%	0.36	61%	39%	0.44
<b><u>Proposed Trip Generation:</u></b>							
▪ Mid-Rise Apartments (120 DU)	653	11	32	43	32	21	53
<b><u>Entitled Trip Generation:</u></b>							
▪ General Light Industrial (21,780 SF)	108	13	2	15	2	12	14
<b>Net Trips (Proposed Minus Entitled)</b>	<b>545</b>	<b>-2</b>	<b>30</b>	<b>28</b>	<b>30</b>	<b>9</b>	<b>39</b>

**Notes:**

TE/KSF = Trip End per 1,000 Square Feet

TE/DU = Trip End per Dwelling Unit

<sup>2</sup> Source: *Trip Generation*, 10<sup>th</sup> Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

<sup>3</sup> Low-Rise Multifamily Housing consists of buildings that are less than 3 levels.

<sup>4</sup> Mid-Rise Multifamily Housing consists of buildings that range between 3 and 10 levels.



**TABLE 6-1  
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS<sup>5</sup>**

No.	Description	Location/Address	Size
<b><u>City of Brea</u></b>			
1.	CVS	390 N. Brea Boulevard	13,000 SF Pharmacy with Drive-Through, 1,700 SF Coffee Shop with Drive-through
2.	Brea Place	State College Boulevard at Birch Street	790 DU Apartments, 5,000 SF Office, 150 Room Hotel
3.	Brea Improv	180 S. Brea Boulevard	530 Seat Theater, 7,450 SF High-Turnover Sit Down Restaurant, 5,500 SF Quality Restaurant
4.	Downtown Hotel	220 S. Brea Boulevard	116 Room Hotel, 4,030 SF High Turnover Sit Down Restaurant
<b><u>City of Fullerton</u></b>			
5.	4150 N. Palm Street Warehouse/Industrial	4150 N. Palm Street	181,069 SF Warehousing
6.	Beckman Business Center	4300 North Harbor Boulevard	978,665 SF Warehousing/ Manufacturing/ Industrial
<b><u>City of La Habra</u></b>			
7.	Farmer Boys	600 S. Harbor Boulevard	3,200 SF Fast-Food Restaurant With Drive-Through

<sup>5</sup> Source: City of Brea, Fullerton, and La Habra Planning Departments.  
N:\3900\2183933 - Mercury Apartments, Brea\Scope of Work\3933 Mercury Apartments, TIA Revised Scope of Work 11-18-18.doc

**APPENDIX B**  
**EXISTING TRAFFIC COUNT DATA**

*APPENDIX B-1*

**EXISTING INTERSECTION TRAFFIC COUNT DATA**

# National Data & Surveying Services Intersection Turning Movement Count

Location: Puente St & Lambert Road  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-001  
 Date: 4/19/2018

## Total

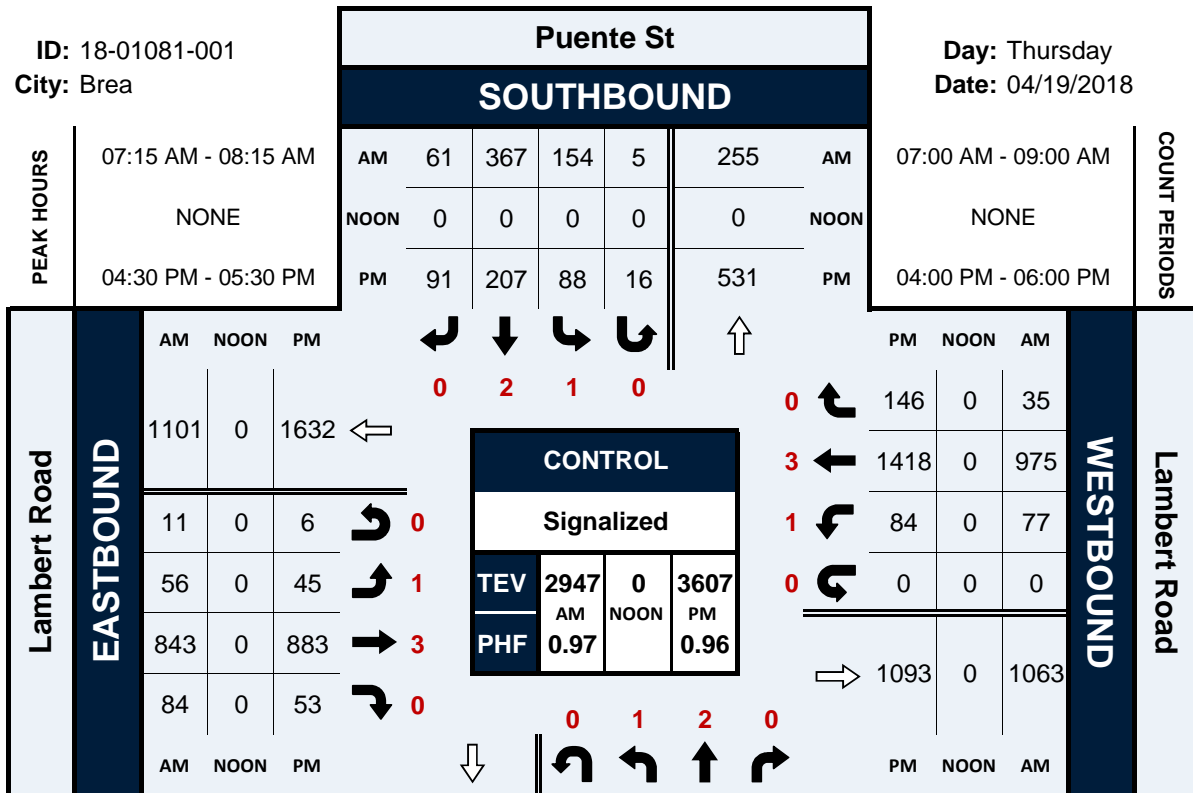
NS/EW Streets:	Puente St				Puente St				Lambert Road				Lambert Road				TOTAL	
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
AM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU		
7:00 AM	7	28	8	0	21	71	16	0	5	183	21	3	15	210	7	0	595	
7:15 AM	10	30	18	0	29	80	17	3	7	214	19	4	18	270	11	0	730	
7:30 AM	13	42	13	0	44	86	17	0	22	231	22	3	16	233	9	0	751	
7:45 AM	17	41	20	0	42	108	13	1	18	207	24	3	26	239	2	0	761	
8:00 AM	14	46	15	0	39	93	14	1	9	191	19	1	17	233	13	0	705	
8:15 AM	6	33	28	1	22	58	17	1	13	157	11	3	25	213	11	0	599	
8:30 AM	17	36	23	0	17	54	12	1	9	166	10	0	18	221	12	1	597	
8:45 AM	11	21	13	0	26	58	11	0	5	199	7	2	13	232	8	0	606	
<b>TOTAL VOLUMES :</b>	95	277	138	1	240	608	117	7	88	1548	133	19	148	1851	73	1	5344	
<b>APPROACH %'s :</b>	18.59%	54.21%	27.01%	0.20%	24.69%	62.55%	12.04%	0.72%	4.92%	86.58%	7.44%	1.06%	7.14%	89.29%	3.52%	0.05%		
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																	<b>TOTAL</b>
<b>PEAK HR VOL :</b>	54	159	66	0	154	367	61	5	56	843	84	11	77	975	35	0	2947	
<b>PEAK HR FACTOR :</b>	0.794	0.864	0.825	0.000	0.875	0.850	0.897	0.417	0.636	0.912	0.875	0.688	0.740	0.903	0.673	0.000	0.968	
			0.894			0.895				0.894				0.909				
PM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU		
4:00 PM	30	73	30	0	20	56	38	0	10	169	6	1	18	314	24	0	789	
4:15 PM	23	68	24	0	19	45	19	0	12	189	17	3	23	338	25	0	805	
4:30 PM	31	72	29	0	27	71	31	4	16	225	15	4	21	337	36	0	919	
4:45 PM	25	72	29	2	22	54	15	5	12	246	12	1	18	370	40	0	923	
5:00 PM	36	98	43	3	15	48	32	4	9	213	14	1	21	362	39	0	938	
5:15 PM	25	82	21	2	24	34	13	3	8	199	12	0	24	349	31	0	827	
5:30 PM	11	73	34	1	16	32	22	5	9	200	12	2	19	341	32	0	809	
5:45 PM	17	49	17	1	18	37	8	4	10	204	11	4	24	294	26	0	724	
<b>TOTAL VOLUMES :</b>	198	587	227	9	161	377	178	25	86	1645	99	16	168	2705	253	0	6734	
<b>APPROACH %'s :</b>	19.39%	57.49%	22.23%	0.88%	21.73%	50.88%	24.02%	3.37%	4.66%	89.11%	5.36%	0.87%	5.37%	86.53%	8.09%	0.00%		
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																	<b>TOTAL</b>
<b>PEAK HR VOL :</b>	117	324	122	7	88	207	91	16	45	883	53	6	84	1418	146	0	3607	
<b>PEAK HR FACTOR :</b>	0.813	0.827	0.709	0.583	0.815	0.729	0.711	0.800	0.703	0.897	0.883	0.375	0.875	0.958	0.913	0.000	0.961	
			0.792			0.756				0.911				0.963				

# Puente St & Lambert Road

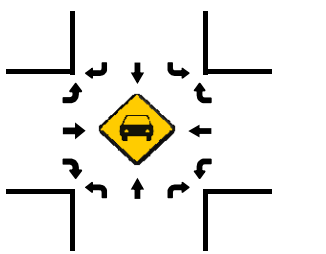
## Peak Hour Turning Movement Count

ID: 18-01081-001  
City: Brea

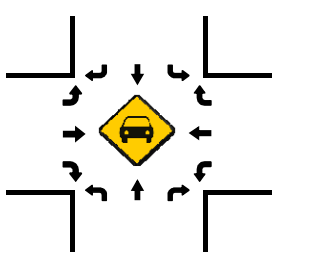
Day: Thursday  
Date: 04/19/2018



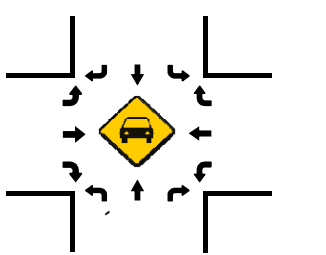
Total Vehicles (AM)



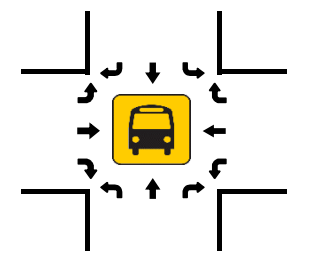
Total Vehicles (NOON)



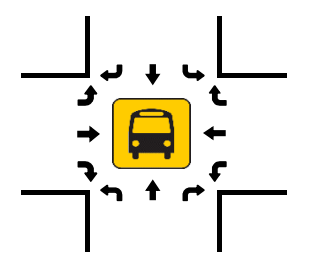
Total Vehicles (PM)



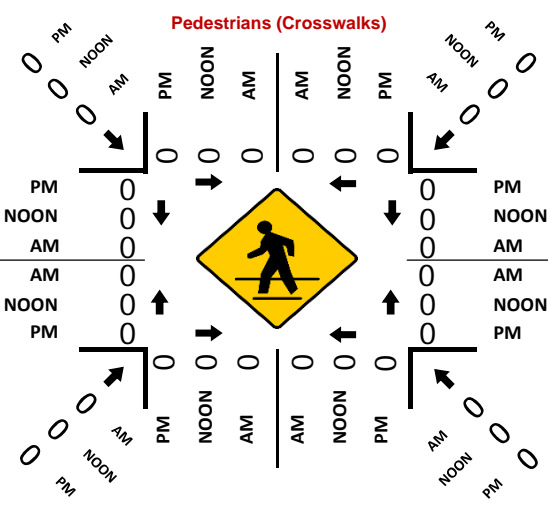
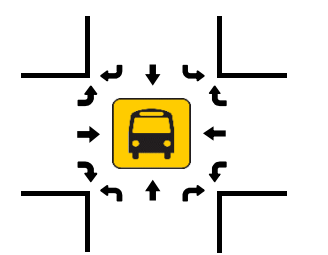
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Berry St & Lambert Road  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-002  
 Date: 4/19/2018

## Total

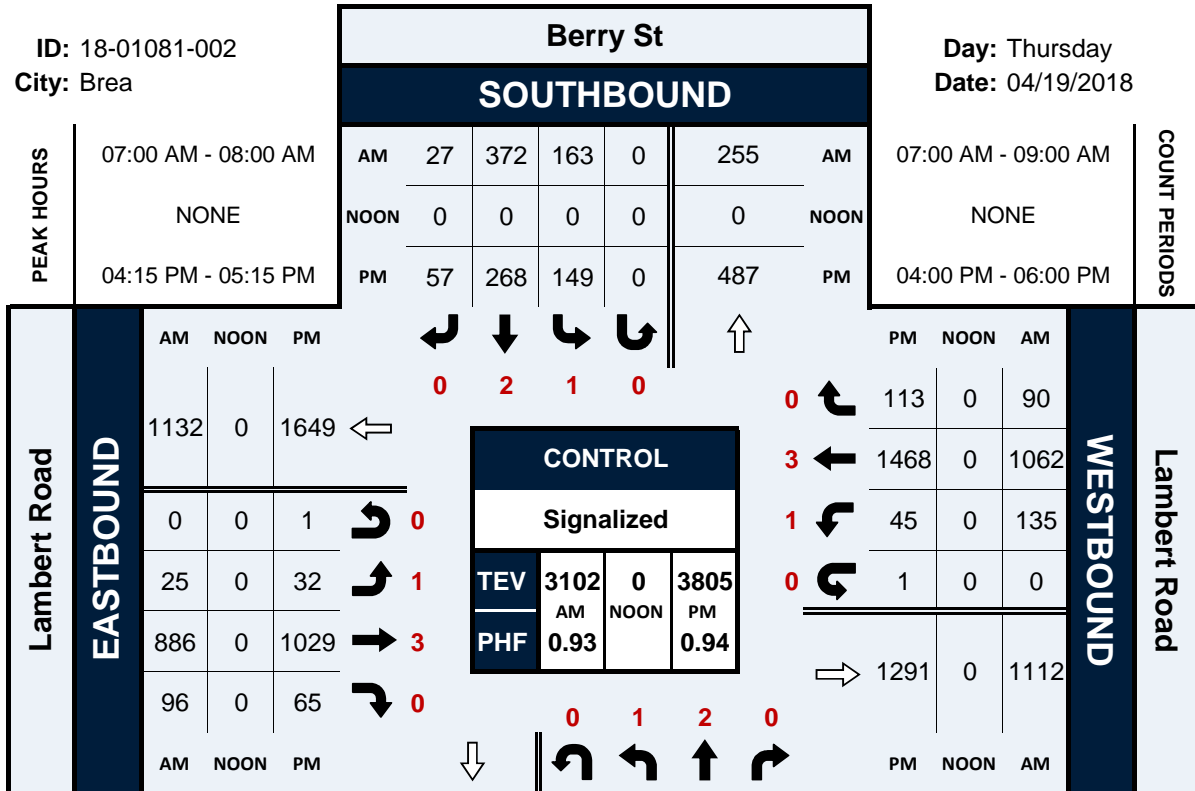
NS/EW Streets:	Berry St				Berry St				Lambert Road				Lambert Road				TOTAL	
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
AM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU		
7:00 AM	10	36	8	0	33	88	4	0	4	218	22	0	19	261	17	0	720	
7:15 AM	10	24	20	0	51	130	8	0	5	243	25	0	37	256	25	0	834	
7:30 AM	14	51	18	0	46	92	9	0	7	233	23	0	36	265	29	0	823	
7:45 AM	9	29	17	0	33	62	6	0	9	192	26	0	43	280	19	0	725	
8:00 AM	4	39	10	0	32	59	5	0	10	185	17	1	13	250	34	0	659	
8:15 AM	14	34	11	0	21	57	7	0	5	205	12	0	20	260	23	0	669	
8:30 AM	8	33	18	0	23	61	7	0	9	183	13	0	10	198	27	0	590	
8:45 AM	12	37	7	0	13	45	10	0	7	148	14	0	15	172	25	0	505	
<b>TOTAL VOLUMES :</b>	81	283	109	0	252	594	56	0	56	1607	152	1	193	1942	199	0	5525	
<b>APPROACH %'s :</b>	17.12%	59.83%	23.04%	0.00%	27.94%	65.85%	6.21%	0.00%	3.08%	88.49%	8.37%	0.06%	8.27%	83.20%	8.53%	0.00%		
<b>PEAK HR :</b>	07:00 AM - 08:00 AM																	<b>TOTAL</b>
<b>PEAK HR VOL :</b>	43	140	63	0	163	372	27	0	25	886	96	0	135	1062	90	0	3102	
<b>PEAK HR FACTOR :</b>	0.768	0.686	0.788	0.000	0.799	0.715	0.750	0.000	0.694	0.912	0.923	0.000	0.785	0.948	0.776	0.000	0.930	
		0.741				0.743				0.922				0.941				
PM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	1 EL	3 ET	0 ER	0 EU	1 WL	3 WT	0 WR	0 WU		
4:00 PM	27	54	19	0	25	50	11	0	9	239	13	0	14	354	32	1	848	
4:15 PM	41	84	29	0	36	62	12	0	10	291	21	0	12	386	30	0	1014	
4:30 PM	30	73	33	0	32	72	15	0	7	242	12	0	14	363	27	0	920	
4:45 PM	37	92	23	0	44	76	17	0	11	263	22	1	9	345	21	1	962	
5:00 PM	15	93	27	0	37	58	13	0	4	233	10	0	10	374	35	0	909	
5:15 PM	12	56	22	0	25	36	6	0	2	255	18	1	8	359	29	0	829	
5:30 PM	12	71	30	0	15	47	8	0	12	241	9	0	11	318	24	0	798	
5:45 PM	16	56	20	0	19	45	10	0	6	224	10	1	14	290	22	0	733	
<b>TOTAL VOLUMES :</b>	190	579	203	0	233	446	92	0	61	1988	115	3	92	2789	220	2	7013	
<b>APPROACH %'s :</b>	19.55%	59.57%	20.88%	0.00%	30.22%	57.85%	11.93%	0.00%	2.81%	91.74%	5.31%	0.14%	2.96%	89.88%	7.09%	0.06%		
<b>PEAK HR :</b>	04:15 PM - 05:15 PM																	<b>TOTAL</b>
<b>PEAK HR VOL :</b>	123	342	112	0	149	268	57	0	32	1029	65	1	45	1468	113	1	3805	
<b>PEAK HR FACTOR :</b>	0.750	0.919	0.848	0.000	0.847	0.882	0.838	0.000	0.727	0.884	0.739	0.250	0.804	0.951	0.807	0.250	0.938	
		0.937				0.865				0.875				0.950				

# Berry St & Lambert Road

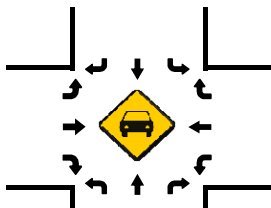
## Peak Hour Turning Movement Count

ID: 18-01081-002  
City: Brea

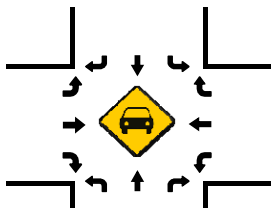
Day: Thursday  
Date: 04/19/2018



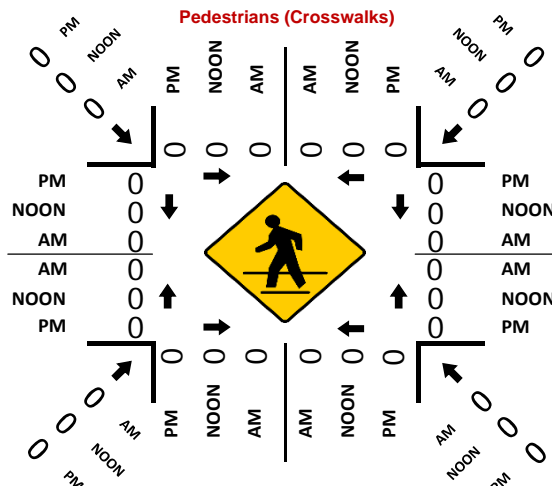
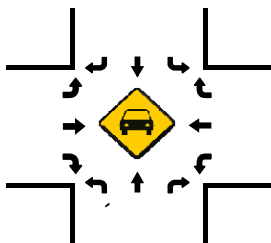
Total Vehicles (AM)



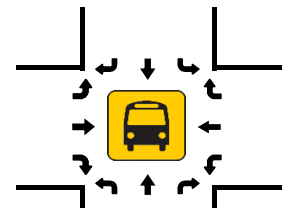
Total Vehicles (NOON)



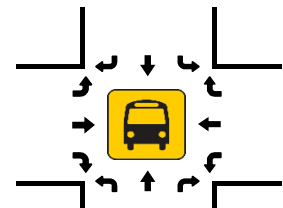
Total Vehicles (PM)



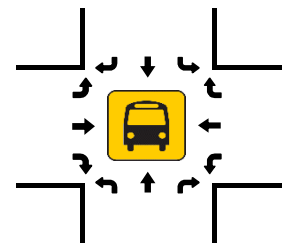
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Brea Blvd & Lambert Road  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-003  
 Date: 4/19/2018

## Total

NS/EW Streets:	Brea Blvd				Brea Blvd				Lambert Road				Lambert Road				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	24	40	25	0	12	167	44	0	8	205	63	2	56	249	16	0	911
7:15 AM	36	47	24	0	30	177	61	0	7	223	69	3	54	263	13	2	1009
7:30 AM	40	64	32	0	33	171	60	0	20	291	63	3	39	241	38	0	1095
7:45 AM	57	115	36	0	24	185	73	0	35	233	67	7	51	271	49	0	1203
8:00 AM	53	85	47	1	27	189	52	0	35	207	49	1	51	312	47	7	1163
8:15 AM	45	42	32	0	15	162	60	0	7	194	63	2	36	241	5	1	905
8:30 AM	49	54	42	1	17	180	56	0	17	185	49	0	62	243	10	0	965
8:45 AM	47	41	37	0	18	168	39	0	9	195	67	1	43	199	8	0	872
<b>TOTAL VOLUMES :</b>	351	488	275	2	176	1399	445	0	138	1733	490	19	392	2019	186	10	8123
<b>APPROACH %'s :</b>	31.45%	43.73%	24.64%	0.18%	8.71%	69.26%	22.03%	0.00%	5.80%	72.82%	20.59%	0.80%	15.04%	77.45%	7.13%	0.38%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	186	311	139	1	114	722	246	0	97	954	248	14	195	1087	147	9	4470
<b>PEAK HR FACTOR :</b>	0.816	0.676	0.739	0.250	0.864	0.955	0.842	0.000	0.693	0.820	0.899	0.500	0.903	0.871	0.750	0.321	0.929
	0.766				0.959				0.871				0.862				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	79	113	30	1	7	58	9	0	24	210	84	1	39	339	27	2	1023
4:15 PM	101	159	42	0	7	77	22	1	24	208	75	3	41	288	14	2	1064
4:30 PM	93	150	34	0	10	61	15	0	24	317	101	2	39	370	16	1	1233
4:45 PM	111	149	41	0	16	81	18	0	35	250	71	5	51	337	15	1	1181
5:00 PM	92	151	40	0	18	99	27	1	37	270	106	4	47	309	20	4	1225
5:15 PM	108	141	47	0	12	97	20	0	36	238	90	5	44	351	22	1	1212
5:30 PM	103	145	45	2	9	75	10	0	27	239	80	2	66	319	22	0	1144
5:45 PM	90	154	45	1	26	82	8	0	26	227	75	3	44	322	38	0	1141
<b>TOTAL VOLUMES :</b>	777	1162	324	4	105	630	129	2	233	1959	682	25	371	2635	174	11	9223
<b>APPROACH %'s :</b>	34.27%	51.26%	14.29%	0.18%	12.12%	72.75%	14.90%	0.23%	8.04%	67.58%	23.53%	0.86%	11.63%	82.58%	5.45%	0.34%	
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	404	591	162	0	56	338	80	1	132	1075	368	16	181	1367	73	7	4851
<b>PEAK HR FACTOR :</b>	0.910	0.978	0.862	0.000	0.778	0.854	0.741	0.250	0.892	0.848	0.868	0.800	0.887	0.924	0.830	0.438	0.984
	0.961				0.819				0.896				0.955				

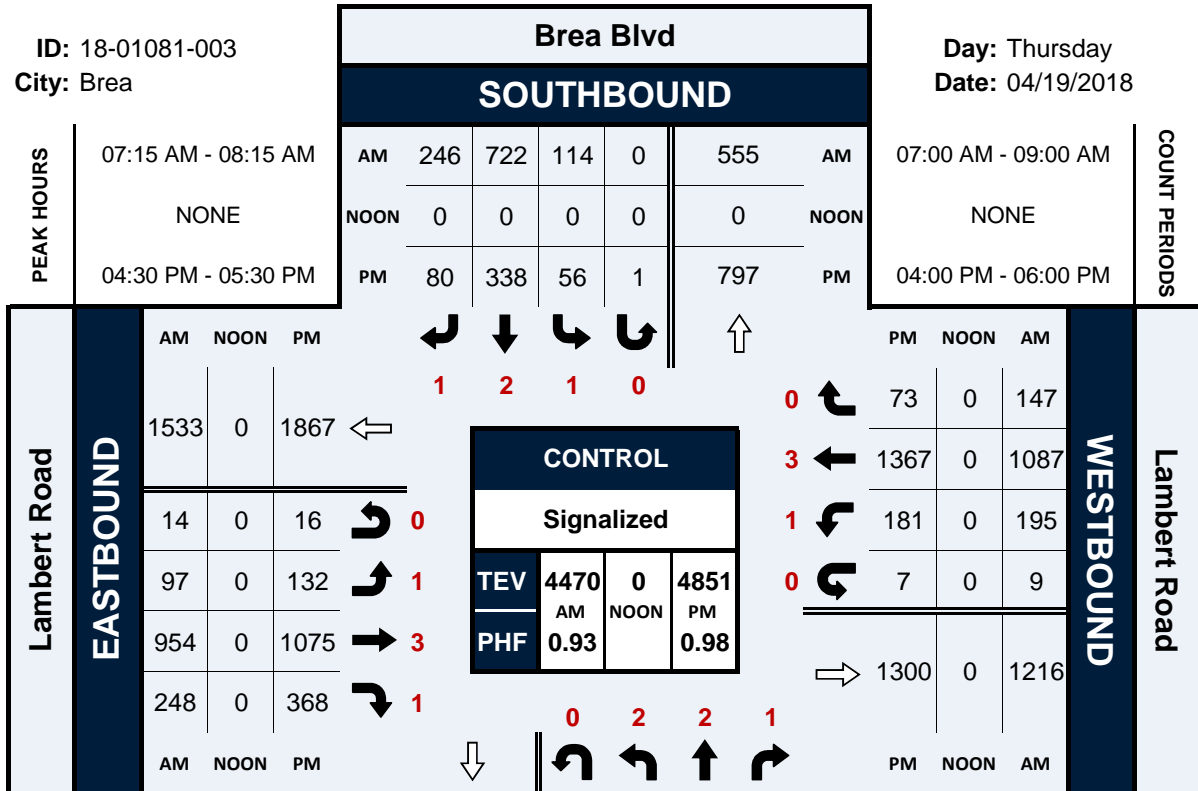


# Brea Blvd & Lambert Road

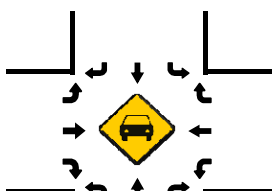
## Peak Hour Turning Movement Count

ID: 18-01081-003  
City: Brea

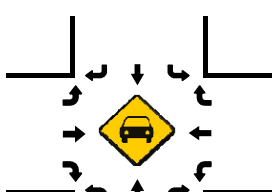
Day: Thursday  
Date: 04/19/2018



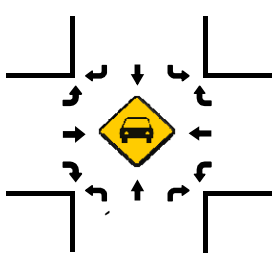
Total Vehicles (AM)



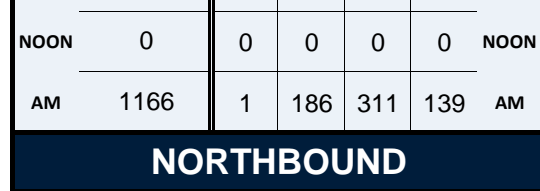
Total Vehicles (NOON)



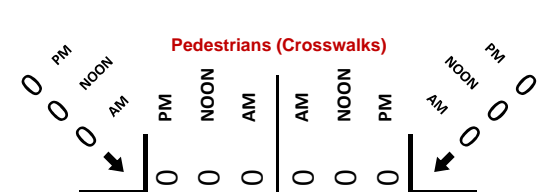
Total Vehicles (PM)



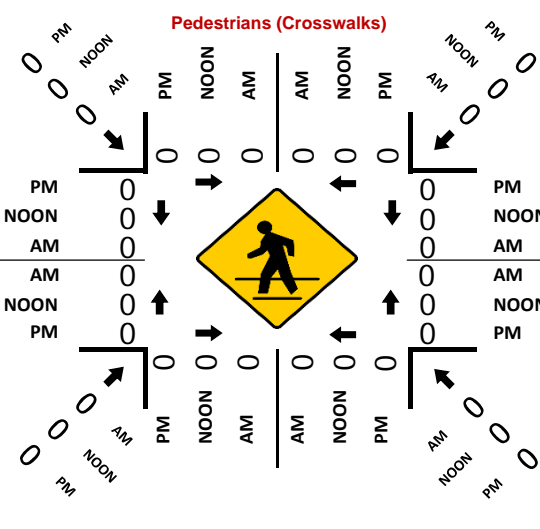
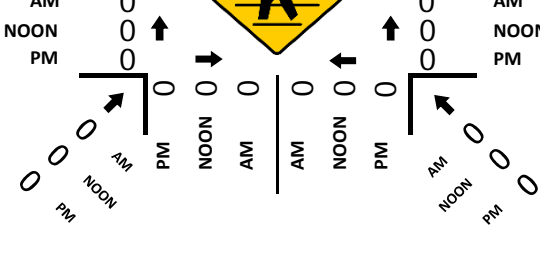
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: State College Blvd & Lambert Road  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-004  
 Date: 4/19/2018

## Total

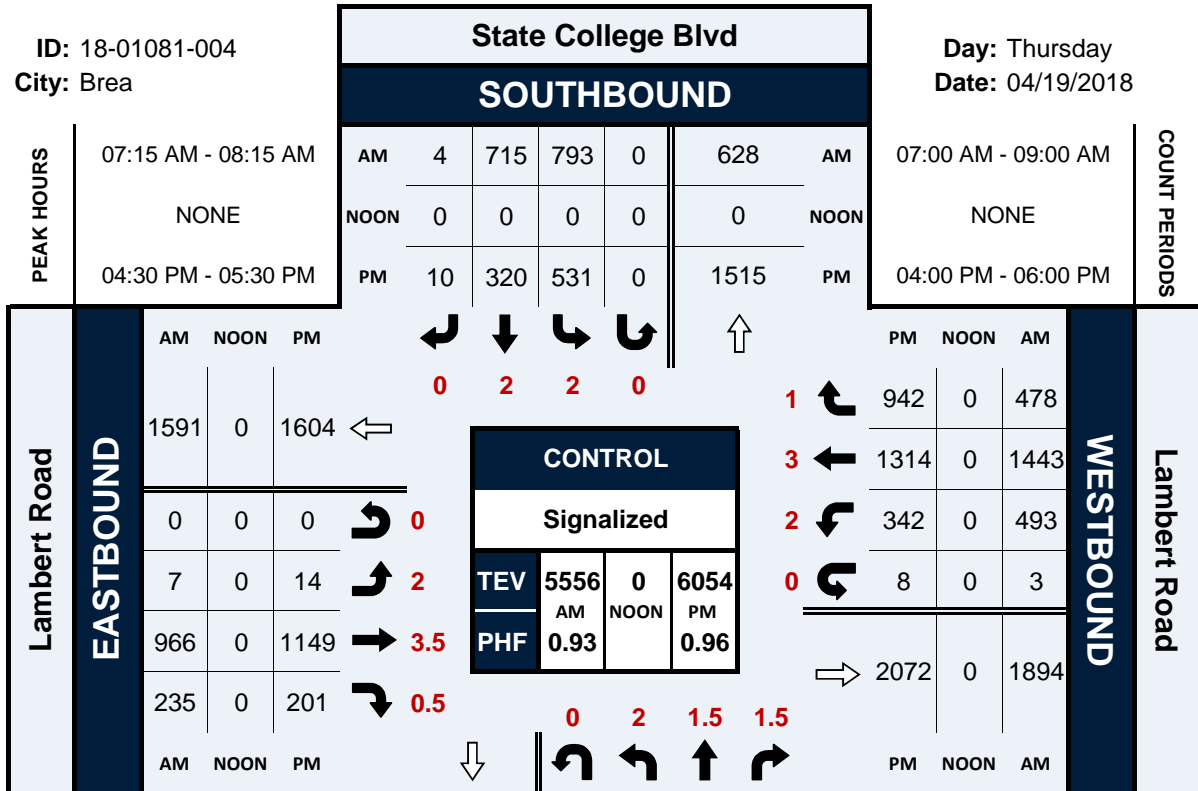
NS/EW Streets:	State College Blvd				State College Blvd				Lambert Road				Lambert Road				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	16	33	32	0	140	170	0	0	0	185	36	0	107	304	94	0	1117
7:15 AM	23	21	31	0	160	181	0	0	1	209	42	0	130	322	97	2	1219
7:30 AM	31	34	42	0	229	213	1	0	1	274	75	0	128	333	134	0	1495
7:45 AM	60	47	32	0	198	151	1	0	4	247	61	0	139	439	120	1	1500
8:00 AM	30	41	27	0	206	170	2	0	1	236	57	0	96	349	127	0	1342
8:15 AM	12	78	35	0	127	151	1	0	6	184	30	0	101	266	100	0	1091
8:30 AM	18	47	24	0	150	154	1	0	3	150	38	0	112	278	128	1	1104
8:45 AM	22	37	33	0	137	108	2	0	7	196	36	0	128	263	106	1	1076
<b>TOTAL VOLUMES :</b>	212	338	256	0	1347	1298	8	0	23	1681	375	0	941	2554	906	5	9944
<b>APPROACH %'s :</b>	26.30%	41.94%	31.76%	0.00%	50.77%	48.93%	0.30%	0.00%	1.11%	80.86%	18.04%	0.00%	21.36%	57.97%	20.56%	0.11%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	144	143	132	0	793	715	4	0	7	966	235	0	493	1443	478	3	5556
<b>PEAK HR FACTOR :</b>	0.600	0.761	0.786	0.000	0.866	0.839	0.500	0.000	0.438	0.881	0.783	0.000	0.887	0.822	0.892	0.375	0.926
	0.754				0.853				0.863				0.864				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	60	127	68	0	117	83	0	0	1	256	43	0	75	325	242	2	1399
4:15 PM	59	127	72	0	135	67	3	0	3	210	41	0	82	307	198	0	1304
4:30 PM	73	138	101	0	141	97	2	0	5	286	60	0	84	321	204	0	1512
4:45 PM	64	137	69	0	124	81	2	0	1	275	46	0	103	321	240	4	1467
5:00 PM	65	127	117	0	130	71	4	0	5	284	42	0	75	344	230	2	1496
5:15 PM	78	157	97	0	136	71	2	0	3	304	53	0	80	328	268	2	1579
5:30 PM	72	141	82	0	126	64	1	0	2	266	48	0	82	339	235	0	1458
5:45 PM	58	104	73	0	111	83	1	0	3	230	53	0	81	317	219	1	1334
<b>TOTAL VOLUMES :</b>	529	1058	679	0	1020	617	15	0	23	2111	386	0	662	2602	1836	11	11549
<b>APPROACH %'s :</b>	23.35%	46.69%	29.96%	0.00%	61.74%	37.35%	0.91%	0.00%	0.91%	83.77%	15.32%	0.00%	12.95%	50.91%	35.92%	0.22%	
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	280	559	384	0	531	320	10	0	14	1149	201	0	342	1314	942	8	6054
<b>PEAK HR FACTOR :</b>	0.897	0.890	0.821	0.000	0.941	0.825	0.625	0.000	0.700	0.945	0.838	0.000	0.830	0.955	0.879	0.500	0.959
	0.921				0.897				0.947				0.961				

# State College Blvd & Lambert Road

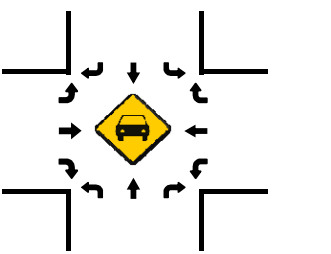
## Peak Hour Turning Movement Count

ID: 18-01081-004  
City: Brea

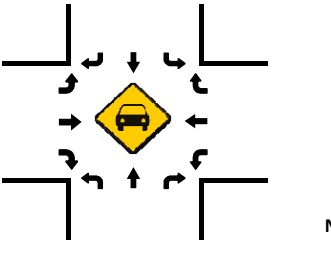
Day: Thursday  
Date: 04/19/2018



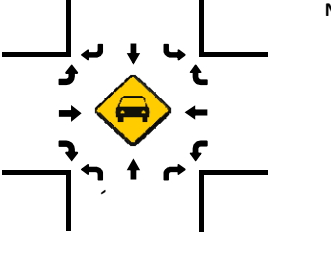
Total Vehicles (AM)



Total Vehicles (NOON)



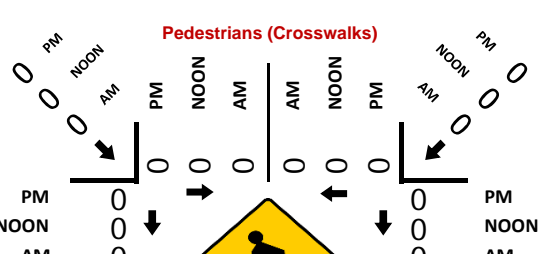
Total Vehicles (PM)



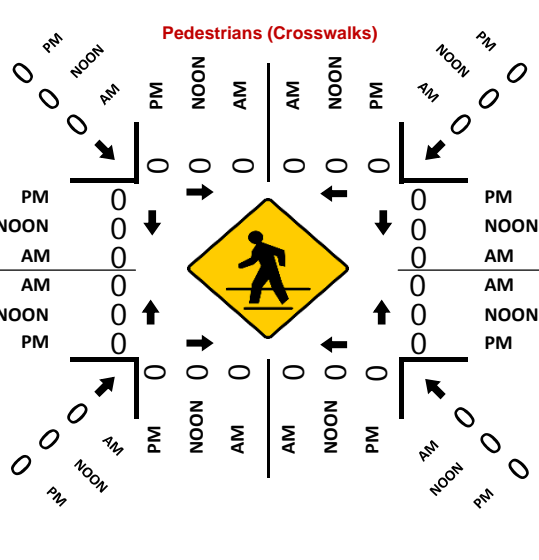
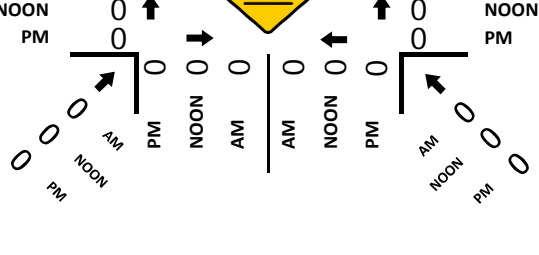
PM	863	0	280	559	384	PM
NOON	0	0	0	0	0	NOON
AM	1443	0	144	143	132	AM

### NORTHBOUND State College Blvd

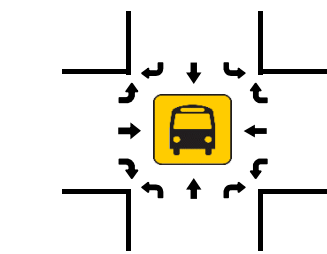
Total Vehicles (AM)



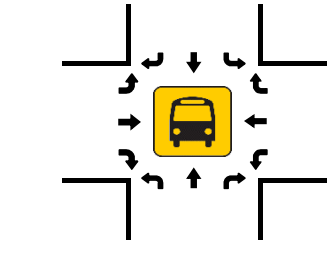
Total Vehicles (NOON)



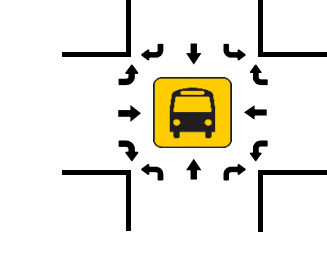
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: SR-57 SB Ramps & Lambert Road  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-005  
 Date: 4/19/2018

## Total

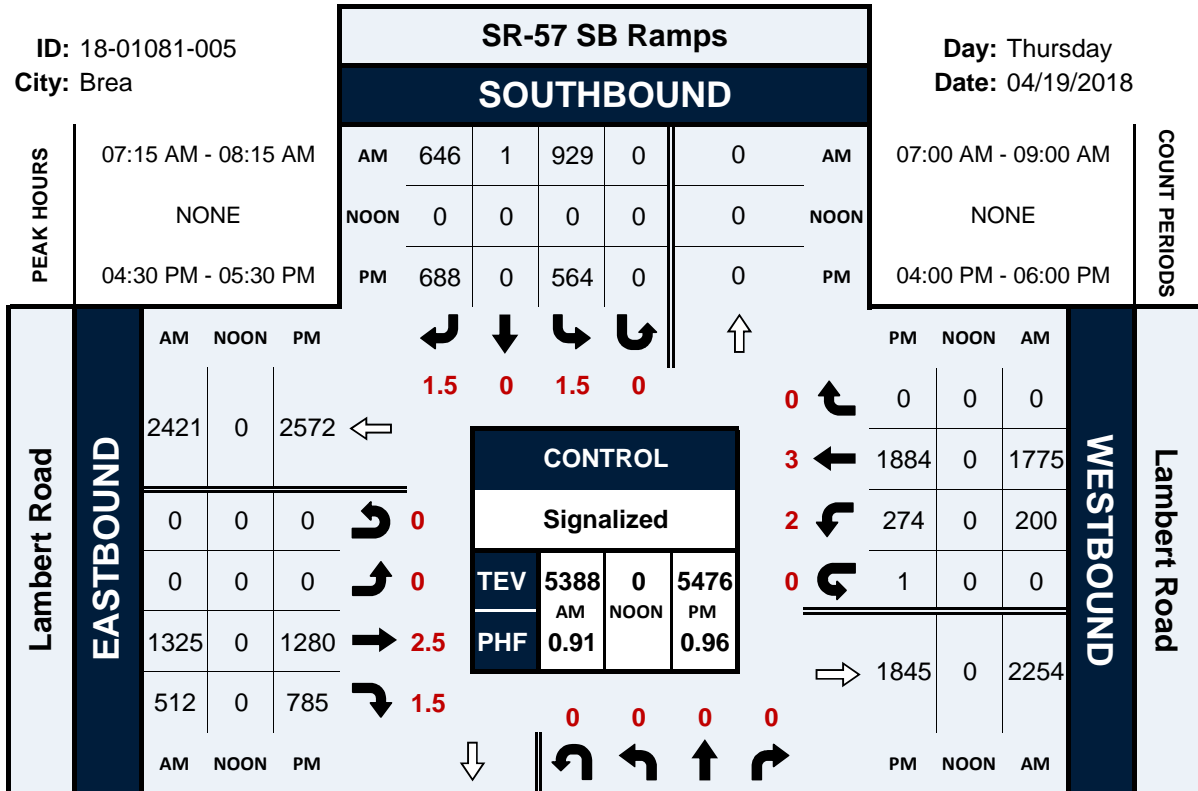
NS/EW Streets:	SR-57 SB Ramps				SR-57 SB Ramps				Lambert Road				Lambert Road				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	229	0	161	0	0	257	115	0	42	350	0	0	1154
7:15 AM	0	0	0	0	275	1	181	0	0	262	101	0	42	381	0	0	1243
7:30 AM	0	0	0	0	233	0	163	0	0	378	126	0	49	406	0	0	1355
7:45 AM	0	0	0	0	236	0	171	0	0	356	141	0	58	519	0	0	1481
8:00 AM	0	0	0	0	185	0	131	0	0	329	144	0	51	469	0	0	1309
8:15 AM	0	0	0	0	214	0	143	0	0	277	86	0	24	331	0	0	1075
8:30 AM	0	0	0	0	247	1	140	0	0	216	122	0	38	366	0	1	1131
8:45 AM	0	0	0	0	209	0	156	0	0	239	125	0	42	326	0	0	1097
<b>TOTAL VOLUMES :</b>	0	0	0	0	1828	2	1246	0	0	2314	960	0	346	3148	0	1	9845
<b>APPROACH %'s :</b>					59.43%	0.07%	40.51%	0.00%	0.00%	70.68%	29.32%	0.00%	9.90%	90.07%	0.00%	0.03%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	929	1	646	0	0	1325	512	0	200	1775	0	0	5388
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.845	0.250	0.892	0.000	0.000	0.876	0.889	0.000	0.862	0.855	0.000	0.000	0.910
					0.862				0.911				0.856				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	102	0	148	0	0	248	181	0	63	467	0	2	1211
4:15 PM	0	0	0	0	102	0	142	0	0	270	144	0	60	480	0	0	1198
4:30 PM	0	0	0	0	147	0	196	0	0	313	197	0	59	415	0	0	1327
4:45 PM	0	0	0	0	156	0	176	0	0	323	185	0	46	490	0	0	1376
5:00 PM	0	0	0	0	143	0	155	0	0	319	191	0	85	459	0	0	1352
5:15 PM	0	0	0	0	118	0	161	0	0	325	212	0	84	520	0	1	1421
5:30 PM	0	0	0	0	110	0	129	0	0	292	171	0	82	515	0	3	1302
5:45 PM	0	0	0	0	114	0	151	0	0	308	133	0	69	491	0	0	1266
<b>TOTAL VOLUMES :</b>	0	0	0	0	992	0	1258	0	0	2398	1414	0	548	3837	0	6	10453
<b>APPROACH %'s :</b>					44.09%	0.00%	55.91%	0.00%	0.00%	62.91%	37.09%	0.00%	12.48%	87.38%	0.00%	0.14%	
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	564	0	688	0	0	1280	785	0	274	1884	0	1	5476
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.904	0.000	0.878	0.000	0.000	0.985	0.926	0.000	0.806	0.906	0.000	0.250	0.963
					0.913				0.961				0.892				

# SR-57 SB Ramps & Lambert Road

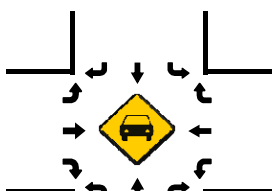
## Peak Hour Turning Movement Count

ID: 18-01081-005  
City: Brea

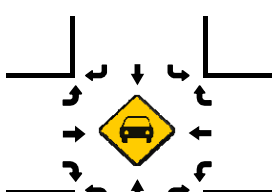
Day: Thursday  
Date: 04/19/2018



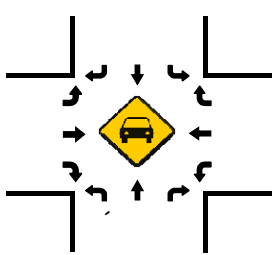
Total Vehicles (AM)



Total Vehicles (NOON)



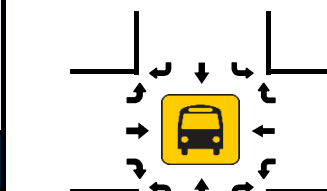
Total Vehicles (PM)



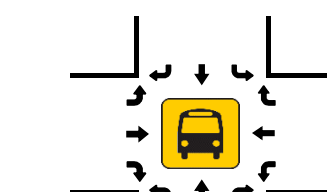
PM	1059	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	713	0	0	0	0	AM

### NORTHBOUND SR-57 SB Ramps

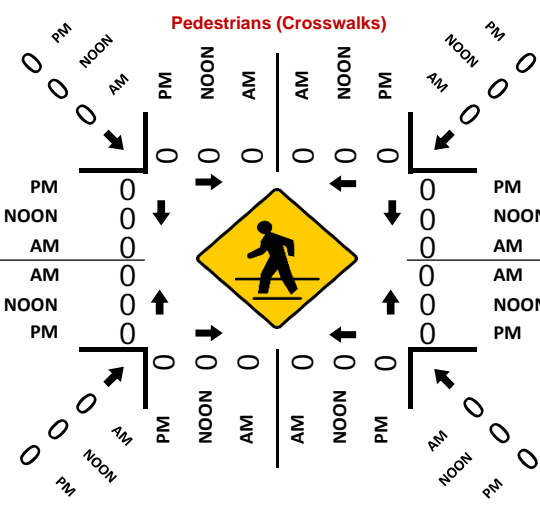
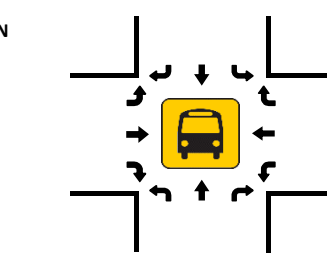
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: SR-57 NB Ramps & Lambert Road  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-006  
 Date: 4/19/2018

## Total

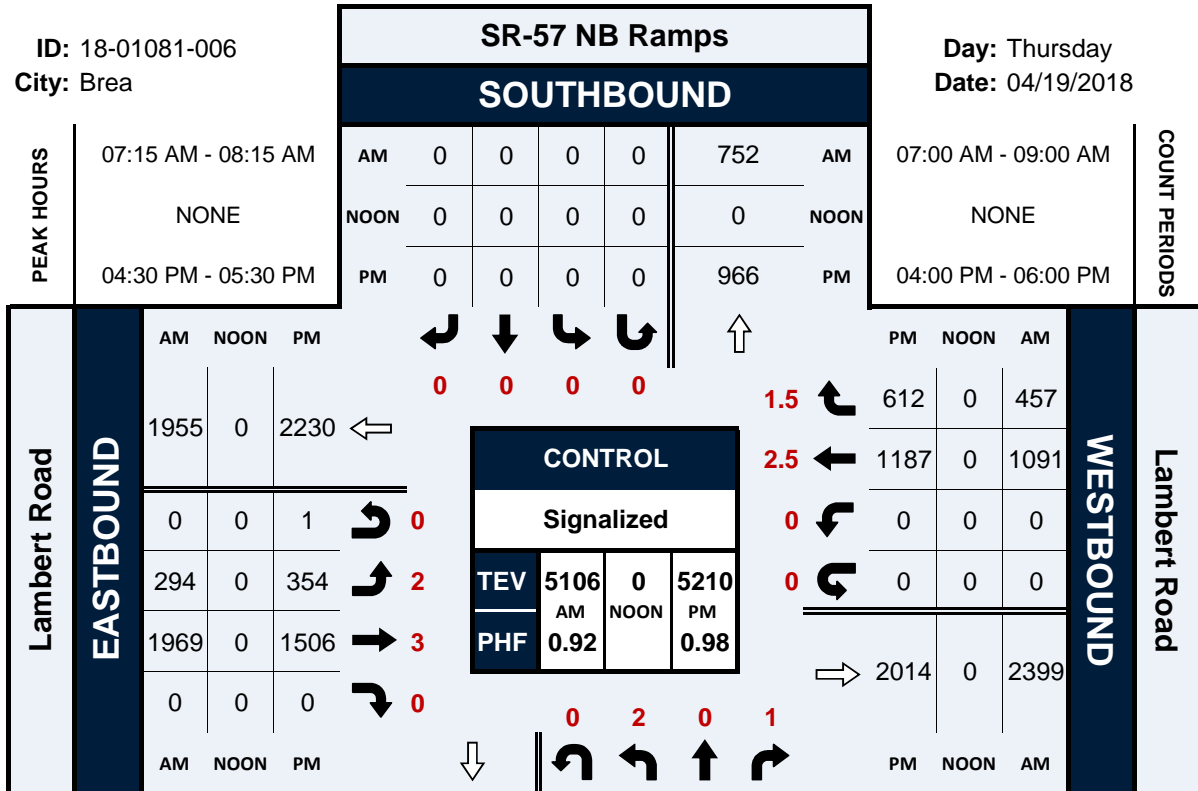
NS/EW Streets:	SR-57 NB Ramps				SR-57 NB Ramps				Lambert Road				Lambert Road				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	208	0	71	0	0	0	0	0	84	412	0	0	0	203	118	0	1096
7:15 AM	185	0	95	0	0	0	0	0	74	474	0	0	0	218	118	0	1164
7:30 AM	200	0	130	0	0	0	0	0	75	561	0	0	0	268	108	0	1342
7:45 AM	264	1	104	0	0	0	0	0	73	493	0	0	0	338	117	0	1390
8:00 AM	215	0	101	0	0	0	0	0	72	441	0	0	0	267	114	0	1210
8:15 AM	194	0	98	0	0	0	0	0	64	428	0	0	0	181	117	0	1082
8:30 AM	191	1	103	0	0	0	0	0	51	392	0	0	0	222	98	0	1058
8:45 AM	207	0	96	0	0	0	0	0	60	405	0	0	0	144	87	0	999
<b>TOTAL VOLUMES :</b>	1664	2	798	0	0	0	0	0	553	3606	0	0	0	1841	877	0	9341
<b>APPROACH %'s :</b>	67.53%	0.08%	32.39%	0.00%					13.30%	86.70%	0.00%	0.00%	0.00%	67.73%	32.27%	0.00%	
<b>PEAK HR :</b>	<b>07:15 AM - 08:15 AM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	864	1	430	0	0	0	0	0	294	1969	0	0	0	1091	457	0	5106
<b>PEAK HR FACTOR :</b>	0.818	0.250	0.827	0.000	0.000	0.000	0.000	0.000	0.980	0.877	0.000	0.000	0.000	0.807	0.968	0.000	0.918
	0.877								0.890				0.851				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	255	1	147	0	0	0	0	0	89	273	0	0	0	283	141	0	1189
4:15 PM	238	2	128	0	0	0	0	0	79	303	0	0	0	266	138	0	1154
4:30 PM	230	0	122	0	0	0	0	0	84	389	0	0	0	283	188	0	1296
4:45 PM	262	0	123	0	0	0	0	0	86	383	0	0	0	287	146	0	1287
5:00 PM	271	0	142	0	0	0	0	0	87	369	0	1	0	306	152	0	1328
5:15 PM	279	0	121	0	0	0	0	0	97	365	0	0	0	311	126	0	1299
5:30 PM	287	0	141	0	0	0	0	0	83	331	0	0	0	301	138	0	1281
5:45 PM	281	0	130	0	0	0	0	0	79	311	0	0	0	257	125	0	1183
<b>TOTAL VOLUMES :</b>	2103	3	1054	0	0	0	0	0	684	2724	0	1	0	2294	1154	0	10017
<b>APPROACH %'s :</b>	66.55%	0.09%	33.35%	0.00%					20.06%	79.91%	0.00%	0.03%	0.00%	66.53%	33.47%	0.00%	
<b>PEAK HR :</b>	<b>04:30 PM - 05:30 PM</b>																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	1042	0	508	0	0	0	0	0	354	1506	0	1	0	1187	612	0	5210
<b>PEAK HR FACTOR :</b>	0.934	0.000	0.894	0.000	0.000	0.000	0.000	0.000	0.912	0.968	0.000	0.250	0.000	0.954	0.814	0.000	0.981
	0.938								0.984				0.955				

# SR-57 NB Ramps & Lambert Road

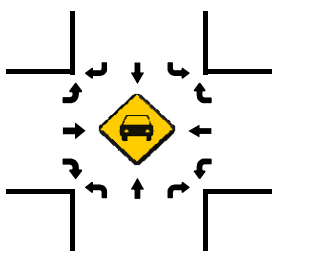
## Peak Hour Turning Movement Count

ID: 18-01081-006  
City: Brea

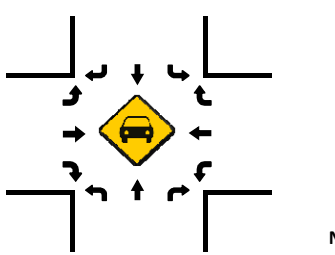
Day: Thursday  
Date: 04/19/2018



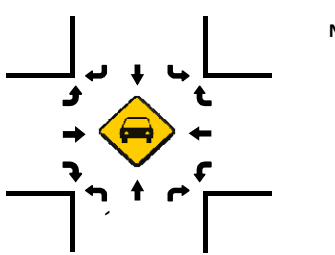
Total Vehicles (AM)



Total Vehicles (NOON)



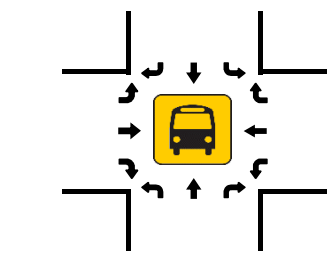
Total Vehicles (PM)



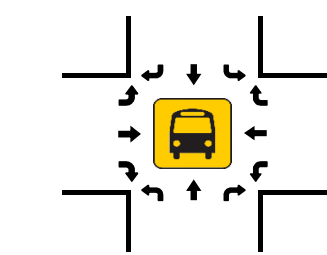
SR-57 NB Ramps	NORTHBOUND					
	PM	NOON	AM	PM	NOON	AM
0	0	1042	0	508	0	0
0	0	0	0	0	0	0
0	0	864	1	430	0	0

### SR-57 NB Ramps

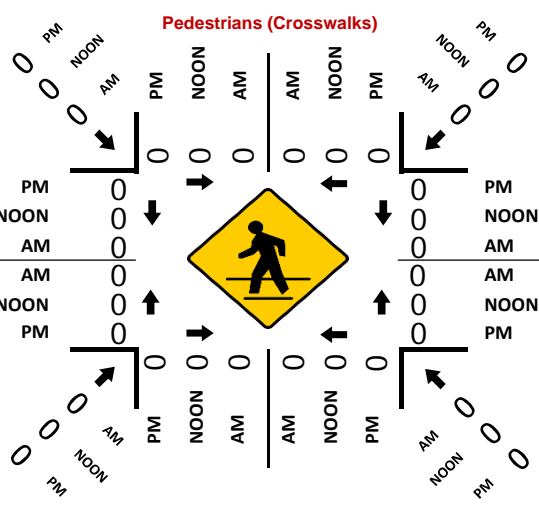
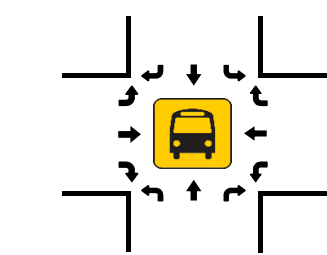
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Berry St & Mercury Ln  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-007  
 Date: 4/19/2018

## Total

NS/EW Streets:	Berry St				Berry St				Mercury Ln				Mercury Ln				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	59	3	0	8	89	0	0	0	0	0	0	0	0	0	0	159
7:15 AM	0	68	6	1	8	126	0	0	0	0	0	0	1	0	4	0	214
7:30 AM	0	68	13	0	12	163	0	0	0	0	0	0	3	0	2	0	261
7:45 AM	0	93	19	0	22	144	0	0	0	0	0	0	0	0	1	0	279
8:00 AM	0	77	11	0	16	95	0	0	0	0	0	0	3	0	5	0	207
8:15 AM	0	83	10	0	8	95	0	0	0	0	0	0	4	0	2	0	202
8:30 AM	0	65	8	0	10	64	0	0	0	0	0	0	0	0	5	0	152
8:45 AM	0	74	6	0	4	88	0	0	0	0	0	0	3	0	2	0	177
<b>TOTAL VOLUMES :</b>	0	587	76	1	88	864	0	0	0	0	0	0	14	0	21	0	1651
<b>APPROACH %'s :</b>	0.00%	88.40%	11.45%	0.15%	9.24%	90.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	40.00%	0.00%	60.00%	0.00%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	306	49	1	58	528	0	0	0	0	0	0	7	0	12	0	961
<b>PEAK HR FACTOR :</b>	0.000	0.823	0.645	0.250	0.659	0.810	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.600	0.000	0.861
			0.795			0.837								0.594			
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	97	3	0	6	111	0	0	0	0	0	0	17	0	10	0	244
4:15 PM	0	81	3	0	3	63	0	0	0	0	0	0	11	0	15	0	176
4:30 PM	0	122	1	0	5	103	0	0	0	0	0	0	21	0	18	0	270
4:45 PM	0	128	1	1	5	93	0	0	0	0	0	0	5	0	6	0	239
5:00 PM	0	122	4	0	6	140	0	0	0	0	0	0	18	0	11	0	301
5:15 PM	0	117	4	0	8	99	0	0	0	0	0	0	6	0	12	0	246
5:30 PM	0	104	3	0	6	80	0	0	0	0	0	0	8	0	12	0	213
5:45 PM	0	92	4	0	8	72	0	0	0	0	0	0	2	0	4	0	182
<b>TOTAL VOLUMES :</b>	0	863	23	1	47	761	0	0	0	0	0	0	88	0	88	0	1871
<b>APPROACH %'s :</b>	0.00%	97.29%	2.59%	0.11%	5.82%	94.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%	
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	489	10	1	24	435	0	0	0	0	0	0	50	0	47	0	1056
<b>PEAK HR FACTOR :</b>	0.000	0.955	0.625	0.250	0.750	0.777	0.000	0.000	0.000	0.000	0.000	0.000	0.595	0.000	0.653	0.000	0.877
			0.962			0.786								0.622			

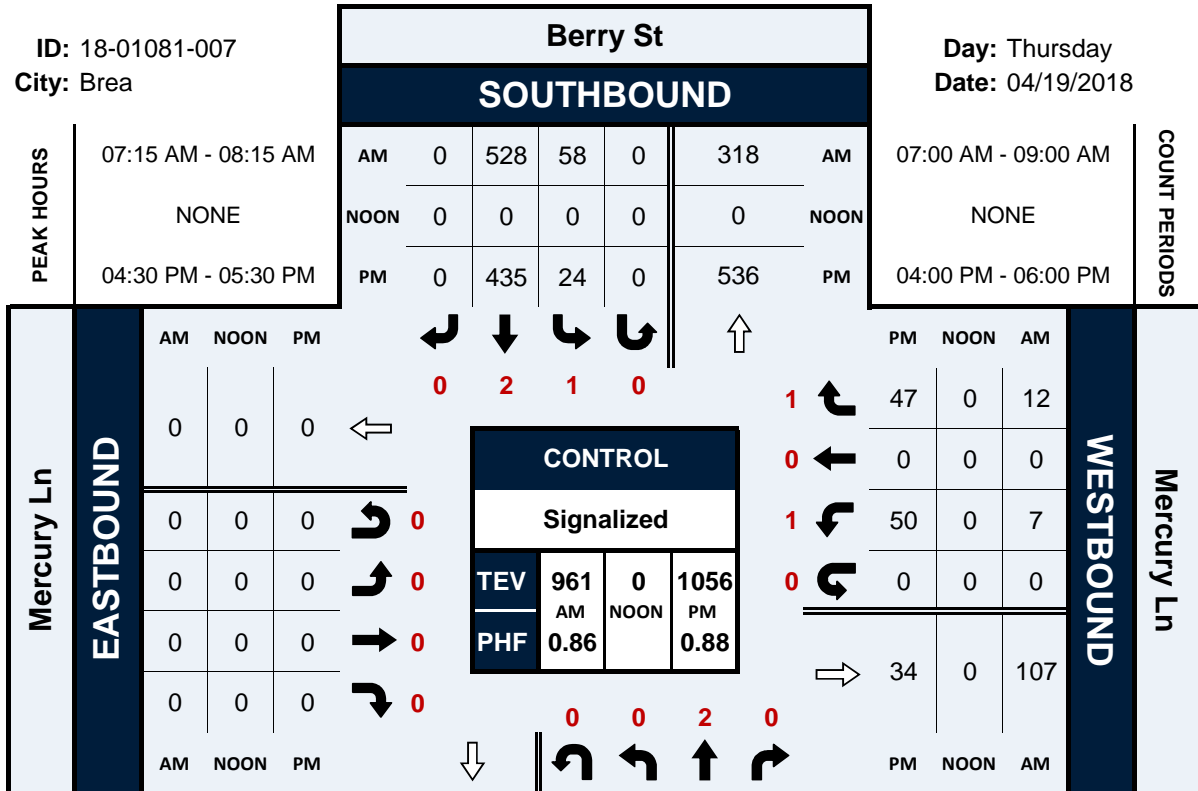


# Berry St & Mercury Ln

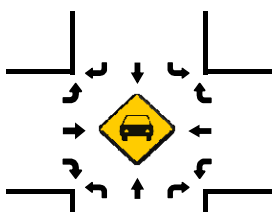
## Peak Hour Turning Movement Count

ID: 18-01081-007  
City: Brea

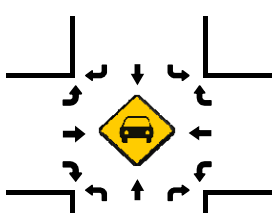
Day: Thursday  
Date: 04/19/2018



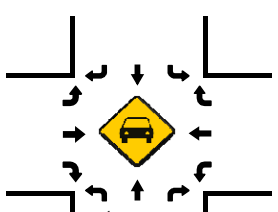
Total Vehicles (AM)



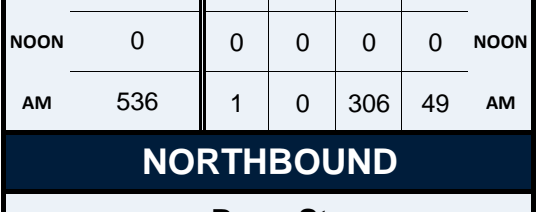
Total Vehicles (NOON)



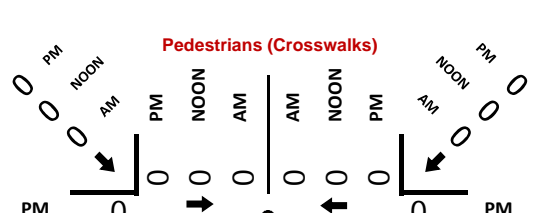
Total Vehicles (PM)



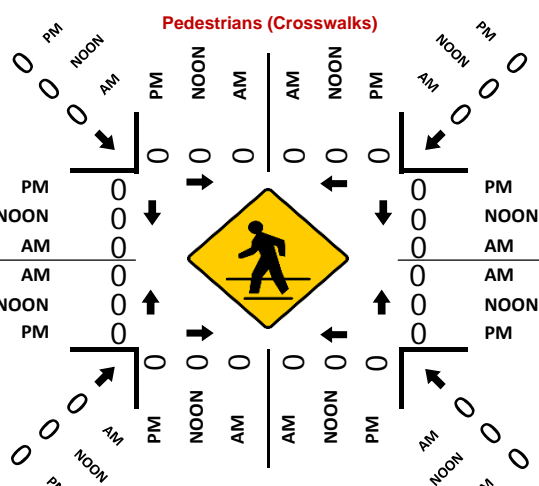
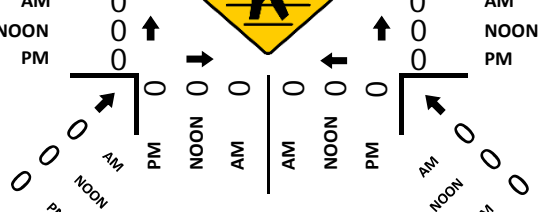
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Brea Blvd & Birch St  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-008  
 Date: 4/19/2018

## Total

NS/EW Streets:	Brea Blvd				Brea Blvd				Birch St				Birch St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	3	0	0	2	3	0	0	1	1	0	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	1	56	32	0	42	245	10	0	5	8	6	0	44	10	32	0	491
7:15 AM	1	62	41	1	55	209	18	0	4	11	8	0	50	12	39	0	511
7:30 AM	4	111	57	1	61	208	13	0	8	17	6	0	58	12	51	0	607
7:45 AM	15	126	49	0	82	200	10	0	9	15	11	0	84	36	65	0	702
8:00 AM	9	111	45	0	64	229	14	0	10	8	8	0	57	17	65	0	637
8:15 AM	5	85	36	1	44	184	5	0	14	5	2	0	69	13	30	0	493
8:30 AM	4	97	34	1	56	240	11	0	7	11	4	0	51	20	42	0	578
8:45 AM	7	81	43	0	66	186	11	0	10	10	7	0	63	10	24	0	518
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	46	729	337	4	470	1701	92	0	67	85	52	0	476	130	348	0	4537
	4.12%	65.32%	30.20%	0.36%	20.77%	75.17%	4.07%	0.00%	32.84%	41.67%	25.49%	0.00%	49.90%	13.63%	36.48%	0.00%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	29	410	192	2	262	846	55	0	31	51	33	0	249	77	220	0	2457
<b>PEAK HR FACTOR :</b>	0.483	0.813	0.842	0.500	0.799	0.924	0.764	0.000	0.775	0.750	0.750	0.000	0.741	0.535	0.846	0.000	0.875
	0.833				0.947				0.821				0.738				
PM	1	3	0	0	2	3	0	0	1	1	0	0	2	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	12	157	65	4	68	108	10	0	16	23	9	0	95	35	110	0	712
4:15 PM	9	160	81	2	81	122	15	0	15	21	9	0	75	29	95	0	714
4:30 PM	13	158	55	3	81	111	15	0	15	24	4	0	110	33	116	0	738
4:45 PM	15	181	84	1	65	137	16	0	11	26	7	0	82	23	115	0	763
5:00 PM	8	150	60	2	99	171	17	0	15	31	9	0	113	35	111	0	821
5:15 PM	18	157	74	1	63	147	21	0	17	32	5	0	74	41	104	0	754
5:30 PM	12	151	67	2	77	144	18	0	22	38	2	0	86	39	128	0	786
5:45 PM	21	174	77	6	89	136	14	0	21	26	5	0	80	21	112	0	782
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	108	1288	563	21	623	1076	126	0	132	221	50	0	715	256	891	0	6070
	5.45%	65.05%	28.43%	1.06%	34.14%	58.96%	6.90%	0.00%	32.75%	54.84%	12.41%	0.00%	38.40%	13.75%	47.85%	0.00%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	59	632	278	11	328	598	70	0	75	127	21	0	353	136	455	0	3143
<b>PEAK HR FACTOR :</b>	0.702	0.908	0.903	0.458	0.828	0.874	0.833	0.000	0.852	0.836	0.583	0.000	0.781	0.829	0.889	0.000	0.957
	0.881				0.868				0.899				0.911				



# National Data & Surveying Services Intersection Turning Movement Count

Location: Puente St & Imperial Hwy  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-009  
 Date: 4/19/2018

## Total

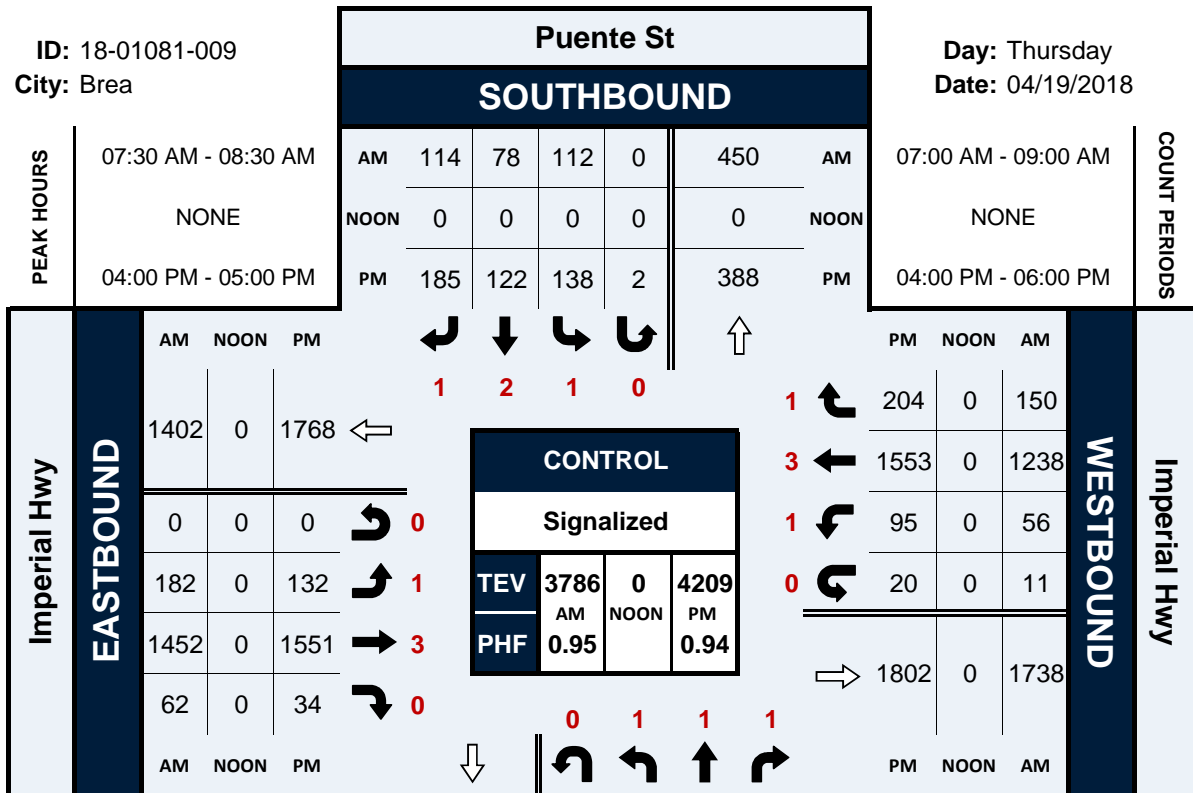
NS/EW Streets:	Puente St				Puente St				Imperial Hwy				Imperial Hwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	1	1	0	1	2	1	0	1	3	0	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	9	10	28	0	27	15	32	0	35	291	7	0	9	267	38	1	769
7:15 AM	12	17	36	0	35	14	32	1	42	360	7	0	6	276	21	0	859
7:30 AM	16	22	48	0	40	28	25	0	34	373	16	0	8	330	33	4	977
7:45 AM	15	42	40	0	23	21	31	0	58	408	22	0	14	278	40	1	993
8:00 AM	11	25	41	0	31	22	24	0	36	338	15	0	20	326	43	2	934
8:15 AM	8	29	34	0	18	7	34	0	54	333	9	0	14	304	34	4	882
8:30 AM	15	13	32	0	30	9	39	0	34	316	8	0	9	326	35	0	866
8:45 AM	7	12	38	0	27	10	29	1	43	311	6	0	15	262	22	2	785
<b>TOTAL VOLUMES :</b>	93	170	297	0	231	126	246	2	336	2730	90	0	95	2369	266	14	7065
<b>APPROACH %'s :</b>	16.61%	30.36%	53.04%	0.00%	38.18%	20.83%	40.66%	0.33%	10.65%	86.50%	2.85%	0.00%	3.46%	86.33%	9.69%	0.51%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	50	118	163	0	112	78	114	0	182	1452	62	0	56	1238	150	11	3786
<b>PEAK HR FACTOR :</b>	0.781	0.702	0.849	0.000	0.700	0.696	0.838	0.000	0.784	0.890	0.705	0.000	0.700	0.938	0.872	0.688	0.953
			0.853				0.817				0.869				0.930		
PM	1	1	1	0	1	2	1	0	1	3	0	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	7	17	19	0	32	26	58	1	36	406	7	0	24	345	50	2	1030
4:15 PM	5	7	18	0	34	26	29	0	30	370	6	0	23	405	53	3	1009
4:30 PM	7	13	24	0	39	34	49	1	34	424	15	0	19	397	54	9	1119
4:45 PM	11	13	32	0	33	36	49	0	32	351	6	0	29	406	47	6	1051
5:00 PM	7	12	16	0	35	37	60	2	37	317	12	0	26	391	46	4	1002
5:15 PM	11	23	19	0	40	37	34	1	28	365	6	0	26	384	37	3	1014
5:30 PM	9	14	34	0	30	23	38	1	35	376	10	1	22	426	32	6	1057
5:45 PM	10	16	17	0	31	27	21	1	26	334	10	3	21	393	29	0	939
<b>TOTAL VOLUMES :</b>	67	115	179	0	274	246	338	7	258	2943	72	4	190	3147	348	33	8221
<b>APPROACH %'s :</b>	18.56%	31.86%	49.58%	0.00%	31.68%	28.44%	39.08%	0.81%	7.87%	89.81%	2.20%	0.12%	5.11%	84.64%	9.36%	0.89%	
<b>PEAK HR :</b>	04:00 PM - 05:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	30	50	93	0	138	122	185	2	132	1551	34	0	95	1553	204	20	4209
<b>PEAK HR FACTOR :</b>	0.682	0.735	0.727	0.000	0.885	0.847	0.797	0.500	0.917	0.915	0.567	0.000	0.819	0.956	0.944	0.556	0.940
			0.772				0.909				0.908				0.959		

# Puente St & Imperial Hwy

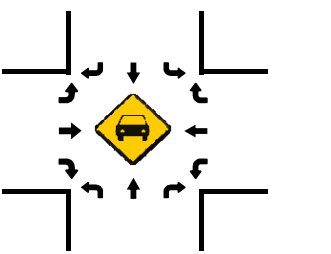
## Peak Hour Turning Movement Count

ID: 18-01081-009  
City: Brea

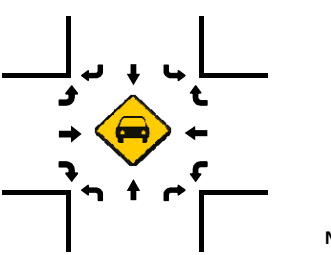
Day: Thursday  
Date: 04/19/2018



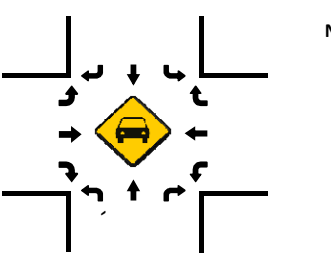
Total Vehicles (AM)



Total Vehicles (NOON)

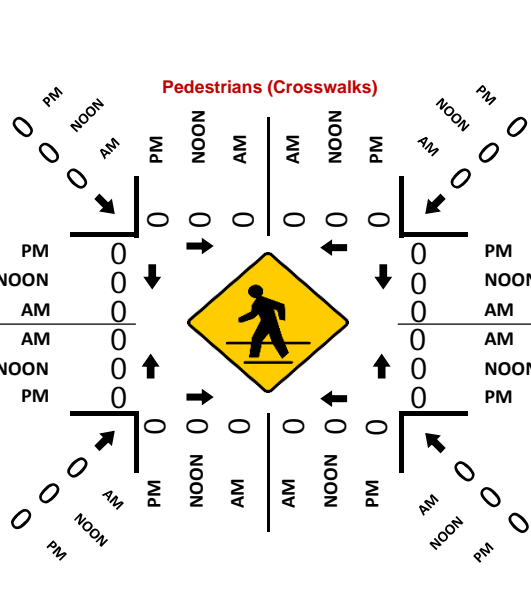


Total Vehicles (PM)

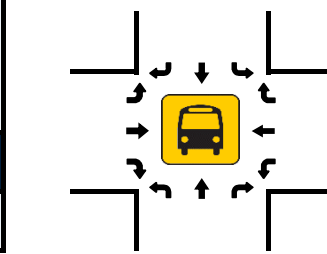


PM	251	0	30	50	93	PM
NOON	0	0	0	0	0	NOON
AM	196	0	50	118	163	AM

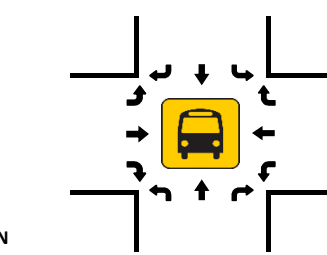
## Puente St NORTHBOUND



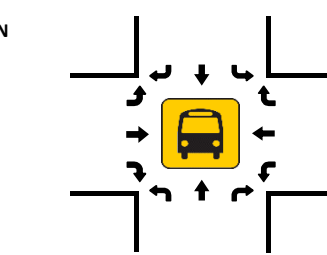
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Berry St & Imperial Hwy  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-010  
 Date: 4/19/2018

## Total

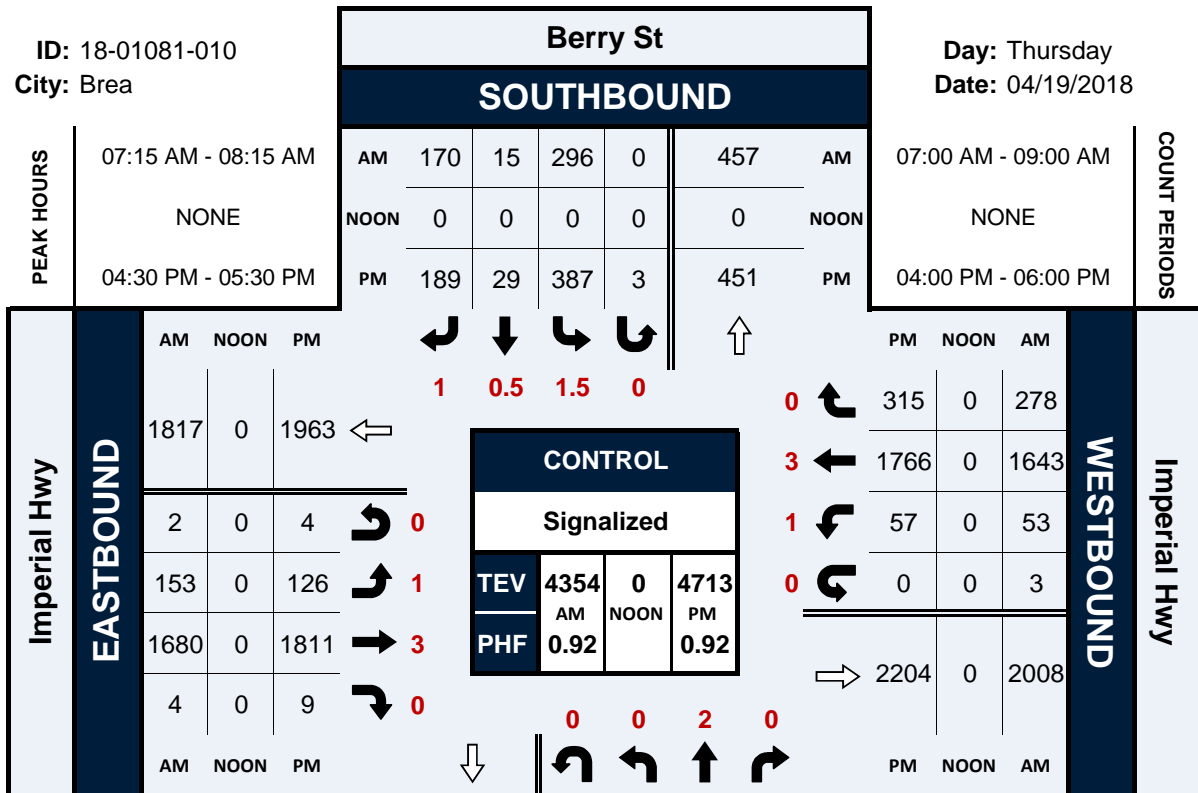
NS/EW Streets:	Berry St				Berry St				Imperial Hwy				Imperial Hwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	2	1	0	60	3	33	0	26	337	0	0	3	304	52	0	824
7:15 AM	1	5	2	0	77	1	38	0	25	413	0	1	6	394	59	0	1022
7:30 AM	1	7	5	0	103	4	52	0	36	445	0	0	26	414	61	1	1155
7:45 AM	0	8	17	0	64	7	35	0	50	423	1	0	18	474	87	1	1185
8:00 AM	0	6	5	0	52	3	45	0	42	399	3	1	3	361	71	1	992
8:15 AM	0	3	3	0	49	0	33	1	41	315	0	3	2	410	65	1	926
8:30 AM	3	2	1	0	41	0	28	0	44	374	1	1	2	363	52	0	912
8:45 AM	1	0	0	0	46	3	31	0	28	376	0	1	2	323	79	0	890
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	11.84%	43.42%	44.74%	0.00%	60.82%	2.60%	36.46%	0.12%	8.62%	91.02%	0.15%	0.21%	1.71%	83.71%	14.47%	0.11%	7906
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																TOTAL
<b>PEAK HR VOL :</b>	2	26	29	0	296	15	170	0	153	1680	4	2	53	1643	278	3	4354
<b>PEAK HR FACTOR :</b>	0.500	0.813	0.426	0.000	0.718	0.536	0.817	0.000	0.765	0.944	0.333	0.500	0.510	0.867	0.799	0.750	0.919
			0.570				0.756				0.956				0.852		
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	2	2	2	0	77	4	57	2	24	463	1	5	3	452	60	0	1154
4:15 PM	1	1	2	0	55	6	38	0	30	409	2	0	7	416	49	2	1018
4:30 PM	0	4	1	0	90	3	44	2	39	531	2	2	18	469	80	0	1285
4:45 PM	2	1	3	0	97	10	49	1	28	420	2	0	11	399	59	0	1082
5:00 PM	2	1	2	0	109	7	53	0	24	422	3	1	19	466	101	0	1210
5:15 PM	0	1	0	0	91	9	43	0	35	438	2	1	9	432	75	0	1136
5:30 PM	0	0	1	0	64	4	37	0	29	437	4	2	12	485	66	2	1143
5:45 PM	1	3	2	0	72	1	20	1	32	374	2	1	6	404	60	0	979
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
<b>APPROACH %'s :</b>	23.53%	38.24%	38.24%	0.00%	62.62%	4.21%	32.60%	0.57%	6.40%	92.80%	0.48%	0.32%	2.04%	84.65%	13.21%	0.10%	9007
<b>PEAK HR :</b>	04:30 PM - 05:30 PM																TOTAL
<b>PEAK HR VOL :</b>	4	7	6	0	387	29	189	3	126	1811	9	4	57	1766	315	0	4713
<b>PEAK HR FACTOR :</b>	0.500	0.438	0.500	0.000	0.888	0.725	0.892	0.375	0.808	0.853	0.750	0.500	0.750	0.941	0.780	0.000	0.917
			0.708				0.899				0.849				0.912		

# Berry St & Imperial Hwy

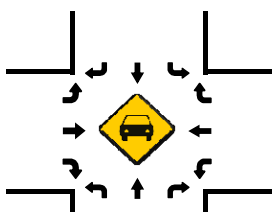
## Peak Hour Turning Movement Count

ID: 18-01081-010  
City: Brea

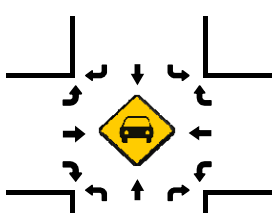
Day: Thursday  
Date: 04/19/2018



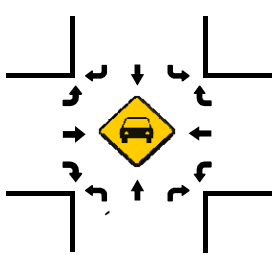
Total Vehicles (AM)



Total Vehicles (NOON)

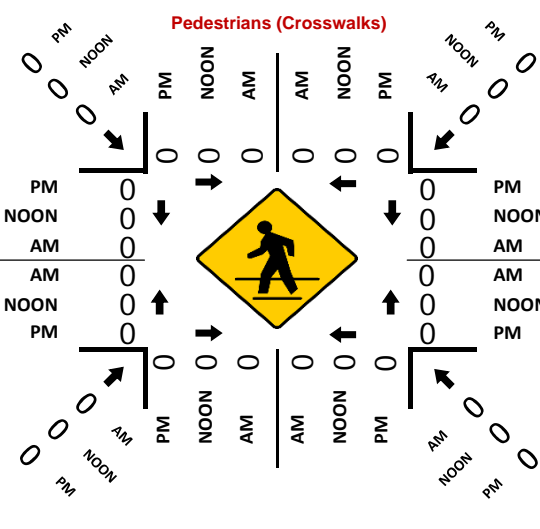


Total Vehicles (PM)

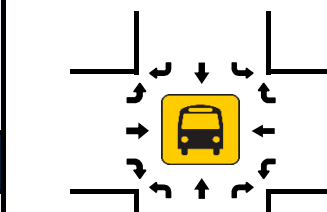


PM	95	0	4	7	6	PM
NOON	0	0	0	0	0	NOON
AM	72	0	2	26	29	AM

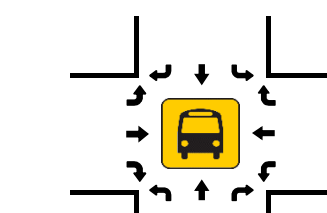
### Berry St NORTHBOUND



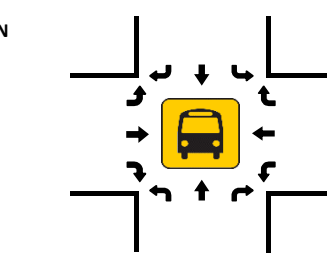
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: Brea Blvd & Imperial Hwy  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-011  
 Date: 4/19/2018

## Total

NS/EW Streets:	Brea Blvd				Brea Blvd				Imperial Hwy				Imperial Hwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	2	3	1	0	2	2	1	0	2	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	68	52	33	0	28	197	38	0	19	334	61	0	38	291	14	2	1175
7:15 AM	89	76	28	0	34	223	36	0	31	364	65	1	28	292	12	0	1279
7:30 AM	104	89	48	0	25	194	27	0	31	409	84	1	42	355	16	1	1426
7:45 AM	130	144	47	0	35	212	41	0	34	355	113	2	52	369	17	1	1552
8:00 AM	96	118	36	0	27	207	47	0	39	398	86	0	39	346	16	3	1458
8:15 AM	103	97	26	0	28	184	54	0	28	286	67	0	42	293	20	3	1231
8:30 AM	73	73	41	0	24	204	35	0	26	296	59	1	46	339	17	0	1234
8:45 AM	93	99	51	1	34	214	45	0	31	311	81	0	42	258	10	0	1270
<b>TOTAL VOLUMES :</b>	756	748	310	1	235	1635	323	0	239	2753	616	5	329	2543	122	10	10625
<b>APPROACH %'s :</b>	41.65%	41.21%	17.08%	0.06%	10.72%	74.56%	14.73%	0.00%	6.62%	76.20%	17.05%	0.14%	10.95%	84.65%	4.06%	0.33%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	419	427	159	0	121	836	151	0	135	1526	348	4	161	1362	61	5	5715
<b>PEAK HR FACTOR :</b>	0.806	0.741	0.828	0.000	0.864	0.937	0.803	0.000	0.865	0.933	0.770	0.500	0.774	0.923	0.897	0.417	0.921
			0.783			0.945				0.959				0.905			
PM	2	3	1	0	2	2	1	0	2	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	105	152	66	1	41	125	47	4	35	360	91	1	67	334	37	3	1469
4:15 PM	85	157	52	0	30	123	55	0	42	398	108	1	84	378	32	6	1551
4:30 PM	106	172	55	1	48	158	42	4	32	371	102	2	64	397	36	3	1593
4:45 PM	104	184	61	2	40	127	52	7	38	433	116	3	88	373	39	2	1669
5:00 PM	89	179	63	1	50	179	56	4	34	391	94	1	76	396	39	4	1656
5:15 PM	103	171	67	1	38	133	55	4	41	410	93	0	87	388	37	6	1634
5:30 PM	116	181	56	2	55	156	47	0	35	378	85	1	69	390	46	2	1619
5:45 PM	83	167	51	0	38	133	48	4	41	356	98	1	77	377	50	4	1528
<b>TOTAL VOLUMES :</b>	791	1363	471	8	340	1134	402	27	298	3097	787	10	612	3033	316	30	12719
<b>APPROACH %'s :</b>	30.04%	51.77%	17.89%	0.30%	17.87%	59.59%	21.12%	1.42%	7.11%	73.88%	18.77%	0.24%	15.33%	76.00%	7.92%	0.75%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	412	715	247	6	183	595	210	15	148	1612	388	5	320	1547	161	14	6578
<b>PEAK HR FACTOR :</b>	0.888	0.971	0.922	0.750	0.832	0.831	0.938	0.536	0.902	0.931	0.836	0.417	0.909	0.977	0.875	0.583	0.985
			0.972			0.868				0.912				0.986			





# National Data & Surveying Services Intersection Turning Movement Count

Location: State College Blvd & Imperial Hwy  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-012  
 Date: 4/19/2018

## Total

NS/EW Streets:	State College Blvd				State College Blvd				Imperial Hwy				Imperial Hwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	25	23	74	0	24	110	5	0	5	383	52	0	90	281	22	5	1099
7:15 AM	22	32	84	0	18	149	8	0	9	367	52	0	126	362	25	10	1264
7:30 AM	25	34	115	3	22	140	6	0	14	440	69	0	122	417	43	2	1452
7:45 AM	52	60	108	0	28	99	12	0	14	336	50	0	106	409	44	14	1332
8:00 AM	42	34	96	1	22	110	11	0	17	406	50	1	88	332	47	2	1259
8:15 AM	30	50	101	1	34	111	9	0	11	315	38	1	127	369	39	9	1245
8:30 AM	33	25	83	0	27	60	9	0	5	330	50	2	71	411	34	6	1146
8:45 AM	31	24	79	0	26	58	10	0	6	348	49	2	70	345	32	5	1085
<b>TOTAL VOLUMES :</b>	260	282	740	5	201	837	70	0	81	2925	410	6	800	2926	286	53	9882
<b>APPROACH %'s :</b>	20.20%	21.91%	57.50%	0.39%	18.14%	75.54%	6.32%	0.00%	2.37%	85.48%	11.98%	0.18%	19.68%	71.98%	7.04%	1.30%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	141	160	403	4	90	498	37	0	54	1549	221	1	442	1520	159	28	5307
<b>PEAK HR FACTOR :</b>	0.678	0.667	0.876	0.333	0.804	0.836	0.771	0.000	0.794	0.880	0.801	0.250	0.877	0.911	0.846	0.500	0.914
	0.805				0.893				0.872				0.920				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	76	92	77	1	96	79	35	0	26	396	38	0	90	419	104	6	1535
4:15 PM	55	99	84	1	82	90	32	0	27	393	50	1	115	478	119	18	1644
4:30 PM	60	89	57	0	95	90	30	0	40	450	33	1	104	475	144	11	1679
4:45 PM	52	120	82	0	83	107	38	0	27	465	53	1	118	502	105	18	1771
5:00 PM	69	82	68	2	96	95	34	0	29	445	44	0	88	437	130	12	1631
5:15 PM	59	130	79	2	106	93	40	0	27	449	49	0	110	522	130	11	1807
5:30 PM	81	111	82	0	104	89	25	0	32	469	40	1	105	438	143	11	1731
5:45 PM	70	104	89	0	88	87	32	0	30	388	38	2	120	479	112	6	1645
<b>TOTAL VOLUMES :</b>	522	827	618	6	750	730	266	0	238	3455	345	6	850	3750	987	93	13443
<b>APPROACH %'s :</b>	26.46%	41.92%	31.32%	0.30%	42.96%	41.81%	15.23%	0.00%	5.89%	85.44%	8.53%	0.15%	14.96%	66.02%	17.38%	1.64%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	261	443	311	4	389	384	137	0	115	1828	186	2	421	1899	508	52	6940
<b>PEAK HR FACTOR :</b>	0.806	0.852	0.948	0.500	0.917	0.897	0.856	0.000	0.898	0.974	0.877	0.500	0.892	0.909	0.888	0.722	0.960
	0.930				0.952				0.976				0.931				



# National Data & Surveying Services Intersection Turning Movement Count

Location: SR-57 SB Ramps & Imperial Hwy  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-013  
 Date: 4/19/2018

## Total

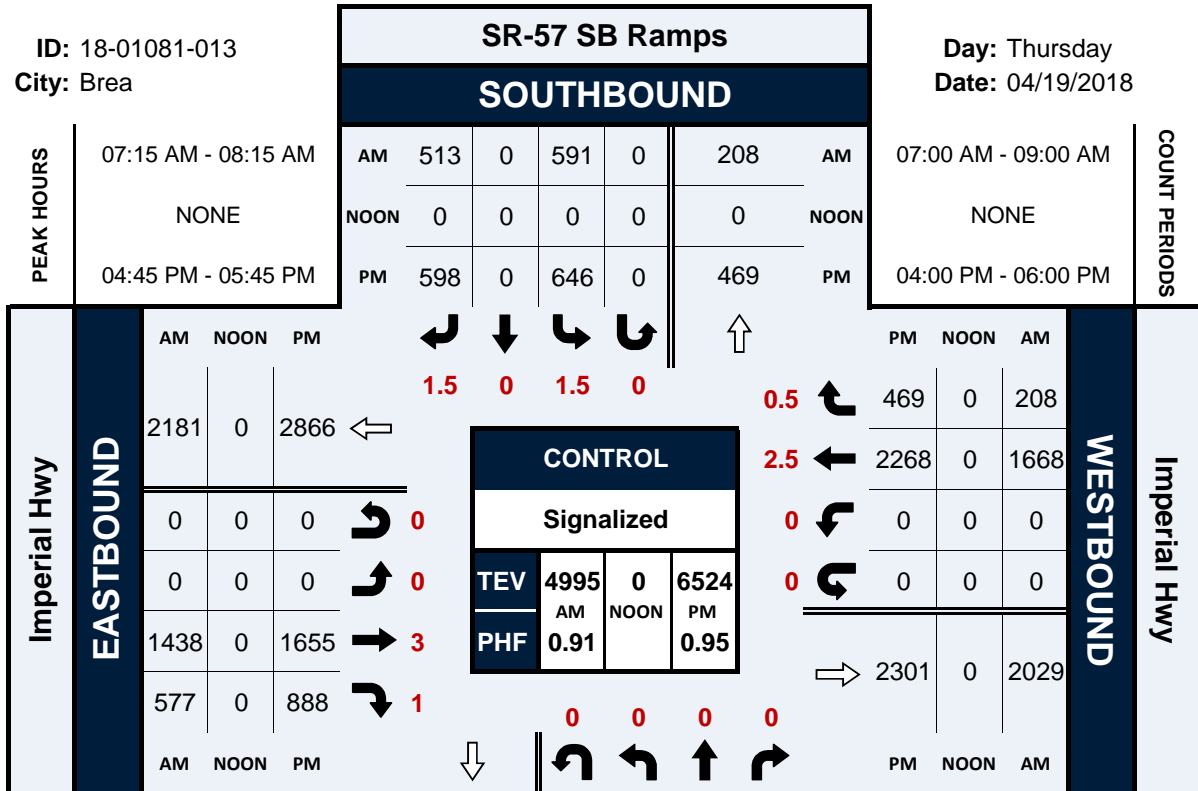
NS/EW Streets:	SR-57 SB Ramps				SR-57 SB Ramps				Imperial Hwy				Imperial Hwy				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0	0	0	0	1.5	0	1.5	0	0	3	1	0	0	2.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	160	0	126	0	0	317	132	0	0	290	50	0	1075
7:15 AM	0	0	0	0	168	0	132	0	0	345	129	0	0	384	57	0	1215
7:30 AM	0	0	0	0	150	0	124	0	0	391	155	0	0	443	38	0	1301
7:45 AM	0	0	0	0	166	0	135	0	0	387	159	0	0	462	57	0	1366
8:00 AM	0	0	0	0	107	0	122	0	0	315	134	0	0	379	56	0	1113
8:15 AM	0	0	0	0	130	0	125	0	0	328	151	0	0	400	50	0	1184
8:30 AM	0	0	0	0	119	0	95	0	0	304	126	0	0	402	55	0	1101
8:45 AM	0	0	0	0	102	0	108	0	0	364	117	0	0	367	66	0	1124
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	0	0	0	0	1102	0	967	0	0	2751	1103	0	0	3127	429	0	9479
					53.26%	0.00%	46.74%	0.00%	0.00%	71.38%	28.62%	0.00%	0.00%	87.94%	12.06%	0.00%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	591	0	513	0	0	1438	577	0	0	1668	208	0	4995
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.879	0.000	0.950	0.000	0.000	0.919	0.907	0.000	0.000	0.903	0.912	0.000	0.914
					0.917				0.923				0.904				
PM	0	0	0	0	1.5	0	1.5	0	0	3	1	0	0	2.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	139	0	141	0	0	393	159	0	0	525	106	0	1463
4:15 PM	0	0	0	0	157	0	161	0	0	423	180	0	0	571	121	0	1613
4:30 PM	0	0	0	0	158	0	131	0	0	387	185	0	0	597	102	0	1560
4:45 PM	0	0	0	0	177	0	164	0	0	406	236	0	0	571	123	0	1677
5:00 PM	0	0	0	0	149	0	139	0	0	404	199	0	0	539	118	0	1548
5:15 PM	0	0	0	0	177	0	149	0	0	396	244	0	0	614	133	0	1713
5:30 PM	0	0	0	0	143	0	146	0	0	449	209	0	0	544	95	0	1586
5:45 PM	0	0	0	0	184	0	171	0	0	382	192	0	0	554	99	0	1582
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	<b>TOTAL</b>
<b>APPROACH %'s :</b>	0	0	0	0	1284	0	1202	0	0	3240	1604	0	0	4515	897	0	12742
					51.65%	0.00%	48.35%	0.00%	0.00%	66.89%	33.11%	0.00%	0.00%	83.43%	16.57%	0.00%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	0	0	0	0	646	0	598	0	0	1655	888	0	0	2268	469	0	6524
<b>PEAK HR FACTOR :</b>	0.000	0.000	0.000	0.000	0.912	0.000	0.912	0.000	0.000	0.921	0.910	0.000	0.000	0.923	0.882	0.000	0.952
					0.912				0.966				0.916				

# SR-57 SB Ramps & Imperial Hwy

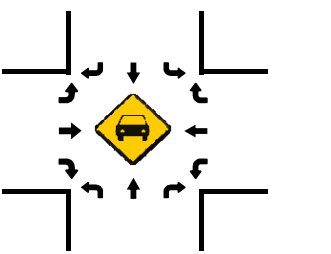
## Peak Hour Turning Movement Count

ID: 18-01081-013  
City: Brea

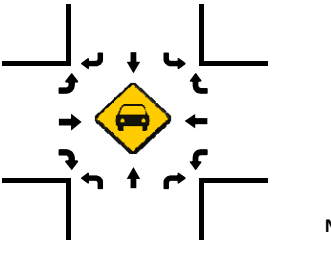
Day: Thursday  
Date: 04/19/2018



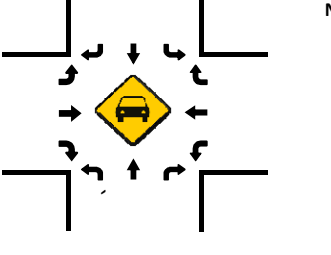
Total Vehicles (AM)



Total Vehicles (NOON)



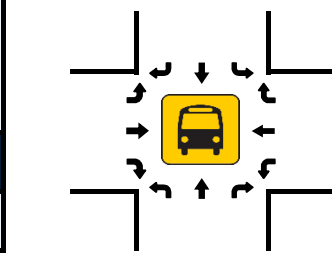
Total Vehicles (PM)



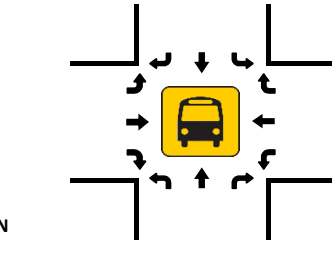
PM	888	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	577	0	0	0	0	AM

### NORTHBOUND SR-57 SB Ramps

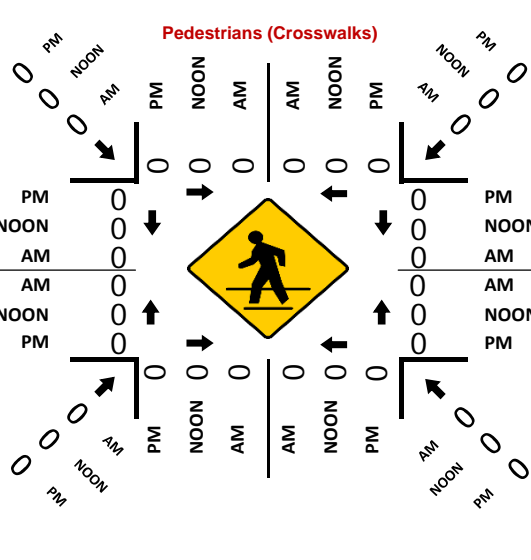
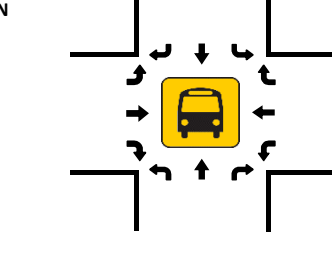
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



# National Data & Surveying Services Intersection Turning Movement Count

Location: SR-57 NB Ramps & Imperial Hwy  
 City: Brea  
 Control: Signalized

Project ID: 18-01081-014  
 Date: 4/19/2018

## Total

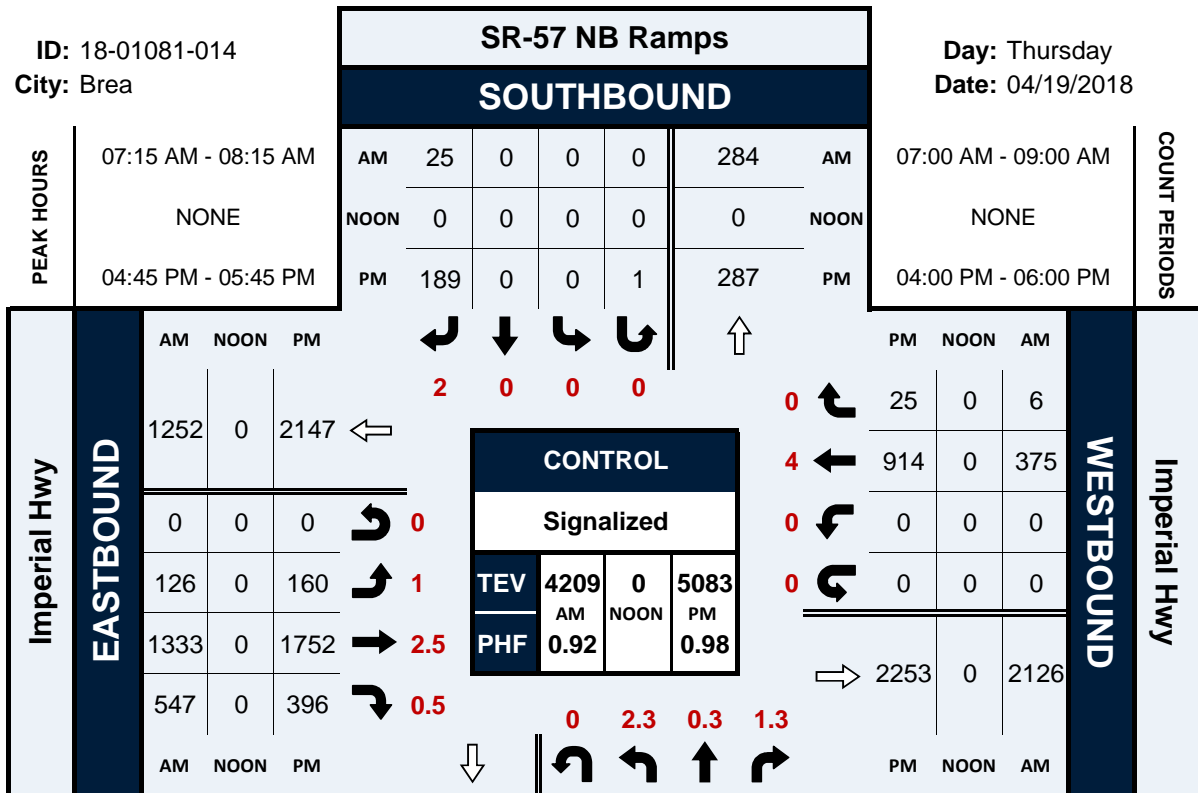
NS/EW Streets:	SR-57 NB Ramps					SR-57 NB Ramps					Imperial Hwy				Imperial Hwy				TOTAL	
	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					
AM	2.3	0.3	1.3	0	0	0	0	2	0	0	1	2.5	0.5	0	0	4	0	0	0	TOTAL
	NL	NT	NR	NU	NL2	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	WT2	
7:00 AM	150	31	165	0	1	0	0	11	0	6	26	303	154	0	0	59	3	0	125	1034
7:15 AM	183	34	179	0	0	0	0	0	0	10	30	341	134	0	0	65	0	0	174	1150
7:30 AM	253	59	221	0	0	0	0	15	0	6	38	335	155	0	0	102	1	0	120	1305
7:45 AM	207	37	226	0	0	0	0	8	0	4	34	373	135	0	0	123	3	0	151	1301
8:00 AM	209	22	167	0	0	0	0	2	0	10	24	284	123	0	0	85	2	0	136	1064
8:15 AM	170	15	168	0	0	0	0	0	0	15	11	315	129	0	0	133	4	0	132	1092
8:30 AM	221	18	193	0	0	0	0	9	0	10	28	262	137	0	0	107	4	0	119	1108
8:45 AM	189	23	201	0	0	0	0	10	0	5	24	330	118	0	0	90	3	0	139	1132
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	NL2	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	WT2	TOTAL
	1582	239	1520	0	1	0	0	55	0	66	215	2543	1085	0	0	764	20	0	1096	9186
<b>APPROACH %'s :</b>	47.34%	7.15%	45.48%	0.00%	0.03%	0.00%	0.00%	45.45%	0.00%	54.55%	5.99%	66.17%	28.23%	0.00%	0.00%	40.64%	1.06%	0.00%	58.30%	
<b>PEAK HR :</b>	07:15 AM - 08:15 AM																		TOTAL	
<b>PEAK HR VOL :</b>	852	152	793	0	0	0	0	25	0	30	126	1333	547	0	0	375	6	0	581	4820
<b>PEAK HR FACTOR :</b>	0.842	0.644	0.877	0.000	0.000	0.000	0.000	0.417	0.000	0.750	0.829	0.893	0.882	0.000	0.000	0.762	0.500	0.000	0.835	0.923
	0.843					0.655					0.925				0.868					
PM	2.3	0.3	1.3	0	0	0	0	2	0	0	1	2.5	0.5	0	0	4	0	0	0	TOTAL
	NL	NT	NR	NU	NL2	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	WT2	
4:00 PM	239	24	111	0	2	0	0	43	0	18	38	438	82	0	0	233	6	0	111	1345
4:15 PM	251	25	155	0	0	0	0	44	0	11	29	461	95	0	0	248	14	0	125	1458
4:30 PM	257	15	136	0	2	0	0	46	0	9	47	434	71	0	0	282	13	0	90	1402
4:45 PM	265	25	127	0	1	0	0	49	0	13	41	457	90	0	0	215	8	0	145	1436
5:00 PM	252	22	106	0	1	0	0	54	1	13	33	430	88	0	0	209	6	0	126	1341
5:15 PM	271	25	116	0	0	0	0	60	0	12	32	419	102	0	0	284	6	0	128	1455
5:30 PM	256	29	152	0	0	0	0	26	0	14	54	446	116	0	0	206	5	0	141	1445
5:45 PM	267	44	162	0	0	0	0	22	0	15	43	417	79	0	0	247	7	0	94	1397
<b>TOTAL VOLUMES :</b>	NL	NT	NR	NU	NL2	SL	ST	SR	SU	SR2	EL	ET	ER	EU	WL	WT	WR	WU	WT2	TOTAL
	2058	209	1065	0	6	0	0	344	1	105	317	3502	723	0	0	1924	65	0	960	11279
<b>APPROACH %'s :</b>	61.65%	6.26%	31.91%	0.00%	0.18%	0.00%	0.00%	76.44%	0.22%	23.33%	6.98%	77.10%	15.92%	0.00%	0.00%	65.24%	2.20%	0.00%	32.55%	
<b>PEAK HR :</b>	04:45 PM - 05:45 PM																		TOTAL	
<b>PEAK HR VOL :</b>	1044	101	501	0	2	0	0	189	1	52	160	1752	396	0	0	914	25	0	540	5677
<b>PEAK HR FACTOR :</b>	0.963	0.871	0.824	0.000	0.500	0.000	0.000	0.788	0.250	0.929	0.741	0.958	0.853	0.000	0.000	0.805	0.781	0.000	0.931	0.975
	0.943					0.840					0.937				0.885					

# SR-57 NB Ramps & Imperial Hwy

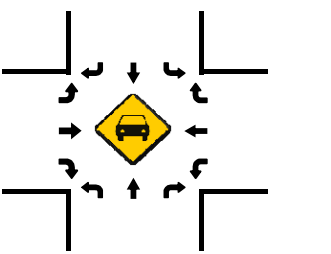
## Peak Hour Turning Movement Count

ID: 18-01081-014  
City: Brea

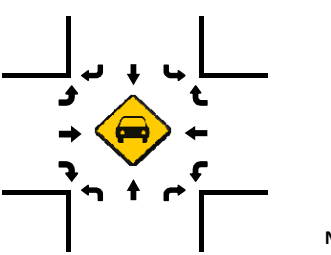
Day: Thursday  
Date: 04/19/2018



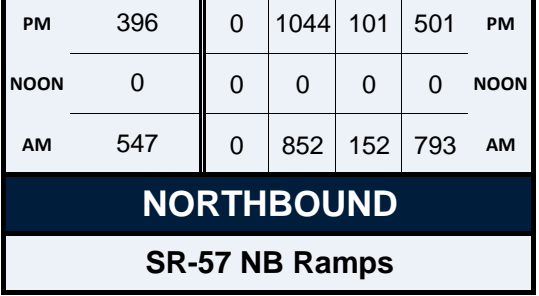
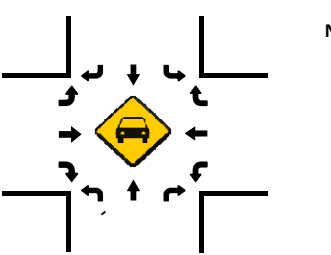
Total Vehicles (AM)



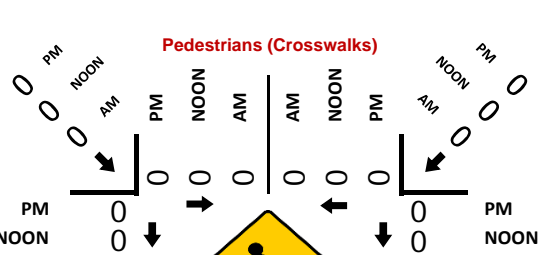
Total Vehicles (NOON)



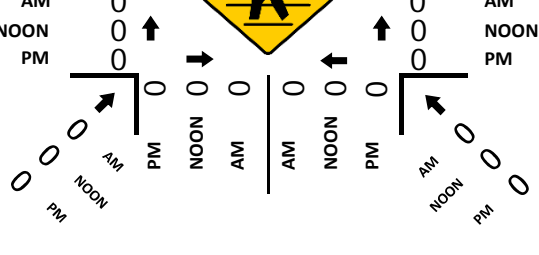
Total Vehicles (PM)



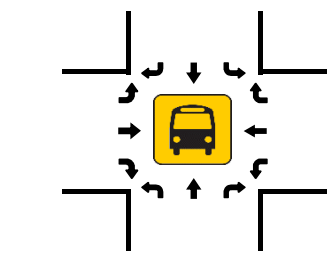
Total Vehicles (NOON)



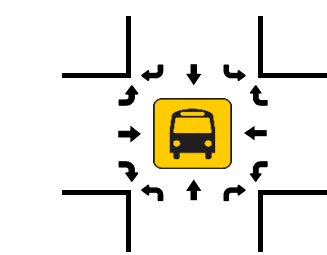
Total Vehicles (PM)



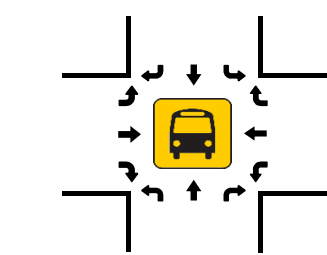
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



*APPENDIX B-II*

**EXISTING ROADWAY SEGMENT TRAFFIC  
COUNT DATA**



**VOLUME**

Lambert Rd W/O Berry St

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_001

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	14,636	17,007	31,643			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			28	24	52	12:00			241	209	450	
00:15			30	23	53	12:15			205	232	437	
00:30			21	25	46	12:30			234	210	444	
00:45			30	109	13	85	12:45		214	894	214	865
01:00			20	19	39	13:00			217	244	461	
01:15			19	15	34	13:15			179	256	435	
01:30			75	14	89	13:30			297	229	526	
01:45			59	173	14	62	13:45		225	918	250	979
02:00			38	19	57	14:00			223	277	500	
02:15			17	29	46	14:15			223	303	526	
02:30			31	26	57	14:30			241	277	518	
02:45			22	108	33	107	14:45		225	912	286	1143
03:00			14	65	79	15:00			230	300	530	
03:15			23	57	80	15:15			223	335	558	
03:30			43	44	87	15:30			299	331	630	
03:45			39	119	43	209	15:45		273	1025	394	1360
04:00			26	90	116	16:00			240	397	637	
04:15			51	92	143	16:15			245	386	631	
04:30			63	76	139	16:30			310	388	698	
04:45			116	256	87	345	16:45		314	1109	394	1565
05:00			81	142	223	17:00			275	377	652	
05:15			104	178	282	17:15			255	339	594	
05:30			121	142	263	17:30			264	302	566	
05:45			146	452	163	625	17:45		265	1059	264	1282
06:00			115	176	291	18:00			255	260	515	
06:15			136	274	410	18:15			237	254	491	
06:30			177	255	432	18:30			235	240	475	
06:45			229	657	310	1015	18:45		185	912	223	977
07:00			220	248	468	19:00			161	180	341	
07:15			243	281	524	19:15			174	167	341	
07:30			289	292	581	19:30			163	184	347	
07:45			255	1007	269	1090	19:45		138	636	191	722
08:00			246	271	517	20:00			161	127	288	
08:15			205	229	434	20:15			117	140	257	
08:30			194	211	405	20:30			92	125	217	
08:45			237	882	215	926	20:45		116	486	156	548
09:00			180	189	369	21:00			107	103	210	
09:15			186	221	407	21:15			85	113	198	
09:30			142	188	330	21:30			92	94	186	
09:45			193	701	193	791	21:45		80	364	82	392
10:00			134	185	319	22:00			78	72	150	
10:15			170	176	346	22:15			63	70	133	
10:30			170	189	359	22:30			78	44	122	
10:45			183	657	184	734	22:45		53	272	41	227
11:00			193	176	369	23:00			33	47	80	
11:15			202	227	429	23:15			32	44	76	
11:30			206	205	411	23:30			46	32	78	
11:45			192	793	195	803	23:45		24	135	32	155
<b>TOTALS</b>			5914	6792	12706	<b>TOTALS</b>			8722	10215	18937	
<b>SPLIT %</b>			46.5%	53.5%	40.2%	<b>SPLIT %</b>			46.1%	53.9%	59.8%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	14,636	17,007	31,643		
AM Peak Hour			07:15	06:45	07:15	PM Peak Hour			16:30	15:45	16:15
AM Pk Volume			1033	1131	2146	PM Pk Volume			1154	1565	2689
Pk Hr Factor			0.894	0.912	0.923	Pk Hr Factor			0.919	0.986	0.950
7 - 9 Volume	0	0	1889	2016	3905	4 - 6 Volume	0	0	2168	2847	5015
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:30	16:00	16:15
7 - 9 Pk Volume	0	0	1033	1113	2146	4 - 6 Pk Volume	0	0	1154	1565	2689
Pk Hr Factor	0.000	0.000	0.894	0.953	0.923	Pk Hr Factor	0.000	0.000	0.919	0.986	0.950

**VOLUME**

Lambert Rd E/O Berry St

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_002

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	15,819	18,378	34,197					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			35	36	71	12:00			270	227	497			
00:15			31	33	64	12:15			242	220	462			
00:30			22	28	50	12:30			264	233	497			
00:45			22	110	21	118	12:45		250	1026	292	972	542	1998
01:00			20	26	46	13:00			235	240	475			
01:15			20	12	32	13:15			208	231	439			
01:30			69	21	90	13:30			305	277	582			
01:45			61	170	15	74	13:45		248	996	277	1025	525	2021
02:00			38	14	52	14:00			240	251	491			
02:15			19	16	35	14:15			241	277	518			
02:30			30	20	50	14:30			279	295	574			
02:45			18	105	32	82	14:45		248	1008	354	1177	602	2185
03:00			15	26	41	15:00			258	291	549			
03:15			21	36	57	15:15			243	301	544			
03:30			39	69	108	15:30			319	307	626			
03:45			39	114	55	186	15:45		282	1102	352	1251	634	2353
04:00			28	46	74	16:00			284	344	628			
04:15			52	46	98	16:15			258	416	674			
04:30			77	97	174	16:30			321	395	716			
04:45			125	282	112	301	16:45		338	1201	368	1523	706	2724
05:00			89	91	180	17:00			315	383	698			
05:15			108	90	198	17:15			309	388	697			
05:30			124	163	287	17:30			304	394	698			
05:45			140	461	170	514	17:45		274	1202	353	1518	627	2720
06:00			120	162	282	18:00			278	304	582			
06:15			140	181	321	18:15			232	280	512			
06:30			195	204	399	18:30			240	285	525			
06:45			249	704	319	866	18:45		208	958	252	1121	460	2079
07:00			224	278	502	19:00			173	251	424			
07:15			242	332	574	19:15			187	233	420			
07:30			318	285	603	19:30			163	183	346			
07:45			290	1074	340	1235	19:45		158	681	177	844	335	1525
08:00			271	340	611	20:00			166	201	367			
08:15			216	299	515	20:15			125	192	317			
08:30			217	305	522	20:30			102	130	232			
08:45			240	944	264	1208	20:45		111	504	148	671	259	1175
09:00			189	246	435	21:00			116	144	260			
09:15			213	239	452	21:15			92	157	249			
09:30			157	224	381	21:30			94	114	208			
09:45			197	756	249	958	21:45		90	392	102	517	192	909
10:00			145	222	367	22:00			83	97	180			
10:15			181	239	420	22:15			67	89	156			
10:30			193	194	387	22:30			80	74	154			
10:45			206	725	205	860	22:45		49	279	76	336	125	615
11:00			215	198	413	23:00			33	43	76			
11:15			223	212	435	23:15			29	44	73			
11:30			237	194	431	23:30			46	49	95			
11:45			212	887	240	844	23:45		30	138	41	177	71	315
<b>TOTALS</b>			6332	7246	13578	<b>TOTALS</b>			9487	11132	<b>20619</b>			
<b>SPLIT %</b>			46.6%	53.4%	<b>39.7%</b>	<b>SPLIT %</b>			46.0%	54.0%	<b>60.3%</b>			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	15,819	18,378	34,197		
AM Peak Hour			07:15	07:15	07:15	PM Peak Hour			16:30	16:15	16:30
AM Pk Volume			1121	1297	2418	PM Pk Volume			1283	1562	2817
Pk Hr Factor			0.881	0.954	0.960	Pk Hr Factor			0.949	0.939	0.984
7 - 9 Volume	0	0	2018	2443	4461	4 - 6 Volume	0	0	2403	3041	5444
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:30	16:15	16:30
7 - 9 Pk Volume	0	0	1121	1297	2418	4 - 6 Pk Volume	0	0	1283	1562	2817
Pk Hr Factor	0.000	0.000	0.881	0.954	0.960	Pk Hr Factor	0.000	0.000	0.949	0.939	0.984

**VOLUME**

Lambert Rd E/O N Brea Blvd

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_003

DAILY TOTALS					NB	SB	EB		WB	Total				
					0	0	18,008	18,780	36,788					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			43	43	86	12:00			292	251	543			
00:15			32	27	59	12:15			269	225	494			
00:30			29	32	61	12:30			312	261	573			
00:45			29	133	22	124	12:45		306	1179	299	1036	605	2215
01:00			18	31	49	13:00			268	243	511			
01:15			24	13	37	13:15			270	248	518			
01:30			57	23	80	13:30			353	276	629			
01:45			58	157	16	83	13:45		311	1202	260	1027	571	2229
02:00			38	12	50	14:00			286	238	524			
02:15			22	15	37	14:15			294	264	558			
02:30			28	22	50	14:30			366	306	672			
02:45			19	107	30	79	14:45		275	1221	334	1142	609	2363
03:00			18	29	47	15:00			295	282	577			
03:15			23	35	58	15:15			311	273	584			
03:30			52	76	128	15:30			318	305	623			
03:45			53	146	62	202	15:45		329	1253	367	1227	696	2480
04:00			33	36	69	16:00			305	333	638			
04:15			43	57	100	16:15			288	389	677			
04:30			78	110	188	16:30			341	368	709			
04:45			139	293	131	334	16:45		344	1278	384	1474	728	2752
05:00			103	95	198	17:00			362	364	726			
05:15			113	117	230	17:15			338	412	750			
05:30			136	178	314	17:30			327	398	725			
05:45			141	493	186	576	17:45		309	1336	377	1551	686	2887
06:00			132	147	279	18:00			304	316	620			
06:15			156	186	342	18:15			292	315	607			
06:30			209	212	421	18:30			276	293	569			
06:45			253	750	315	860	18:45		257	1129	301	1225	558	2354
07:00			232	304	536	19:00			216	288	504			
07:15			257	332	589	19:15			232	240	472			
07:30			334	305	639	19:30			221	211	432			
07:45			312	1135	397	1338	19:45		239	908	195	934	434	1842
08:00			301	364	665	20:00			207	170	377			
08:15			227	255	482	20:15			180	177	357			
08:30			233	291	524	20:30			157	106	263			
08:45			254	1015	260	1170	20:45		118	662	153	606	271	1268
09:00			215	253	468	21:00			150	140	290			
09:15			225	238	463	21:15			135	143	278			
09:30			179	267	446	21:30			96	93	189			
09:45			208	827	233	991	21:45		109	490	98	474	207	964
10:00			182	235	417	22:00			112	88	200			
10:15			211	262	473	22:15			81	81	162			
10:30			218	223	441	22:30			103	85	188			
10:45			250	861	226	946	22:45		65	361	62	316	127	677
11:00			192	213	405	23:00			50	49	99			
11:15			228	201	429	23:15			27	36	63			
11:30			260	243	503	23:30			59	40	99			
11:45			223	903	242	899	23:45		33	169	41	166	74	335
<b>TOTALS</b>			6820	7602	14422	<b>TOTALS</b>			11188	11178	<b>22366</b>			
<b>SPLIT %</b>			47.3%	52.7%	<b>39.2%</b>	<b>SPLIT %</b>			50.0%	50.0%	<b>60.8%</b>			

DAILY TOTALS					NB	SB	EB		WB	Total	
					0	0	18,008	18,780	36,788		
AM Peak Hour			07:15	07:15	07:15	PM Peak Hour			16:30	16:45	16:45
AM Pk Volume			1204	1398	2602	PM Pk Volume			1385	1558	2929
Pk Hr Factor			0.901	0.880	0.917	Pk Hr Factor			0.956	0.945	0.976
7 - 9 Volume	0	0	2150	2508	4658	4 - 6 Volume	0	0	2614	3025	5639
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			16:30	16:45	16:45
7 - 9 Pk Volume	0	0	1204	1398	2602	4 - 6 Pk Volume	0	0	1385	1558	2929
Pk Hr Factor	0.000	0.000	0.901	0.880	0.917	Pk Hr Factor	0.000	0.000	0.956	0.945	0.976

**VOLUME**

Lambert Rd E/O N State College Blvd

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_004

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	26,963	32,016	58,979					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			84	56	140	12:00			401	470	871			
00:15			34	40	74	12:15			377	406	783			
00:30			43	41	84	12:30			389	451	840			
00:45			31	192	39	176	12:45		418	1585	448	1775	866	3360
01:00			38	31	69	13:00			393	442	835			
01:15			20	22	42	13:15			506	479	985			
01:30			20	41	61	13:30			528	466	994			
01:45			21	99	26	120	13:45		462	1889	535	1922	997	3811
02:00			35	27	62	14:00			503	460	963			
02:15			9	29	38	14:15			451	479	930			
02:30			30	43	73	14:30			522	508	1030			
02:45			36	110	38	137	14:45		480	1956	581	2028	1061	3984
03:00			32	46	78	15:00			537	504	1041			
03:15			36	62	98	15:15			458	552	1010			
03:30			32	119	151	15:30			501	529	1030			
03:45			29	129	119	346	15:45		465	1961	597	2182	1062	4143
04:00			42	62	104	16:00			418	587	1005			
04:15			67	92	159	16:15			391	626	1017			
04:30			117	181	298	16:30			488	615	1103			
04:45			112	338	259	594	16:45		501	1798	661	2489	1162	4287
05:00			117	142	259	17:00			521	571	1092			
05:15			216	187	403	17:15			518	620	1138			
05:30			209	230	439	17:30			478	575	1053			
05:45			275	817	295	854	17:45		455	1972	607	2373	1062	4345
06:00			263	269	532	18:00			497	528	1025			
06:15			338	312	650	18:15			468	547	1015			
06:30			401	383	784	18:30			479	496	975			
06:45			425	1427	550	1514	18:45		375	1819	477	2048	852	3867
07:00			342	526	868	19:00			370	427	797			
07:15			371	550	921	19:15			365	376	741			
07:30			469	554	1023	19:30			299	346	645			
07:45			485	1667	659	2289	19:45		233	1267	332	1481	565	2748
08:00			455	565	1020	20:00			192	269	461			
08:15			389	482	871	20:15			229	279	508			
08:30			322	493	815	20:30			162	236	398			
08:45			395	1561	487	2027	20:45		198	781	225	1009	423	1790
09:00			381	441	822	21:00			231	223	454			
09:15			305	469	774	21:15			216	245	461			
09:30			365	462	827	21:30			187	181	368			
09:45			336	1387	411	1783	21:45		144	778	180	829	324	1607
10:00			299	404	703	22:00			151	176	327			
10:15			395	409	804	22:15			121	148	269			
10:30			348	370	718	22:30			113	133	246			
10:45			322	1364	367	1550	22:45		78	463	122	579	200	1042
11:00			311	365	676	23:00			89	94	183			
11:15			292	423	715	23:15			45	64	109			
11:30			388	436	824	23:30			66	78	144			
11:45			358	1349	393	1617	23:45		54	254	58	294	112	548
<b>TOTALS</b>			10440	13007	23447	<b>TOTALS</b>			16523	19009	<b>35532</b>			
<b>SPLIT %</b>			44.5%	55.5%	<b>39.8%</b>	<b>SPLIT %</b>			46.5%	53.5%	<b>60.2%</b>			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	26,963	32,016	58,979

AM Peak Hour			07:30	07:15	07:15	PM Peak Hour			16:30	16:00	16:30
AM Pk Volume			1798	2328	4108	PM Pk Volume			2028	2489	4495
Pk Hr Factor			0.927	0.883	0.898	Pk Hr Factor			0.973	0.941	0.967
7 - 9 Volume	0	0	3228	4316	7544	4 - 6 Volume	0	0	3770	4862	8632
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			16:30	16:00	16:30
7 - 9 Pk Volume	0	0	1798	2328	4108	4 - 6 Pk Volume	0	0	2028	2489	4495
Pk Hr Factor	0.000	0.000	0.927	0.883	0.898	Pk Hr Factor	0.000	0.000	0.973	0.941	0.967

**VOLUME**

Berry St N/O Mercury Ln

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_005

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,485	5,413	0	0	10,898		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	5			12	12:00	94	101			195
00:15	2	6			8	12:15	110	74			184
00:30	3	2			5	12:30	93	85			178
00:45	6	18	10	23	41	12:45	105	402	76	336	738
01:00	3	1			4	13:00	91	110			201
01:15	6	1			7	13:15	106	76			182
01:30	1	7			8	13:30	81	83			164
01:45	3	13	1	10	23	13:45	78	356	79	348	704
02:00	1	3			4	14:00	91	103			194
02:15	5	3			8	14:15	104	71			175
02:30	4	1			5	14:30	95	112			207
02:45	3	13	3	10	23	14:45	90	380	96	382	762
03:00	3	3			6	15:00	110	81			191
03:15	7	6			13	15:15	98	84			182
03:30	5	4			9	15:30	104	107			211
03:45	10	25	6	19	44	15:45	111	423	91	363	786
04:00	6	13			19	16:00	114	136			250
04:15	7	17			24	16:15	111	68			179
04:30	21	24			45	16:30	146	111			257
04:45	26	60	27	81	141	16:45	133	504	93	408	912
05:00	21	24			45	17:00	129	154			283
05:15	11	24			35	17:15	139	106			245
05:30	36	28			64	17:30	115	100			215
05:45	31	99	32	108	207	17:45	107	490	75	435	925
06:00	41	53			94	18:00	106	76			182
06:15	26	64			90	18:15	89	74			163
06:30	49	88			137	18:30	74	76			150
06:45	82	198	107	312	510	18:45	75	344	52	278	622
07:00	69	108			177	19:00	69	42			111
07:15	76	131			207	19:15	70	44			114
07:30	70	169			239	19:30	69	30			99
07:45	87	302	170	578	880	19:45	51	259	45	161	420
08:00	94	128			222	20:00	55	21			76
08:15	85	108			193	20:15	50	28			78
08:30	68	80			148	20:30	43	27			70
08:45	82	329	94	410	739	20:45	48	196	35	111	307
09:00	83	71			154	21:00	36	26			62
09:15	54	75			129	21:15	46	13			59
09:30	67	82			149	21:30	37	19			56
09:45	66	270	78	306	576	21:45	23	142	9	67	209
10:00	54	68			122	22:00	20	13			33
10:15	63	65			128	22:15	23	20			43
10:30	44	62			106	22:30	22	18			40
10:45	63	224	87	282	506	22:45	12	77	11	62	139
11:00	58	70			128	23:00	12	8			20
11:15	89	68			157	23:15	6	4			10
11:30	71	75			146	23:30	6	5			11
11:45	111	329	87	300	629	23:45	8	32	6	23	55
<b>TOTALS</b>	<b>1880</b>	<b>2439</b>			<b>4319</b>	<b>TOTALS</b>	<b>3605</b>	<b>2974</b>			<b>6579</b>
<b>SPLIT %</b>	<b>43.5%</b>	<b>56.5%</b>			<b>39.6%</b>	<b>SPLIT %</b>	<b>54.8%</b>	<b>45.2%</b>			<b>60.4%</b>

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,485	5,413	0	0	10,898		
AM Peak Hour	11:45	07:15		07:15	PM Peak Hour	16:30	16:30		16:30		
AM Pk Volume	408	598		925	PM Pk Volume	547	464		1011		
Pk Hr Factor	0.919	0.879		0.900	Pk Hr Factor	0.937	0.753		0.893		
7 - 9 Volume	631	988	0	0	1619	4 - 6 Volume	994	843	0	0	1837
7 - 9 Peak Hour	07:30	07:15		07:15	4 - 6 Peak Hour	16:30	16:30				16:30
7 - 9 Pk Volume	336	598	0	0	925	4 - 6 Pk Volume	547	464	0	0	1011
Pk Hr Factor	0.894	0.879	0.000	0.000	0.900	Pk Hr Factor	0.937	0.753	0.000	0.000	0.893

**VOLUME**

Brea Blvd N/O Birch St

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_006

DAILY TOTALS					NB	SB	EB	WB	Total		
					13,086	13,736	0	0	26,822		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	23	21			44	12:00	174	215			389
00:15	13	17			30	12:15	219	175			394
00:30	12	15			27	12:30	265	185			450
00:45	18	66	17	70	35 136	12:45	217	875	184	759	401 1634
01:00	13	6			19	13:00	182	182			364
01:15	8	10			18	13:15	189	181			370
01:30	9	6			15	13:30	226	217			443
01:45	7	37	5	27	12 64	13:45	238	835	191	771	429 1606
02:00	6	5			11	14:00	197	170			367
02:15	8	7			15	14:15	213	176			389
02:30	4	0			4	14:30	243	215			458
02:45	4	22	5	17	9 39	14:45	249	902	223	784	472 1686
03:00	7	2			9	15:00	247	293			540
03:15	3	8			11	15:15	255	227			482
03:30	9	4			13	15:30	258	190			448
03:45	23	42	9	23	32 65	15:45	263	1023	215	925	478 1948
04:00	13	4			17	16:00	269	219			488
04:15	19	10			29	16:15	299	212			511
04:30	32	14			46	16:30	288	249			537
04:45	64	128	22	50	86 178	16:45	305	1161	215	895	520 2056
05:00	28	25			53	17:00	292	249			541
05:15	23	39			62	17:15	292	248			540
05:30	30	80			110	17:30	311	217			528
05:45	41	122	87	231	128 353	17:45	315	1210	213	927	528 2137
06:00	54	124			178	18:00	258	225			483
06:15	44	164			208	18:15	270	206			476
06:30	56	241			297	18:30	247	227			474
06:45	105	259	258	787	363 1046	18:45	269	1044	211	869	480 1913
07:00	95	297			392	19:00	228	177			405
07:15	119	296			415	19:15	239	200			439
07:30	137	342			479	19:30	184	165			349
07:45	217	568	342	1277	559 1845	19:45	188	839	123	665	311 1504
08:00	204	290			494	20:00	194	146			340
08:15	137	301			438	20:15	165	106			271
08:30	137	254			391	20:30	142	123			265
08:45	130	608	284	1129	414 1737	20:45	136	637	114	489	250 1126
09:00	134	213			347	21:00	169	121			290
09:15	119	171			290	21:15	137	105			242
09:30	137	160			297	21:30	115	141			256
09:45	118	508	213	757	331 1265	21:45	109	530	97	464	206 994
10:00	125	156			281	22:00	108	137			245
10:15	134	141			275	22:15	71	75			146
10:30	147	142			289	22:30	55	68			123
10:45	119	525	182	621	301 1146	22:45	52	286	39	319	91 605
11:00	154	177			331	23:00	40	35			75
11:15	172	192			364	23:15	36	39			75
11:30	192	177			369	23:30	32	35			67
11:45	208	726	202	748	410 1474	23:45	25	133	23	132	48 265
<b>TOTALS</b>	<b>3611</b>	<b>5737</b>			<b>9348</b>	<b>TOTALS</b>	<b>9475</b>	<b>7999</b>			<b>17474</b>
<b>SPLIT %</b>	<b>38.6%</b>	<b>61.4%</b>			<b>34.9%</b>	<b>SPLIT %</b>	<b>54.2%</b>	<b>45.8%</b>			<b>65.1%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					13,086	13,736	0	0	26,822

AM Peak Hour	11:45	07:00			07:30	PM Peak Hour	17:00	16:30			16:30
AM Pk Volume	866	1277			1970	PM Pk Volume	1210	961			2138
Pk Hr Factor	0.817	0.933			0.881	Pk Hr Factor	0.960	0.965			0.988
7 - 9 Volume	1176	2406	0	0	3582	4 - 6 Volume	2371	1822	0	0	4193
7 - 9 Peak Hour	07:30	07:00			07:30	4 - 6 Peak Hour	17:00	16:30			16:30
7 - 9 Pk Volume	695	1277	0	0	1970	4 - 6 Pk Volume	1210	961	0	0	2138
Pk Hr Factor	0.801	0.933	0.000	0.000	0.881	Pk Hr Factor	0.960	0.965	0.000	0.000	0.988

**VOLUME**

Birch St E/O Brea Blvd

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_007

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	7,982	9,630	17,612		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			10	19	29	12:00			152	162	314
00:15			7	10	17	12:15			154	185	339
00:30			12	4	16	12:30			130	183	313
00:45			3	32	11	12:45			128	564	774
01:00			4	6	10	13:00			120	178	298
01:15			3	5	8	13:15			128	152	280
01:30			0	6	6	13:30			136	138	274
01:45			1	8	0	13:45			138	522	644
02:00			0	3	3	14:00			127	201	328
02:15			2	2	4	14:15			168	166	334
02:30			2	1	3	14:30			123	135	258
02:45			1	5	1	14:45			129	547	727
03:00			1	2	3	15:00			165	216	381
03:15			5	2	7	15:15			153	196	349
03:30			3	3	6	15:30			152	216	368
03:45			5	14	4	15:45			172	642	858
04:00			3	2	5	16:00			156	204	360
04:15			4	6	10	16:15			163	239	402
04:30			6	8	14	16:30			156	216	372
04:45			12	25	13	16:45			191	666	869
05:00			16	17	33	17:00			177	229	406
05:15			12	20	32	17:15			181	227	408
05:30			25	20	45	17:30			152	224	376
05:45			34	87	39	17:45			148	658	903
06:00			32	32	64	18:00			163	196	359
06:15			26	32	58	18:15			136	160	296
06:30			74	82	156	18:30			144	169	313
06:45			62	194	91	18:45			141	584	670
07:00			76	90	166	19:00			130	161	291
07:15			90	103	193	19:15			140	136	276
07:30			151	128	279	19:30			104	168	272
07:45			165	482	180	19:45			87	461	590
08:00			121	116	237	20:00			85	105	190
08:15			109	100	209	20:15			78	131	209
08:30			92	95	187	20:30			81	75	156
08:45			119	441	123	20:45			67	311	398
09:00			71	88	159	21:00			83	86	169
09:15			101	101	202	21:15			49	55	104
09:30			75	82	157	21:30			71	48	119
09:45			106	353	116	21:45			70	273	343
10:00			74	101	175	22:00			58	35	93
10:15			93	85	178	22:15			35	30	65
10:30			101	121	222	22:30			32	32	64
10:45			116	384	132	22:45			15	140	126
11:00			118	140	258	23:00			19	13	32
11:15			138	140	278	23:15			18	13	31
11:30			129	138	267	23:30			11	13	24
11:45			145	530	168	23:45			11	59	49
<b>TOTALS</b>			2555	2788	5343	<b>TOTALS</b>			5427	6842	12269
<b>SPLIT %</b>			47.8%	52.2%	30.3%	<b>SPLIT %</b>			44.2%	55.8%	69.7%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	7,982	9,630	17,612		
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			16:30	17:00	16:45
AM Pk Volume			581	698	1279	PM Pk Volume			705	903	1591
Pk Hr Factor			0.943	0.943	0.943	Pk Hr Factor			0.923	0.986	0.975
7 - 9 Volume	0	0	923	935	1858	4 - 6 Volume	0	0	1324	1772	3096
7 - 9 Peak Hour			07:30	07:15	07:30	4 - 6 Peak Hour			16:30	17:00	16:45
7 - 9 Pk Volume	0	0	546	527	1070	4 - 6 Pk Volume	0	0	705	903	1591
Pk Hr Factor	0.000	0.000	0.827	0.732	0.775	Pk Hr Factor	0.000	0.000	0.923	0.986	0.975



**VOLUME**

Berry St S/O Mercury Ln

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_008

DAILY TOTALS					NB	SB	EB	WB	Total		
					5,576	5,243	0	0	10,819		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	3			10	12:00	102	102			204
00:15	2	8			10	12:15	106	69			175
00:30	2	1			3	12:30	105	86			191
00:45	5	16	11	23	16	12:45	111	424	66	323	747
01:00	3	2			5	13:00	106	101			207
01:15	5	1			6	13:15	107	77			184
01:30	2	5			7	13:30	85	74			159
01:45	4	14	2	10	6	13:45	79	377	75	327	704
02:00	2	4			6	14:00	96	96			192
02:15	5	3			8	14:15	100	70			170
02:30	4	1			5	14:30	97	110			207
02:45	3	14	3	11	6	14:45	89	382	94	370	752
03:00	3	1			4	15:00	109	93			202
03:15	8	5			13	15:15	101	80			181
03:30	5	4			9	15:30	87	101			188
03:45	10	26	8	18	18	15:45	103	400	87	361	761
04:00	8	11			19	16:00	98	135			233
04:15	17	15			32	16:15	105	75			180
04:30	30	18			48	16:30	123	122			245
04:45	35	90	22	66	57	16:45	133	459	88	420	879
05:00	24	23			47	17:00	125	159			284
05:15	15	26			41	17:15	133	106			239
05:30	41	33			74	17:30	108	103			211
05:45	40	120	23	105	63	17:45	97	463	70	438	901
06:00	45	48			93	18:00	104	78			182
06:15	28	58			86	18:15	79	79			158
06:30	53	83			136	18:30	79	72			151
06:45	99	225	100	289	199	18:45	72	334	58	287	621
07:00	75	96			171	19:00	61	43			104
07:15	79	123			202	19:15	71	49			120
07:30	83	158			241	19:30	65	29			94
07:45	108	345	144	521	252	19:45	49	246	51	172	418
08:00	100	112			212	20:00	53	21			74
08:15	99	101			200	20:15	49	32			81
08:30	76	68			144	20:30	43	27			70
08:45	86	361	91	372	177	20:45	47	192	35	115	307
09:00	91	68			159	21:00	37	27			64
09:15	52	70			122	21:15	46	15			61
09:30	67	75			142	21:30	35	20			55
09:45	70	280	74	287	144	21:45	23	141	9	71	212
10:00	56	60			116	22:00	18	11			29
10:15	68	67			135	22:15	23	19			42
10:30	45	62			107	22:30	16	25			41
10:45	59	228	81	270	140	22:45	15	72	9	64	136
11:00	59	73			132	23:00	8	8			16
11:15	91	72			163	23:15	7	4			11
11:30	73	71			144	23:30	7	11			18
11:45	113	336	77	293	190	23:45	9	31	7	30	61
<b>TOTALS</b>	<b>2055</b>	<b>2265</b>			<b>4320</b>	<b>TOTALS</b>	<b>3521</b>	<b>2978</b>			<b>6499</b>
<b>SPLIT %</b>	<b>47.6%</b>	<b>52.4%</b>			<b>39.9%</b>	<b>SPLIT %</b>	<b>54.2%</b>	<b>45.8%</b>			<b>60.1%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					5,576	5,243	0	0	10,819

AM Peak Hour	11:45	07:15		07:15	PM Peak Hour	16:30	16:30		16:30		
AM Pk Volume	426	537		907	PM Pk Volume	514	475		989		
Pk Hr Factor	0.942	0.850		0.900	Pk Hr Factor	0.966	0.747		0.871		
7 - 9 Volume	706	893	0	0	1599	4 - 6 Volume	922	858	0	0	1780
7 - 9 Peak Hour	07:30	07:15		07:15	4 - 6 Peak Hour	16:30	16:30				16:30
7 - 9 Pk Volume	390	537	0	0	907	4 - 6 Pk Volume	514	475	0	0	989
Pk Hr Factor	0.903	0.850	0.000	0.000	0.900	Pk Hr Factor	0.966	0.747	0.000	0.000	0.871



**VOLUME**

S Brea Blvd S/O E Birch St

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_009

DAILY TOTALS				NB	SB	EB	WB	Total
				11,587	15,213	0	0	26,800

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	24	45			69	12:00	157	219			376
00:15	12	26			38	12:15	190	199			389
00:30	9	28			37	12:30	204	265			469
00:45	16	61	12	111	28 172	12:45	182	733	286	969	468 1702
01:00	12	16			28	13:00	166	262			428
01:15	8	13			21	13:15	165	214			379
01:30	14	8			22	13:30	180	272			452
01:45	5	39	7	44	12 83	13:45	210	721	256	1004	466 1725
02:00	8	9			17	14:00	193	207			400
02:15	6	5			11	14:15	181	223			404
02:30	3	4			7	14:30	202	240			442
02:45	2	19	6	24	8 43	14:45	224	800	240	910	464 1710
03:00	5	2			7	15:00	231	240			471
03:15	5	3			8	15:15	217	238			455
03:30	11	9			20	15:30	241	251			492
03:45	22	43	3	17	25 60	15:45	244	933	186	915	430 1848
04:00	11	4			15	16:00	237	223			460
04:15	18	7			25	16:15	258	244			502
04:30	31	18			49	16:30	261	252			513
04:45	61	121	32	61	93 182	16:45	269	1025	244	963	513 1988
05:00	19	45			64	17:00	239	296			535
05:15	29	51			80	17:15	267	227			494
05:30	28	68			96	17:30	256	259			515
05:45	41	117	98	262	139 379	17:45	272	1034	232	1014	504 2048
06:00	43	141			184	18:00	236	229			465
06:15	39	183			222	18:15	228	214			442
06:30	80	233			313	18:30	204	229			433
06:45	100	262	293	850	393 1112	18:45	226	894	233	905	459 1799
07:00	89	271			360	19:00	202	227			429
07:15	115	284			399	19:15	191	188			379
07:30	140	263			403	19:30	177	178			355
07:45	200	544	288	1106	488 1650	19:45	158	728	224	817	382 1545
08:00	168	263			431	20:00	136	214			350
08:15	142	292			434	20:15	136	157			293
08:30	118	281			399	20:30	114	175			289
08:45	139	567	286	1122	425 1689	20:45	123	509	179	725	302 1234
09:00	131	224			355	21:00	152	157			309
09:15	132	191			323	21:15	108	161			269
09:30	120	182			302	21:30	82	124			206
09:45	121	504	169	766	290 1270	21:45	77	419	121	563	198 982
10:00	114	173			287	22:00	82	100			182
10:15	110	212			322	22:15	64	56			120
10:30	141	194			335	22:30	57	78			135
10:45	120	485	185	764	305 1249	22:45	41	244	39	273	80 517
11:00	140	227			367	23:00	32	44			76
11:15	171	193			364	23:15	24	29			53
11:30	191	240			431	23:30	23	31			54
11:45	182	684	218	878	400 1562	23:45	22	101	46	150	68 251
<b>TOTALS</b>	<b>3446</b>	<b>6005</b>			<b>9451</b>	<b>TOTALS</b>	<b>8141</b>	<b>9208</b>			<b>17349</b>
<b>SPLIT %</b>	<b>36.5%</b>	<b>63.5%</b>			<b>35.3%</b>	<b>SPLIT %</b>	<b>46.9%</b>	<b>53.1%</b>			<b>64.7%</b>

DAILY TOTALS				NB	SB	EB	WB	Total
				11,587	15,213	0	0	26,800

AM Peak Hour	11:45	07:45		07:30	PM Peak Hour	16:30	16:15		16:15		
AM Pk Volume	733	1124		1756	PM Pk Volume	1036	1036		2063		
Pk Hr Factor	0.898	0.962		0.900	Pk Hr Factor	0.963	0.875		0.964		
7 - 9 Volume	1111	2228	0	0	3339	4 - 6 Volume	2059	1977	0	0	4036
7 - 9 Peak Hour	07:30	07:45		07:30	4 - 6 Peak Hour	16:30	16:15			16:15	
7 - 9 Pk Volume	650	1124		1756	4 - 6 Pk Volume	1036	1036			2063	
Pk Hr Factor	0.813	0.962	0.000	0.000	0.900	Pk Hr Factor	0.963	0.875	0.000	0.000	0.964

**VOLUME**

Imperial Hwy W/O Berry St

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_010

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	25,493	25,170	50,663			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			50	54	104	12:00			412	339	751	
00:15			31	58	89	12:15			378	313	691	
00:30			34	48	82	12:30			416	368	784	
00:45			32	147	33	12:45			398	1604	369	1389
01:00			26	29	55	13:00			344	353	697	
01:15			19	27	46	13:15			376	367	743	
01:30			35	18	53	13:30			373	355	728	
01:45			38	118	31	13:45			367	1460	459	1534
02:00			34	19	53	14:00			404	371	775	
02:15			23	26	49	14:15			453	402	855	
02:30			45	50	95	14:30			447	380	827	
02:45			31	133	43	14:45			389	1693	473	1626
03:00			24	31	55	15:00			379	398	777	
03:15			53	38	91	15:15			420	454	874	
03:30			44	74	118	15:30			447	425	872	
03:45			56	177	65	15:45			472	1718	424	1701
04:00			68	60	128	16:00			409	447	856	
04:15			100	76	176	16:15			444	472	916	
04:30			137	106	243	16:30			436	438	874	
04:45			145	450	131	16:45			514	1803	494	1851
05:00			105	109	214	17:00			479	446	925	
05:15			181	129	310	17:15			496	469	965	
05:30			170	165	335	17:30			413	457	870	
05:45			246	702	243	17:45			415	1803	442	1814
06:00			211	197	408	18:00			434	389	823	
06:15			267	249	516	18:15			413	392	805	
06:30			314	265	579	18:30			332	320	652	
06:45			324	1116	319	18:45			353	1532	349	1450
07:00			353	371	724	19:00			336	299	635	
07:15			432	369	801	19:15			320	316	636	
07:30			481	470	951	19:30			275	289	564	
07:45			450	1716	451	19:45			270	1201	289	1193
08:00			433	467	900	20:00			205	299	504	
08:15			378	418	796	20:15			253	248	501	
08:30			363	409	772	20:30			220	234	454	
08:45			381	1555	330	20:45			206	884	231	1012
09:00			359	353	712	21:00			200	273	473	
09:15			337	314	651	21:15			181	267	448	
09:30			340	288	628	21:30			168	193	361	
09:45			302	1338	317	21:45			125	674	162	895
10:00			366	322	688	22:00			151	181	332	
10:15			316	308	624	22:15			107	142	249	
10:30			349	284	633	22:30			114	133	247	
10:45			342	1373	319	22:45			114	486	100	556
11:00			342	336	678	23:00			100	76	176	
11:15			370	341	711	23:15			76	76	152	
11:30			430	331	761	23:30			60	75	135	
11:45			364	1506	357	23:45			68	304	74	301
<b>TOTALS</b>			10331	9848	20179	<b>TOTALS</b>			15162	15322	30484	
<b>SPLIT %</b>			51.2%	48.8%	39.8%	<b>SPLIT %</b>			49.7%	50.3%	60.2%	

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	25,493	25,170	50,663

AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			16:30	16:45	16:30
AM Pk Volume			1796	1806	3553	PM Pk Volume			1925	1866	3772
Pk Hr Factor			0.933	0.961	0.934	Pk Hr Factor			0.936	0.944	0.936
7 - 9 Volume	0	0	3271	3285	6556	4 - 6 Volume	0	0	3606	3665	7271
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:30	16:45	16:30
7 - 9 Pk Volume	0	0	1796	1806	3553	4 - 6 Pk Volume	0	0	1925	1866	3772
Pk Hr Factor	0.000	0.000	0.933	0.961	0.934	Pk Hr Factor	0.000	0.000	0.936	0.944	0.936

**VOLUME**

Imperial Hwy E/O Berry St

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_011

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	27,735	27,773	55,508					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			58	57	115	12:00			451	375	826			
00:15			51	64	115	12:15			456	400	856			
00:30			29	47	76	12:30			445	427	872			
00:45			40	178	31	199	12:45		431	1783	447	1649	878	3432
01:00			23	29	52	13:00			386	404	790			
01:15			30	33	63	13:15			409	448	857			
01:30			37	19	56	13:30			419	408	827			
01:45			43	133	31	112	13:45		351	1565	527	1787	878	3352
02:00			40	20	60	14:00			458	420	878			
02:15			31	23	54	14:15			481	459	940			
02:30			42	52	94	14:30			471	434	905			
02:45			36	149	42	137	14:45		449	1859	506	1819	955	3678
03:00			34	34	68	15:00			431	486	917			
03:15			38	41	79	15:15			493	489	982			
03:30			55	76	131	15:30			558	470	1028			
03:45			63	190	66	217	15:45		435	1917	471	1916	906	3833
04:00			78	65	143	16:00			538	498	1036			
04:15			90	77	167	16:15			485	485	970			
04:30			139	109	248	16:30			561	504	1065			
04:45			154	461	142	393	16:45		526	2110	514	2001	1040	4111
05:00			146	115	261	17:00			533	522	1055			
05:15			161	132	293	17:15			532	494	1026			
05:30			202	198	400	17:30			491	524	1015			
05:45			222	731	263	708	17:45		458	2014	473	2013	931	4027
06:00			250	205	455	18:00			443	439	882			
06:15			295	253	548	18:15			455	419	874			
06:30			381	244	625	18:30			376	377	753			
06:45			351	1277	388	1090	18:45		356	1630	364	1599	720	3229
07:00			407	378	785	19:00			357	343	700			
07:15			472	414	886	19:15			329	347	676			
07:30			568	489	1057	19:30			305	345	650			
07:45			515	1962	544	1825	19:45		287	1278	300	1335	587	2613
08:00			505	487	992	20:00			275	342	617			
08:15			409	448	857	20:15			222	265	487			
08:30			417	435	852	20:30			231	262	493			
08:45			437	1768	384	1754	20:45		203	931	252	1121	455	2052
09:00			387	404	791	21:00			197	291	488			
09:15			335	355	690	21:15			181	297	478			
09:30			359	335	694	21:30			149	213	362			
09:45			313	1394	370	1464	21:45		135	662	177	978	312	1640
10:00			346	312	658	22:00			134	188	322			
10:15			362	357	719	22:15			101	135	236			
10:30			367	290	657	22:30			91	142	233			
10:45			416	1491	345	1304	22:45		75	401	108	573	183	974
11:00			355	342	697	23:00			89	77	166			
11:15			399	378	777	23:15			67	83	150			
11:30			441	362	803	23:30			57	73	130			
11:45			396	1591	393	1475	23:45		47	260	71	304	118	564
<b>TOTALS</b>			11325	10678	22003	<b>TOTALS</b>			16410	17095	33505			
<b>SPLIT %</b>			51.5%	48.5%	39.6%	<b>SPLIT %</b>			49.0%	51.0%	60.4%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	27,735	27,773	55,508

AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			16:30	16:45	16:30
AM Pk Volume			2060	1968	3994	PM Pk Volume			2152	2054	4186
Pk Hr Factor			0.907	0.904	0.943	Pk Hr Factor			0.959	0.980	0.983
7 - 9 Volume	0	0	3730	3579	7309	4 - 6 Volume	0	0	4124	4014	8138
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:30	16:45	16:30
7 - 9 Pk Volume	0	0	2060	1968	3994	4 - 6 Pk Volume	0	0	2152	2054	4186
Pk Hr Factor	0.000	0.000	0.907	0.904	0.943	Pk Hr Factor	0.000	0.000	0.959	0.980	0.983

**VOLUME**

Imperial Hwy E/O S Brea Blvd

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_012

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	26,531	26,094	52,625					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			79	54	133	12:00			423	342	765			
00:15			64	57	121	12:15			429	383	812			
00:30			42	51	93	12:30			387	401	788			
00:45			37	222	36	12:45			468	1707	390	1516	858	3223
01:00			34	33	67	13:00			364	386	750			
01:15			36	29	65	13:15			422	408	830			
01:30			41	24	65	13:30			414	366	780			
01:45			35	146	30	13:45			374	1574	476	1636	850	3210
02:00			52	18	70	14:00			397	420	817			
02:15			30	34	64	14:15			415	418	833			
02:30			47	49	96	14:30			425	411	836			
02:45			29	158	37	14:45			441	1678	441	1690	882	3368
03:00			34	32	66	15:00			420	422	842			
03:15			33	45	78	15:15			398	452	850			
03:30			51	78	129	15:30			493	411	904			
03:45			58	176	67	15:45			395	1706	445	1730	840	3436
04:00			68	69	137	16:00			458	462	920			
04:15			93	82	175	16:15			431	476	907			
04:30			126	113	239	16:30			467	497	964			
04:45			133	420	137	16:45			501	1857	458	1893	959	3750
05:00			155	108	263	17:00			495	463	958			
05:15			179	128	307	17:15			481	509	990			
05:30			207	188	395	17:30			469	449	918			
05:45			223	764	239	17:45			415	1860	451	1872	866	3732
06:00			237	192	429	18:00			392	395	787			
06:15			296	229	525	18:15			389	421	810			
06:30			333	262	595	18:30			359	393	752			
06:45			349	1215	341	18:45			345	1485	393	1602	738	3087
07:00			373	296	669	19:00			348	337	685			
07:15			424	363	787	19:15			307	361	668			
07:30			458	418	876	19:30			330	309	639			
07:45			394	1649	434	19:45			289	1274	339	1346	628	2620
08:00			445	368	813	20:00			312	310	622			
08:15			350	379	729	20:15			268	276	544			
08:30			361	378	739	20:30			259	259	518			
08:45			407	1563	335	20:45			236	1075	273	1118	509	2193
09:00			357	352	709	21:00			262	265	527			
09:15			357	367	724	21:15			232	287	519			
09:30			351	310	661	21:30			187	212	399			
09:45			306	1371	357	21:45			182	863	213	977	395	1840
10:00			313	302	615	22:00			164	151	315			
10:15			374	342	716	22:15			117	150	267			
10:30			341	329	670	22:30			125	133	258			
10:45			427	1455	348	22:45			82	488	105	539	187	1027
11:00			328	310	638	23:00			109	88	197			
11:15			380	371	751	23:15			81	88	169			
11:30			396	367	763	23:30			62	72	134			
11:45			403	1507	370	23:45			66	318	69	317	135	635
<b>TOTALS</b>			10646	9858	20504	<b>TOTALS</b>			15885	16236	32121			
<b>SPLIT %</b>			51.9%	48.1%	39.0%	<b>SPLIT %</b>			49.5%	50.5%	61.0%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	26,531	26,094	52,625

AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			16:45	16:30	16:30
AM Pk Volume			1721	1599	3304	PM Pk Volume			1946	1927	3871
Pk Hr Factor			0.939	0.921	0.943	Pk Hr Factor			0.971	0.946	0.978
7 - 9 Volume	0	0	3212	2971	6183	4 - 6 Volume	0	0	3717	3765	7482
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:45	16:30	16:30
7 - 9 Pk Volume	0	0	1721	1599	3304	4 - 6 Pk Volume	0	0	1946	1927	3871
Pk Hr Factor	0.000	0.000	0.939	0.921	0.943	Pk Hr Factor	0.000	0.000	0.971	0.946	0.978

**VOLUME**

Imperial Hwy E/O State College Blvd

Day: Thursday  
Date: 4/19/2018

City: Brea  
Project #: CA18\_1082\_013

DAILY TOTALS					NB	SB	EB	WB	Total				
					0	0	33,879	37,392	71,271				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL		
00:00			51	60	111	12:00			498	559	1057		
00:15			51	59	110	12:15			497	622	1119		
00:30			47	41	88	12:30			551	639	1190		
00:45			44	193	38	198	12:45		519	2065	618	2438	4503
01:00			37	34	71	13:00			550	572	1122		
01:15			30	33	63	13:15			480	606	1086		
01:30			27	45	72	13:30			510	610	1120		
01:45			29	123	40	152	13:45		536	2076	547	2335	4411
02:00			24	36	60	14:00			500	521	1021		
02:15			35	33	68	14:15			506	542	1048		
02:30			54	49	103	14:30			527	605	1132		
02:45			38	151	78	196	14:45		538	2071	597	2265	4336
03:00			33	39	72	15:00			539	636	1175		
03:15			56	62	118	15:15			541	550	1091		
03:30			78	84	162	15:30			547	563	1110		
03:45			61	228	97	282	15:45		588	2215	645	2394	4609
04:00			79	93	172	16:00			627	649	1276		
04:15			97	148	245	16:15			641	719	1360		
04:30			138	113	251	16:30			646	691	1337		
04:45			147	461	209	563	16:45		632	2546	646	2705	5251
05:00			139	153	292	17:00			617	688	1305		
05:15			157	202	359	17:15			653	684	1337		
05:30			214	225	439	17:30			633	683	1316		
05:45			302	812	305	885	17:45		625	2528	724	2779	5307
06:00			208	235	443	18:00			548	715	1263		
06:15			263	276	539	18:15			586	640	1226		
06:30			317	344	661	18:30			525	597	1122		
06:45			446	1234	441	1296	18:45		533	2192	591	2543	4735
07:00			372	402	774	19:00			513	563	1076		
07:15			474	528	1002	19:15			497	484	981		
07:30			530	512	1042	19:30			452	497	949		
07:45			518	1894	545	1987	19:45		420	1882	490	2034	3916
08:00			460	477	937	20:00			406	432	838		
08:15			496	501	997	20:15			361	433	794		
08:30			465	505	970	20:30			316	419	735		
08:45			464	1885	528	2011	20:45		297	1380	352	1636	3016
09:00			446	417	863	21:00			326	348	674		
09:15			495	528	1023	21:15			272	253	525		
09:30			462	488	950	21:30			239	235	474		
09:45			538	1941	571	2004	21:45		212	1049	241	1077	2126
10:00			449	553	1002	22:00			168	215	383		
10:15			480	559	1039	22:15			190	182	372		
10:30			440	524	964	22:30			165	173	338		
10:45			473	1842	591	2227	22:45		123	646	132	702	1348
11:00			493	531	1024	23:00			93	98	191		
11:15			529	545	1074	23:15			71	138	209		
11:30			565	607	1172	23:30			76	101	177		
11:45			556	2143	572	2255	23:45		82	322	91	428	750
<b>TOTALS</b>			12907	14056	26963	<b>TOTALS</b>			20972	23336	44308		
<b>SPLIT %</b>			47.9%	52.1%	37.8%	<b>SPLIT %</b>			47.3%	52.7%	62.2%		

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	33,879	37,392	71,271

AM Peak Hour			11:15	11:45	11:45	PM Peak Hour			16:30	17:15	17:00
AM Pk Volume			2148	2392	4494	PM Pk Volume			2548	2806	5307
Pk Hr Factor			0.950	0.936	0.944	Pk Hr Factor			0.975	0.969	0.984
7 - 9 Volume	0	0	3779	3998	7777	4 - 6 Volume	0	0	5074	5484	10558
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			16:30	17:00	17:00
7 - 9 Pk Volume	0	0	2004	2062	4044	4 - 6 Pk Volume	0	0	2548	2779	5307
Pk Hr Factor	0.000	0.000	0.945	0.946	0.951	Pk Hr Factor	0.000	0.000	0.975	0.960	0.984

**APPENDIX C**  
**YEAR 2040 MODELING WORKSHEETS**

**1. Puente Street at Lambert Road**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	54	NORTHBOUND	
BOUND	THRU	159	IN ...	195
	RIGHT	66	OUT ...	696
SOUTH	LEFT	159	SOUTHBOUND	
BOUND	THRU	367	IN ...	615
	RIGHT	61	OUT ...	317
EAST	LEFT	67	EASTBOUND	
BOUND	THRU	843	IN ...	1554
	RIGHT	84	OUT ...	1062
WEST	LEFT	77	WESTBOUND	
BOUND	THRU	975	IN ...	947
	RIGHT	35	OUT ...	1292

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	54	61
BOUND	THRU	159	172
	RIGHT	66	71
SOUTH	LEFT	159	181
BOUND	THRU	367	428
	RIGHT	61	96
EAST	LEFT	67	174
BOUND	THRU	843	1,166
	RIGHT	84	215
WEST	LEFT	77	83
BOUND	THRU	975	1,261
	RIGHT	35	46

**2. Berry Street at Lambert Road**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	43 140 63	NORTHBOUND IN ... OUT ...	134 659
SOUTH BOUND	LEFT THRU RIGHT	163 372 27	SOUTHBOUND IN ... OUT ...	674 255
EAST BOUND	LEFT THRU RIGHT	25 886 96	EASTBOUND IN ... OUT ...	1259 992
WEST BOUND	LEFT THRU RIGHT	135 1062 90	WESTBOUND IN ... OUT ...	1287 1393

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	43 140 63	46 151 68
SOUTH BOUND	LEFT THRU RIGHT	163 372 27	233 410 29
EAST BOUND	LEFT THRU RIGHT	25 886 96	33 1,125 104
WEST BOUND	LEFT THRU RIGHT	135 1,062 90	155 1,364 140



**3. Brea Boulevard at Lambert Road**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	187	NORTHBOUND	
BOUND	THRU	311	IN ...	721
	RIGHT	139	OUT ...	1,482
SOUTH	LEFT	114	SOUTHBOUND	
BOUND	THRU	722	IN ...	1,390
	RIGHT	246	OUT ...	681
EAST	LEFT	111	EASTBOUND	
BOUND	THRU	954	IN ...	1,678
	RIGHT	248	OUT ...	1,548
WEST	LEFT	204	WESTBOUND	
BOUND	THRU	1087	IN ...	1,326
	RIGHT	147	OUT ...	1,403

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	187	231
BOUND	THRU	311	372
	RIGHT	139	166
	RIGHT	139	166
SOUTH	LEFT	114	135
BOUND	THRU	722	939
	RIGHT	246	327
	RIGHT	246	327
EAST	LEFT	111	169
BOUND	THRU	954	1,148
	RIGHT	248	359
	RIGHT	248	359
WEST	LEFT	204	243
BOUND	THRU	1,087	1,370
	RIGHT	147	159
	RIGHT	147	159

**4. Stage College Boulevard at Lambert Road**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	144	NORTHBOUND	
BOUND	THRU	143	IN ...	419
	RIGHT	132	OUT ...	1,698
SOUTH	LEFT	793	SOUTHBOUND	
BOUND	THRU	715	IN ...	1,624
	RIGHT	4	OUT ...	572
EAST	LEFT	7	EASTBOUND	
BOUND	THRU	966	IN ...	1,404
	RIGHT	235	OUT ...	1,479
WEST	LEFT	496	WESTBOUND	
BOUND	THRU	1443	IN ...	2,361
	RIGHT	478	OUT ...	2,059

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	144	188
BOUND	THRU	143	154
	RIGHT	132	225
SOUTH	LEFT	793	858
BOUND	THRU	715	812
	RIGHT	4	4
EAST	LEFT	7	7
BOUND	THRU	966	1,102
	RIGHT	235	298
WEST	LEFT	496	588
BOUND	THRU	1,443	1,744
	RIGHT	478	517

**5. SR-57 SB Ramps at Lambert Road**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	712
SOUTH	LEFT	929	SOUTHBOUND	
BOUND	THRU	0	IN ...	1,603
	RIGHT	646	OUT ...	0
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	1325	IN ...	2,005
	RIGHT	512	OUT ...	2,365
WEST	LEFT	200	WESTBOUND	
BOUND	THRU	1775	IN ...	1,975
	RIGHT	0	OUT ...	2,535

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	929	1,021
BOUND	THRU	0	0
	RIGHT	646	866
EAST	LEFT	0	0
BOUND	THRU	1,325	1,514
	RIGHT	512	578
WEST	LEFT	200	208
BOUND	THRU	1,775	1,970
	RIGHT	0	0

**6. SR-57 NB Ramps at Lambert Road  
AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	864	NORTHBOUND	
BOUND	THRU	0	IN ...	1,350
	RIGHT	430	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	751
EAST	LEFT	294	EASTBOUND	
BOUND	THRU	1969	IN ...	2,544
	RIGHT	0	OUT ...	1,955
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	1091	IN ...	1,520
	RIGHT	457	OUT ...	2,707

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	864	935
BOUND	THRU	0	0
	RIGHT	430	469
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	294	432
BOUND	THRU	1,969	2,238
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	1,091	1,231
	RIGHT	457	495

**7. Berry Street at Mercury Lane**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	0 306 49	NORTHBOUND IN ... OUT ...	----- 243 535
SOUTH BOUND	LEFT THRU RIGHT	58 528 0	SOUTHBOUND IN ... OUT ...	586 206
EAST BOUND	LEFT THRU RIGHT	0 0 0	EASTBOUND IN ... OUT ...	0 0
WEST BOUND	LEFT THRU RIGHT	7 0 12	WESTBOUND IN ... OUT ...	19 107

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	0 306 49	0 331 53
SOUTH BOUND	LEFT THRU RIGHT	58 528 0	62 571 0
EAST BOUND	LEFT THRU RIGHT	0 0 0	0 0 0
WEST BOUND	LEFT THRU RIGHT	7 0 12	8 0 13

**8. Brea Boulevard at Birch Street**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	31 410 192	NORTHBOUND IN ... OUT ...	773 1,380
SOUTH BOUND	LEFT THRU RIGHT	262 846 55	SOUTHBOUND IN ... OUT ...	1,415 689
EAST BOUND	LEFT THRU RIGHT	31 51 33	EASTBOUND IN ... OUT ...	115 163
WEST BOUND	LEFT THRU RIGHT	249 77 220	WESTBOUND IN ... OUT ...	574 673

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	31 410 192	42 527 286
SOUTH BOUND	LEFT THRU RIGHT	262 846 55	332 1,044 60
EAST BOUND	LEFT THRU RIGHT	31 51 33	34 56 35
WEST BOUND	LEFT THRU RIGHT	249 77 220	334 83 242

**9. Puente Street at Imperial Highway  
AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	50 118 163	NORTHBOUND IN ... OUT ...	331 235
SOUTH BOUND	LEFT THRU RIGHT	112 78 114	SOUTHBOUND IN ... OUT ...	444 394
EAST BOUND	LEFT THRU RIGHT	182 1452 62	EASTBOUND IN ... OUT ...	1836 1486
WEST BOUND	LEFT THRU RIGHT	67 1238 150	WESTBOUND IN ... OUT ...	1595 2119

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	50 118 163	55 130 208
SOUTH BOUND	LEFT THRU RIGHT	112 78 114	219 102 126
EAST BOUND	LEFT THRU RIGHT	182 1,452 62	196 1,692 67
WEST BOUND	LEFT THRU RIGHT	67 1,238 150	85 1,603 173

**10. Berry Street at Imperial Highway  
AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	2	NORTHBOUND	
BOUND	THRU	26	IN ...	57
	RIGHT	29	OUT ...	75
SOUTH	LEFT	296	SOUTHBOUND	
BOUND	THRU	15	IN ...	481
	RIGHT	170	OUT ...	347
EAST	LEFT	155	EASTBOUND	
BOUND	THRU	1680	IN ...	2231
	RIGHT	4	OUT ...	1983
WEST	LEFT	56	WESTBOUND	
BOUND	THRU	1643	IN ...	2005
	RIGHT	278	OUT ...	2397

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	2	3
BOUND	THRU	26	28
	RIGHT	29	33
	LEFT	296	320
BOUND	THRU	15	15
	RIGHT	170	191
	LEFT	155	168
BOUND	THRU	1,680	2,087
	RIGHT	4	5
WEST	LEFT	56	61
BOUND	THRU	1,643	2,050
	RIGHT	278	300



**11. Brea Boulevard at Imperial Highway**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	419	NORTHBOUND	
BOUND	THRU	427	IN ...	1,145
	RIGHT	159	OUT ...	1,742
SOUTH	LEFT	121	SOUTHBOUND	
BOUND	THRU	836	IN ...	1,360
	RIGHT	151	OUT ...	767
EAST	LEFT	139	EASTBOUND	
BOUND	THRU	1526	IN ...	2,321
	RIGHT	348	OUT ...	1,988
WEST	LEFT	166	WESTBOUND	
BOUND	THRU	1362	IN ...	1,757
	RIGHT	61	OUT ...	2,058

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	419	456
BOUND	THRU	427	528
	RIGHT	159	194
SOUTH	LEFT	121	173
BOUND	THRU	836	1,072
	RIGHT	151	210
EAST	LEFT	139	185
BOUND	THRU	1,526	1,723
	RIGHT	348	434
WEST	LEFT	166	236
BOUND	THRU	1,362	1,700
	RIGHT	61	90

**12. State College Boulevard at Imperial Highway**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	145	NORTHBOUND	
BOUND	THRU	160	IN ...	820
	RIGHT	403	OUT ...	1,525
SOUTH	LEFT	90	SOUTHBOUND	
BOUND	THRU	498	IN ...	793
	RIGHT	37	OUT ...	346
EAST	LEFT	55	EASTBOUND	
BOUND	THRU	1549	IN ...	2,217
	RIGHT	221	OUT ...	1,814
WEST	LEFT	470	WESTBOUND	
BOUND	THRU	1520	IN ...	2,317
	RIGHT	159	OUT ...	2,407

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	145	177
BOUND	THRU	160	187
	RIGHT	403	478
SOUTH	LEFT	90	195
BOUND	THRU	498	646
	RIGHT	37	42
EAST	LEFT	55	60
BOUND	THRU	1,549	1,831
	RIGHT	221	310
WEST	LEFT	470	568
BOUND	THRU	1,520	1,892
	RIGHT	159	213

**13. SR-57 SB Ramps at Imperial Highway**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	605
SOUTH	LEFT	591	SOUTHBOUND	
BOUND	THRU	0	IN ...	1,244
	RIGHT	513	OUT ...	208
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	1438	IN ...	2,380
	RIGHT	577	OUT ...	2,349
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	1668	IN ...	2,016
	RIGHT	208	OUT ...	2,478

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
SOUTH	LEFT	591	698
BOUND	THRU	0	0
	RIGHT	513	591
EAST	LEFT	0	0
BOUND	THRU	1,438	1,780
	RIGHT	577	750
WEST	LEFT	0	0
BOUND	THRU	1,668	2,056
	RIGHT	208	225

**14. SR-57 NB Ramps at Imperial Highway**

**AM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	852	NORTHBOUND	
BOUND	THRU	152	IN ...	1,825
	RIGHT	793	OUT ...	631
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	55
	RIGHT	55	OUT ...	284
EAST	LEFT	126	EASTBOUND	
BOUND	THRU	1333	IN ...	2,510
	RIGHT	547	OUT ...	2,031
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	956	IN ...	1,186
	RIGHT	6	OUT ...	2,602

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	852	1,133
BOUND	THRU	152	165
	RIGHT	793	870
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	55	60
EAST	LEFT	126	137
BOUND	THRU	1,333	1,732
	RIGHT	547	631
WEST	LEFT	0	0
BOUND	THRU	956	1,171
	RIGHT	6	7

**1. Puente Street at Lambert Road**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	124	NORTHBOUND	
BOUND	THRU	324	IN ...	570
	RIGHT	122	OUT ...	261
SOUTH	LEFT	104	SOUTHBOUND	
BOUND	THRU	207	IN ...	507
	RIGHT	91	OUT ...	563
EAST	LEFT	51	EASTBOUND	
BOUND	THRU	883	IN ...	966
	RIGHT	53	OUT ...	2135
WEST	LEFT	84	WESTBOUND	
BOUND	THRU	1418	IN ...	1837
	RIGHT	146	OUT ...	900

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	124	184
BOUND	THRU	324	351
	RIGHT	122	132
	LEFT	104	121
SOUTH	THRU	207	224
	RIGHT	91	247
	LEFT	51	109
EAST	THRU	883	1,267
	RIGHT	53	59
	LEFT	84	91
WEST	THRU	1,418	1,704
	RIGHT	146	165

**2. Berry Street at Lambert Road**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	123 342 112	NORTHBOUND IN ... OUT ...	640 233
SOUTH BOUND	LEFT THRU RIGHT	149 268 57	SOUTHBOUND IN ... OUT ...	474 571
EAST BOUND	LEFT THRU RIGHT	33 1029 65	EASTBOUND IN ... OUT ...	918 1899
WEST BOUND	LEFT THRU RIGHT	46 1468 113	WESTBOUND IN ... OUT ...	1857 1185

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	123 342 112	128 396 117
SOUTH BOUND	LEFT THRU RIGHT	149 268 57	211 290 80
EAST BOUND	LEFT THRU RIGHT	33 1,029 65	36 1,434 70
WEST BOUND	LEFT THRU RIGHT	46 1,468 113	49 1,691 145

**3. Brea Boulevard at Lambert Road**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	404 591 162	NORTHBOUND IN ... OUT ...	1,408 957
SOUTH BOUND	LEFT THRU RIGHT	57 338 80	SOUTHBOUND IN ... OUT ...	558 1,042
EAST BOUND	LEFT THRU RIGHT	148 1075 368	EASTBOUND IN ... OUT ...	1,486 2,165
WEST BOUND	LEFT THRU RIGHT	188 1367 73	WESTBOUND IN ... OUT ...	1,879 1,189

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	404 591 162	474 776 191
SOUTH BOUND	LEFT THRU RIGHT	57 338 80	75 397 101
EAST BOUND	LEFT THRU RIGHT	148 1,075 368	172 1,484 406
WEST BOUND	LEFT THRU RIGHT	188 1,367 73	226 1,590 95

**4. Stage College Boulevard at Lambert Road**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	280	NORTHBOUND	
BOUND	THRU	559	IN ...	1,349
	RIGHT	384	OUT ...	913
SOUTH	LEFT	531	SOUTHBOUND	
BOUND	THRU	320	IN ...	840
	RIGHT	10	OUT ...	1,536
EAST	LEFT	14	EASTBOUND	
BOUND	THRU	1149	IN ...	1,259
	RIGHT	201	OUT ...	1,834
WEST	LEFT	350	WESTBOUND	
BOUND	THRU	1314	IN ...	2,836
	RIGHT	942	OUT ...	1,981

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	280	333
BOUND	THRU	559	584
	RIGHT	384	471
	RIGHT	384	471
SOUTH	LEFT	531	574
BOUND	THRU	320	347
	RIGHT	10	10
	RIGHT	10	10
EAST	LEFT	14	15
BOUND	THRU	1,149	1,524
	RIGHT	201	253
	RIGHT	201	253
WEST	LEFT	350	464
BOUND	THRU	1,314	1,491
	RIGHT	942	1,019
	RIGHT	942	1,019



**5. SR-57 SB Ramps at Lambert Road**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	0 0 0	NORTHBOUND IN ... OUT ...	0 1,039
SOUTH BOUND	LEFT THRU RIGHT	564 0 688	SOUTHBOUND IN ... OUT ...	1,315 0
EAST BOUND	LEFT THRU RIGHT	0 1280 785	EASTBOUND IN ... OUT ...	1,982 2,802
WEST BOUND	LEFT THRU RIGHT	275 1884 0	WESTBOUND IN ... OUT ...	2,389 1,823

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	0 0 0	0 0 0
SOUTH BOUND	LEFT THRU RIGHT	564 0 688	590 0 867
EAST BOUND	LEFT THRU RIGHT	0 1,280 785	0 1,640 930
WEST BOUND	LEFT THRU RIGHT	275 1,884 0	298 2,082 0

**6. SR-57 NB Ramps at Lambert Road  
PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU	1042 0	NORTHBOUND IN ...	1,676
	RIGHT	508	OUT ...	0
SOUTH BOUND	LEFT THRU	0 0	SOUTHBOUND IN ...	0
	RIGHT	0	OUT ...	967
EAST BOUND	LEFT THRU	355 1506	EASTBOUND IN ...	1,840
	RIGHT	0	OUT ...	2,459
WEST BOUND	LEFT THRU	0 1187	WESTBOUND IN ...	2,029
	RIGHT	612	OUT ...	2,160

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU	1,042 0	1,083 0
	RIGHT	508	605
SOUTH BOUND	LEFT THRU	0 0	0 0
	RIGHT	0	0
EAST BOUND	LEFT THRU	355 1,506	588 1,682
	RIGHT	0	0
WEST BOUND	LEFT THRU	0 1,187	0 1,376
	RIGHT	612	667

**7. Berry Street at Mercury Lane**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	489	IN ...	499
	RIGHT	10	OUT ...	485
SOUTH	LEFT	24	SOUTHBOUND	
BOUND	THRU	435	IN ...	459
	RIGHT	0	OUT ...	536
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	50	WESTBOUND	
BOUND	THRU	0	IN ...	97
	RIGHT	47	OUT ...	34

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	489	529
	RIGHT	10	10
SOUTH	LEFT	24	26
BOUND	THRU	435	470
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	50	55
BOUND	THRU	0	0
	RIGHT	47	50

**8. Brea Boulevard at Birch Street**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	70	NORTHBOUND	
BOUND	THRU	632	IN ...	1,210
	RIGHT	278	OUT ...	1,118
SOUTH	LEFT	328	SOUTHBOUND	
BOUND	THRU	598	IN ...	1,038
	RIGHT	70	OUT ...	1,371
EAST	LEFT	75	EASTBOUND	
BOUND	THRU	127	IN ...	223
	RIGHT	21	OUT ...	276
WEST	LEFT	353	WESTBOUND	
BOUND	THRU	136	IN ...	1,070
	RIGHT	455	OUT ...	796

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	70	86
BOUND	THRU	632	791
	RIGHT	278	369
SOUTH	LEFT	328	368
BOUND	THRU	598	710
	RIGHT	70	76
EAST	LEFT	75	81
BOUND	THRU	127	138
	RIGHT	21	23
WEST	LEFT	353	436
BOUND	THRU	136	147
	RIGHT	455	505

**9. Puente Street at Imperial Highway  
PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	30	NORTHBOUND	
BOUND	THRU	50	IN ...	152
	RIGHT	93	OUT ...	334
SOUTH	LEFT	140	SOUTHBOUND	
BOUND	THRU	122	IN ...	384
	RIGHT	185	OUT ...	386
EAST	LEFT	132	EASTBOUND	
BOUND	THRU	1551	IN ...	1759
	RIGHT	34	OUT ...	1935
WEST	LEFT	115	WESTBOUND	
BOUND	THRU	1553	IN ...	2270
	RIGHT	204	OUT ...	1973

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	30	33
BOUND	THRU	50	56
	RIGHT	93	104
SOUTH	LEFT	140	163
BOUND	THRU	122	133
	RIGHT	185	201
EAST	LEFT	132	143
BOUND	THRU	1,551	1,808
	RIGHT	34	37
WEST	LEFT	115	194
BOUND	THRU	1,553	1,802
	RIGHT	204	265

**10. Berry Street at Imperial Highway  
PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	4	NORTHBOUND	
BOUND	THRU	7	IN ...	17
	RIGHT	6	OUT ...	95
SOUTH	LEFT	390	SOUTHBOUND	
BOUND	THRU	29	IN ...	608
	RIGHT	189	OUT ...	452
EAST	LEFT	130	EASTBOUND	
BOUND	THRU	1811	IN ...	2159
	RIGHT	9	OUT ...	2335
WEST	LEFT	57	WESTBOUND	
BOUND	THRU	1766	IN ...	2410
	RIGHT	315	OUT ...	2270

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	4	5
BOUND	THRU	7	7
	RIGHT	6	6
SOUTH	LEFT	390	422
BOUND	THRU	29	30
	RIGHT	189	246
EAST	LEFT	130	164
BOUND	THRU	1,811	2,097
	RIGHT	9	12
WEST	LEFT	57	62
BOUND	THRU	1,766	2,084
	RIGHT	315	340

**11. Brea Boulevard at Imperial Highway**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	418	NORTHBOUND	
BOUND	THRU	715	IN ...	1,673
	RIGHT	247	OUT ...	1,506
SOUTH	LEFT	198	SOUTHBOUND	
BOUND	THRU	595	IN ...	1,149
	RIGHT	210	OUT ...	1,259
EAST	LEFT	153	EASTBOUND	
BOUND	THRU	1612	IN ...	2,258
	RIGHT	388	OUT ...	2,510
WEST	LEFT	334	WESTBOUND	
BOUND	THRU	1547	IN ...	2,398
	RIGHT	161	OUT ...	2,203

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	418	485
BOUND	THRU	715	892
	RIGHT	247	296
SOUTH	LEFT	198	258
BOUND	THRU	595	690
	RIGHT	210	261
EAST	LEFT	153	226
BOUND	THRU	1,612	1,820
	RIGHT	388	411
WEST	LEFT	334	405
BOUND	THRU	1,547	1,792
	RIGHT	161	201

**12. State College Boulevard at Imperial Highway**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	265 443 311	NORTHBOUND IN ... OUT ...	 1,249 1,106
SOUTH BOUND	LEFT THRU RIGHT	389 384 137	SOUTHBOUND IN ... OUT ...	 910 1,151
EAST BOUND	LEFT THRU RIGHT	117 1828 186	EASTBOUND IN ... OUT ...	 2,277 2,677
WEST BOUND	LEFT THRU RIGHT	473 1899 508	WESTBOUND IN ... OUT ...	 3,278 2,779

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	265 443 311	336 507 406
SOUTH BOUND	LEFT THRU RIGHT	389 384 137	488 438 148
EAST BOUND	LEFT THRU RIGHT	117 1,828 186	127 2,079 211
WEST BOUND	LEFT THRU RIGHT	473 1,899 508	539 2,205 652



**13. SR-57 SB Ramps at Imperial Highway**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT THRU RIGHT	0 0 0	NORTHBOUND IN ... OUT ...	0 867
SOUTH BOUND	LEFT THRU RIGHT	646 0 598	SOUTHBOUND IN ... OUT ...	1,349 532
EAST BOUND	LEFT THRU RIGHT	0 1655 888	EASTBOUND IN ... OUT ...	2,794 3,264
WEST BOUND	LEFT THRU RIGHT	0 2268 469	WESTBOUND IN ... OUT ...	3,072 2,510

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT THRU RIGHT	0 0 0	0 0 0
SOUTH BOUND	LEFT THRU RIGHT	646 0 598	698 0 714
EAST BOUND	LEFT THRU RIGHT	0 1,655 888	0 1,883 1,092
WEST BOUND	LEFT THRU RIGHT	0 2,268 469	0 2,550 532

**14. SR-57 NB Ramps at Imperial Highway**

**PM PEAK HOUR**

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* INPUT DATA \*\*\* Modified by: COMSIS Corp. (M. Roskin) 4/9/86

Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
-----	-----	----	-----	-----
NORTH	LEFT	1046	NORTHBOUND	
BOUND	THRU	101	IN ...	1,711
	RIGHT	501	OUT ...	542
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	241
	RIGHT	241	OUT ...	286
EAST	LEFT	160	EASTBOUND	
BOUND	THRU	1752	IN ...	2,517
	RIGHT	396	OUT ...	3,139
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	1454	IN ...	1,855
	RIGHT	25	OUT ...	2,358

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)

\*\*\* RESULTS \*\*\* Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
-----	-----	----	-----
NORTH	LEFT	1,046	1,300
BOUND	THRU	101	109
	RIGHT	501	533
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	241	260
EAST	LEFT	160	173
BOUND	THRU	1,752	1,930
	RIGHT	396	542
WEST	LEFT	0	0
BOUND	THRU	1,454	1,821
	RIGHT	25	30

## APPENDIX D

### INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

*APPENDIX D-1*

**EXISTING TRAFFIC CONDITIONS  
– ICU METHODOLOGY**

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	54	159	66	159	367	61	67	843	84	77	975	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	159	66	159	367	61	67	843	84	77	975	35
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	40	17	40	92	15	17	211	21	19	244	9
Total Analysis Volume [veh/h]	54	159	66	159	367	61	67	843	84	77	975	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.09	0.13	0.13	0.04	0.18	0.18	0.05	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.447											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑ ↵			↵ ↑ ↵			↵ ↑ ↑ ↑			↵ ↑ ↑ ↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	43	140	63	163	372	27	25	886	96	135	1062	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	140	63	163	372	27	25	886	96	135	1062	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	35	16	41	93	7	6	222	24	34	266	23
Total Analysis Volume [veh/h]	43	140	63	163	372	27	25	886	96	135	1062	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.06	0.06	0.10	0.12	0.12	0.01	0.19	0.19	0.08	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.478											



**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.625

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	187	311	139	114	722	246	111	954	248	204	1087	147
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	311	139	114	722	246	111	954	248	204	1087	147
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	78	35	29	181	62	28	239	62	51	272	37
Total Analysis Volume [veh/h]	187	311	139	114	722	246	111	954	248	204	1087	147
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.09	0.08	0.07	0.21	0.14	0.07	0.19	0.15	0.12	0.24	0.24
Intersection LOS	B											
Intersection V/C	0.625											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	144	143	132	793	715	4	7	966	235	496	1443	478
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	143	132	793	715	4	7	966	235	496	1443	478
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	36	33	198	179	1	2	242	59	124	361	120
Total Analysis Volume [veh/h]	144	143	132	793	715	4	7	966	235	496	1443	478
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.05	0.05	0.23	0.21	0.21	0.00	0.18	0.18	0.15	0.28	0.05
Intersection LOS	B											
Intersection V/C	0.660											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	929	0	646	0	1325	512	200	1775	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	929	0	646	0	1325	512	200	1775	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	232	0	162	0	331	128	50	444	0
Total Analysis Volume [veh/h]	0	0	0	929	0	646	0	1325	512	200	1775	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.27	0.00	0.31	0.00	0.27	0.27	0.06	0.35	0.00
Intersection LOS	C											
Intersection V/C	0.707											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T						T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	864	0	430	0	0	0	294	1969	0	0	1091	457
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	864	0	430	0	0	0	294	1969	0	0	1091	457
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	216	0	108	0	0	0	74	492	0	0	273	114
Total Analysis Volume [veh/h]	864	0	430	0	0	0	294	1969	0	0	1091	457
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.00	0.25	0.00	0.00	0.00	0.09	0.39	0.00	0.00	0.23	0.23
Intersection LOS	B											
Intersection V/C	0.690											



**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.212

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	306	49	58	528	7	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	306	49	58	528	7	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	12	15	132	2	3
Total Analysis Volume [veh/h]	306	49	58	528	7	12
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.10	0.03	0.16	0.00	0.01
Intersection LOS	A					
Intersection V/C	0.212					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	31	410	192	262	846	55	31	51	33	249	77	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	410	192	262	846	55	31	51	33	249	77	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	103	48	66	212	14	8	13	8	62	19	55
Total Analysis Volume [veh/h]	31	410	192	262	846	55	31	51	33	249	77	220
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.12	0.12	0.08	0.18	0.18	0.02	0.05	0.05	0.07	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.368											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	50	118	163	112	78	114	182	1452	62	67	1238	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	118	163	112	78	114	182	1452	62	67	1238	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	30	41	28	20	29	46	363	16	17	310	38
Total Analysis Volume [veh/h]	50	118	163	112	78	114	182	1452	62	67	1238	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.10	0.07	0.02	0.07	0.11	0.30	0.30	0.04	0.24	0.09
Intersection LOS	A											
Intersection V/C	0.562											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	2	26	29	296	15	170	155	1680	4	56	1643	278
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	26	29	296	15	170	155	1680	4	56	1643	278
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	7	74	4	43	39	420	1	14	411	70
Total Analysis Volume [veh/h]	2	26	29	296	15	170	155	1680	4	56	1643	278
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.09	0.09	0.10	0.09	0.33	0.33	0.03	0.38	0.38
Intersection LOS	B											
Intersection V/C	0.635											



**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	419	427	159	121	836	151	139	1526	348	166	1362	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	419	427	159	121	836	151	139	1526	348	166	1362	61
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	107	40	30	209	38	35	382	87	42	341	15
Total Analysis Volume [veh/h]	419	427	159	121	836	151	139	1526	348	166	1362	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.08	0.09	0.04	0.25	0.09	0.04	0.30	0.20	0.05	0.27	0.04
Intersection LOS	C											
Intersection V/C	0.767											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	145	160	403	90	498	37	55	1549	221	470	1520	159
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	160	403	90	498	37	55	1549	221	470	1520	159
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	40	101	23	125	9	14	387	55	118	380	40
Total Analysis Volume [veh/h]	145	160	403	90	498	37	55	1549	221	470	1520	159
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.05	0.24	0.03	0.16	0.16	0.02	0.26	0.26	0.14	0.30	0.07
Intersection LOS	C											
Intersection V/C	0.712											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	591	0	513	0	1438	577	0	1668	208
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	591	0	513	0	1438	577	0	1668	208
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	148	0	128	0	360	144	0	417	52
Total Analysis Volume [veh/h]	0	0	0	591	0	513	0	1438	577	0	1668	208
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.22	0.00	0.28	0.00	0.00	0.33	0.00
Intersection LOS	A											
Intersection V/C	0.594											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	852	152	793	0	0	55	126	1333	547	0	956	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	852	152	793	0	0	55	126	1333	547	0	956	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	213	38	198	0	0	14	32	333	137	0	239	2
Total Analysis Volume [veh/h]	852	152	793	0	0	55	126	1333	547	0	956	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.26	0.26	0.00	0.00	0.02	0.07	0.26	0.00	0.00	0.14	0.14
Intersection LOS	B											
Intersection V/C	0.605											



**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑ ↵			↵ ↑ ↵			↵ ↑ ↑ ↵			↵ ↑ ↑ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	124	324	122	104	207	91	51	883	53	84	1418	146
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	324	122	104	207	91	51	883	53	84	1418	146
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	81	31	26	52	23	13	221	13	21	355	37
Total Analysis Volume [veh/h]	124	324	122	104	207	91	51	883	53	84	1418	146
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.13	0.13	0.06	0.09	0.09	0.03	0.18	0.18	0.05	0.31	0.31
Intersection LOS	A											
Intersection V/C	0.579											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	123	342	112	149	268	57	33	1029	65	46	1468	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	342	112	149	268	57	33	1029	65	46	1468	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	86	28	37	67	14	8	257	16	12	367	28
Total Analysis Volume [veh/h]	123	342	112	149	268	57	33	1029	65	46	1468	113
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.13	0.13	0.09	0.10	0.10	0.02	0.21	0.21	0.03	0.31	0.31
Intersection LOS	B											
Intersection V/C	0.601											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	404	591	162	57	338	80	148	1075	368	188	1367	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	591	162	57	338	80	148	1075	368	188	1367	73
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	101	148	41	14	85	20	37	269	92	47	342	18
Total Analysis Volume [veh/h]	404	591	162	57	338	80	148	1075	368	188	1367	73
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.17	0.10	0.03	0.10	0.05	0.09	0.21	0.22	0.11	0.28	0.28
Intersection LOS	B											
Intersection V/C	0.638											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	280	559	384	531	320	10	14	1149	201	350	1314	942
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	559	384	531	320	10	14	1149	201	350	1314	942
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	140	96	133	80	3	4	287	50	88	329	236
Total Analysis Volume [veh/h]	280	559	384	531	320	10	14	1149	201	350	1314	942
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.18	0.18	0.16	0.10	0.10	0.00	0.20	0.20	0.10	0.26	0.40
Intersection LOS	C											
Intersection V/C	0.793											



**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.680

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	564	0	688	0	1280	785	275	1884	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	564	0	688	0	1280	785	275	1884	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	141	0	172	0	320	196	69	471	0
Total Analysis Volume [veh/h]	0	0	0	564	0	688	0	1280	785	275	1884	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.25	0.00	0.30	0.30	0.08	0.37	0.00
Intersection LOS	B											
Intersection V/C	0.680											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐						⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	1042	0	508	0	0	0	355	1506	0	0	1187	612
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1042	0	508	0	0	0	355	1506	0	0	1187	612
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	261	0	127	0	0	0	89	377	0	0	297	153
Total Analysis Volume [veh/h]	1042	0	508	0	0	0	355	1506	0	0	1187	612
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.31	0.00	0.30	0.00	0.00	0.00	0.10	0.30	0.00	0.00	0.26	0.26
Intersection LOS	C											
Intersection V/C	0.725											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.240

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	489	10	24	435	50	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	489	10	24	435	50	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	122	3	6	109	13	12
Total Analysis Volume [veh/h]	489	10	24	435	50	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.15	0.15	0.01	0.13	0.03	0.03
Intersection LOS	A					
Intersection V/C	0.240					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	70	632	278	328	598	70	75	127	21	353	136	455
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	632	278	328	598	70	75	127	21	353	136	455
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	158	70	82	150	18	19	32	5	88	34	114
Total Analysis Volume [veh/h]	70	632	278	328	598	70	75	127	21	353	136	455
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.10	0.13	0.13	0.04	0.09	0.09	0.10	0.08	0.17
Intersection LOS	A											
Intersection V/C	0.540											



**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	30	50	93	140	122	185	132	1551	34	115	1553	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	50	93	140	122	185	132	1551	34	115	1553	204
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	23	35	31	46	33	388	9	29	388	51
Total Analysis Volume [veh/h]	30	50	93	140	122	185	132	1551	34	115	1553	204
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.05	0.08	0.04	0.11	0.08	0.31	0.31	0.07	0.30	0.12
Intersection LOS	A											
Intersection V/C	0.569											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.663

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	4	7	6	390	29	189	130	1811	9	57	1766	315
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	6	390	29	189	130	1811	9	57	1766	315
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	2	98	7	47	33	453	2	14	442	79
Total Analysis Volume [veh/h]	4	7	6	390	29	189	130	1811	9	57	1766	315
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.11	0.12	0.11	0.08	0.36	0.36	0.03	0.41	0.41
Intersection LOS	B											
Intersection V/C	0.663											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.762

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	418	715	247	198	595	210	153	1612	388	334	1547	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	418	715	247	198	595	210	153	1612	388	334	1547	161
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	179	62	50	149	53	38	403	97	84	387	40
Total Analysis Volume [veh/h]	418	715	247	198	595	210	153	1612	388	334	1547	161
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.14	0.15	0.06	0.18	0.12	0.05	0.32	0.23	0.10	0.30	0.09
Intersection LOS	C											
Intersection V/C	0.762											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	265	443	311	389	384	137	117	1828	186	473	1899	508
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	265	443	311	389	384	137	117	1828	186	473	1899	508
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	111	78	97	96	34	29	457	47	118	475	127
Total Analysis Volume [veh/h]	265	443	311	389	384	137	117	1828	186	473	1899	508
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.13	0.18	0.11	0.15	0.15	0.03	0.30	0.30	0.14	0.37	0.18
Intersection LOS	C											
Intersection V/C	0.783											



**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	646	0	598	0	1655	888	0	2268	469
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	646	0	598	0	1655	888	0	2268	469
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	162	0	150	0	414	222	0	567	117
Total Analysis Volume [veh/h]	0	0	0	646	0	598	0	1655	888	0	2268	469
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.19	0.00	0.24	0.00	0.32	0.00	0.00	0.44	0.00
Intersection LOS	C											
Intersection V/C	0.739											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1046	101	501	0	0	241	160	1752	396	0	1454	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1046	101	501	0	0	241	160	1752	396	0	1454	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	262	25	125	0	0	60	40	438	99	0	364	6
Total Analysis Volume [veh/h]	1046	101	501	0	0	241	160	1752	396	0	1454	25
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.21	0.24	0.24	0.00	0.00	0.07	0.09	0.34	0.00	0.00	0.22	0.22
Intersection LOS	C											
Intersection V/C	0.707											

*APPENDIX D-II*

**EXISTING TRAFFIC CONDITIONS  
– HCM METHODOLOGY**

# HCM 6th Signalized Intersection Summary

## 1: Puente Street & Lambert Road

Existing  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖		↖	↗↖	
Traffic Volume (veh/h)	67	843	84	77	975	35	54	159	66	159	367	61
Future Volume (veh/h)	67	843	84	77	975	35	54	159	66	159	367	61
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	75	947	94	85	1071	38	61	179	74	177	408	68
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	526	2480	245	106	1383	49	77	303	121	204	541	89
Arrive On Green	0.31	0.55	0.55	0.06	0.29	0.29	0.02	0.04	0.04	0.12	0.19	0.19
Sat Flow, veh/h	1688	4474	443	1688	4796	170	1688	2351	936	1688	2891	478
Grp Volume(v), veh/h	75	682	359	85	720	389	61	126	127	177	236	240
Grp Sat Flow(s),veh/h/ln	1688	1612	1692	1688	1612	1741	1688	1683	1603	1688	1683	1686
Q Serve(g_s), s	3.8	14.3	14.4	6.0	24.5	24.6	4.3	8.8	9.3	12.4	15.9	16.2
Cycle Q Clear(g_c), s	3.8	14.3	14.4	6.0	24.5	24.6	4.3	8.8	9.3	12.4	15.9	16.2
Prop In Lane	1.00		0.26	1.00		0.10	1.00		0.58	1.00		0.28
Lane Grp Cap(c), veh/h	526	1787	938	106	930	502	77	217	207	204	315	315
V/C Ratio(X)	0.14	0.38	0.38	0.80	0.77	0.77	0.79	0.58	0.61	0.87	0.75	0.76
Avail Cap(c_a), veh/h	526	1787	938	183	1102	595	141	393	374	323	575	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	15.1	15.1	55.5	39.1	39.1	58.5	54.3	54.5	51.8	46.1	46.2
Incr Delay (d2), s/veh	0.0	0.6	1.2	4.6	5.5	9.8	5.6	0.8	0.9	8.6	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.0	5.4	2.6	10.0	11.4	2.0	3.9	4.0	5.6	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	15.7	16.3	60.1	44.6	48.9	64.1	55.1	55.4	60.4	47.5	47.6
LnGrp LOS	C	B	B	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1116			1194			314			653	
Approach Delay, s/veh		16.9			47.1			57.0			51.0	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	71.5	17.5	20.5	42.4	39.6	10.5	27.5				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	13.0	40.0	23.0	28.0	12.0	* 41	10.0	* 41				
Max Q Clear Time (g_c+I1), s	8.0	16.4	14.4	11.3	5.8	26.6	6.3	18.2				
Green Ext Time (p_c), s	0.0	10.2	0.2	1.8	0.0	8.0	0.0	4.3				

### Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

### Notes

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

# HCM 6th Signalized Intersection Summary

## 2: Berry Street & Lambert Road

Existing  
AM Peak Hour

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑		↵	↑↑↑		↵	↑↑		↵	↑↑	
Traffic Volume (veh/h)	25	886	96	135	1062	90	43	140	63	163	372	27
Future Volume (veh/h)	25	886	96	135	1062	90	43	140	63	163	372	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	27	963	104	144	1130	96	58	189	85	220	503	36
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	2083	224	169	2540	216	73	262	113	246	692	49
Arrive On Green	0.01	0.16	0.16	0.10	0.56	0.56	0.04	0.11	0.11	0.15	0.22	0.22
Sat Flow, veh/h	1688	4433	478	1688	4542	386	1688	2288	990	1688	3187	228
Grp Volume(v), veh/h	27	700	367	144	802	424	58	137	137	220	265	274
Grp Sat Flow(s),veh/h/ln	1688	1612	1686	1688	1612	1703	1688	1683	1594	1688	1683	1731
Q Serve(g_s), s	1.9	23.7	23.8	10.1	17.5	17.5	4.1	9.4	10.0	15.4	17.6	17.7
Cycle Q Clear(g_c), s	1.9	23.7	23.8	10.1	17.5	17.5	4.1	9.4	10.0	15.4	17.6	17.7
Prop In Lane	1.00		0.28	1.00		0.23	1.00		0.62	1.00		0.13
Lane Grp Cap(c), veh/h	33	1516	792	169	1804	952	73	193	183	246	365	376
V/C Ratio(X)	0.83	0.46	0.46	0.85	0.44	0.45	0.79	0.71	0.75	0.89	0.73	0.73
Avail Cap(c_a), veh/h	84	1516	792	239	1804	952	141	352	333	323	534	550
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.59	0.59	0.59	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	36.9	36.9	53.1	15.5	15.5	56.9	51.2	51.4	50.3	43.7	43.7
Incr Delay (d2), s/veh	15.4	0.9	1.7	8.5	0.5	0.9	6.9	1.8	2.3	18.3	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.4	11.1	4.6	6.1	6.5	1.9	4.0	4.0	7.6	7.3	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	37.8	38.6	61.6	16.0	16.4	63.7	53.0	53.7	68.6	44.7	44.7
LnGrp LOS	E	D	D	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		1094			1370			332			759	
Approach Delay, s/veh		39.0			20.9			55.2			51.6	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	63.4	20.5	20.1	5.3	74.1	8.2	32.3				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	17.0	34.6	23.0	25.1	6.0	46.6	10.0	38.1				
Max Q Clear Time (g_c+I1), s	12.1	25.8	17.4	12.0	3.9	19.5	6.1	19.7				
Green Ext Time (p_c), s	0.1	5.4	0.2	1.8	0.0	13.1	0.0	4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				36.2								
HCM 6th LOS				D								

# HCM 6th Signalized Intersection Summary

## 3: Brea Boulevard & Lambert Road

Existing  
AM Peak Hour


































												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	111	954	248	204	1087	147	187	311	139	114	722	246
Future Volume (veh/h)	111	954	248	204	1087	147	187	311	139	114	722	246
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	128	1097	285	237	1264	171	243	404	181	119	752	256
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	1627	505	261	1728	234	294	927	414	141	906	404
Arrive On Green	0.09	0.34	0.34	0.15	0.40	0.40	0.09	0.28	0.28	0.08	0.27	0.27
Sat Flow, veh/h	1688	4837	1502	1688	4309	583	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	128	1097	285	237	946	489	243	404	181	119	752	256
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1667	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	9.0	23.4	18.7	16.6	29.8	29.8	8.8	11.9	11.9	8.3	25.2	18.0
Cycle Q Clear(g_c), s	9.0	23.4	18.7	16.6	29.8	29.8	8.8	11.9	11.9	8.3	25.2	18.0
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	1627	505	261	1293	669	294	927	414	141	906	404
V/C Ratio(X)	0.84	0.67	0.56	0.91	0.73	0.73	0.83	0.44	0.44	0.85	0.83	0.63
Avail Cap(c_a), veh/h	169	1627	505	267	1293	669	300	982	438	141	954	425
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)	0.80	0.80	0.80	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	34.2	32.6	49.9	30.5	30.5	53.7	35.8	35.8	54.2	41.3	38.6
Incr Delay (d2), s/veh	21.4	1.8	3.6	21.7	2.3	4.4	15.8	0.5	1.0	33.9	6.3	3.4
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	4.6	9.1	7.2	8.4	11.4	12.2	4.2	4.9	4.4	4.8	11.1	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	36.0	36.2	71.6	32.8	34.8	69.5	36.3	36.9	88.1	47.6	42.0
LnGrp LOS	E	D	D	E	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1510			1672			828			1127	
Approach Delay, s/veh		39.4			38.9			46.2			50.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.6	45.4	14.0	38.1	14.8	53.1	14.8	37.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	38.0	10.0	35.0	12.0	45.0	11.0	34.0				
Max Q Clear Time (g_c+I1), s	18.6	25.4	10.3	13.9	11.0	31.8	10.8	27.2				
Green Ext Time (p_c), s	0.0	10.2	0.0	7.0	0.0	11.4	0.0	5.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			42.8									
HCM 6th LOS			D									



# HCM 6th Signalized Intersection Summary

## 4: State College Boulevard & Lambert Road

Existing  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	7	966	235	496	1443	478	144	143	132	793	715	4
Future Volume (veh/h)	7	966	235	496	1443	478	144	143	132	793	715	4
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	8	1123	273	577	1678	556	192	271	122	933	841	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	15	1380	333	614	2238	1145	245	295	125	981	1065	6
Arrive On Green	0.00	0.28	0.28	0.38	0.93	0.93	0.07	0.08	0.08	0.30	0.31	0.31
Sat Flow, veh/h	3274	4939	1190	3274	4837	1502	3375	3544	1502	3274	3431	20
Grp Volume(v), veh/h	8	1039	357	577	1678	556	192	271	122	933	413	433
Grp Sat Flow(s),veh/h/ln	1637	1524	1558	1637	1612	1502	1688	1772	1502	1637	1683	1768
Q Serve(g_s), s	0.3	25.4	25.7	20.4	10.2	5.7	6.7	9.1	9.7	33.5	26.9	26.9
Cycle Q Clear(g_c), s	0.3	25.4	25.7	20.4	10.2	5.7	6.7	9.1	9.7	33.5	26.9	26.9
Prop In Lane	1.00		0.76	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	15	1278	435	614	2238	1145	245	295	125	981	522	549
V/C Ratio(X)	0.55	0.81	0.82	0.94	0.75	0.49	0.78	0.92	0.97	0.95	0.79	0.79
Avail Cap(c_a), veh/h	55	1278	435	627	2238	1145	253	295	125	1009	533	560
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	0.38	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	40.3	40.4	36.8	2.8	0.6	54.7	54.6	54.9	41.2	37.8	37.8
Incr Delay (d2), s/veh	8.0	4.1	11.6	10.6	0.9	0.6	13.1	31.3	72.2	17.2	7.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.6	10.9	7.0	1.4	0.6	3.2	5.3	6.1	15.4	11.7	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	44.4	52.0	47.4	3.7	1.1	67.8	85.9	127.0	58.4	44.8	44.5
LnGrp LOS	E	D	D	D	A	A	E	F	F	E	D	D
Approach Vol, veh/h		1404			2811			585			1779	
Approach Delay, s/veh		46.5			12.2			88.5			51.9	
Approach LOS		D			B			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.5	38.5	40.0	15.0	4.5	60.5	12.7	42.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	23.0	32.0	37.0	10.0	2.0	53.0	9.0	38.0				
Max Q Clear Time (g_c+I1), s	22.4	27.7	35.5	11.7	2.3	12.2	8.7	28.9				
Green Ext Time (p_c), s	0.1	3.4	0.5	0.0	0.0	26.5	0.0	4.7				

### Intersection Summary

HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Existing  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1325	512	200	1775	0	0	0	0	929	0	646
Future Volume (veh/h)	0	1325	512	200	1775	0	0	0	0	929	0	646
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1543	505	233	2064	0				1314	0	501
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1989	562	319	2463	0				1403	0	624
Arrive On Green	0.00	0.75	0.75	0.19	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1543	505	233	2064	0				1314	0	501
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	20.9	31.0	8.0	0.0	0.0				44.7	0.0	35.1
Cycle Q Clear(g_c), s	0.0	20.9	31.0	8.0	0.0	0.0				44.7	0.0	35.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1989	562	319	2463	0				1403	0	624
V/C Ratio(X)	0.00	0.78	0.90	0.73	0.84	0.00				0.94	0.00	0.80
Avail Cap(c_a), veh/h	0	1989	562	319	2463	0				1448	0	644
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.37	0.37	0.48	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.1	13.4	46.8	0.0	0.0				33.5	0.0	30.7
Incr Delay (d2), s/veh	0.0	1.1	8.8	4.1	1.8	0.0				11.5	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.3	5.4	3.1	0.4	0.0				20.1	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.2	22.2	50.9	1.8	0.0				45.0	0.0	37.8
LnGrp LOS	A	B	C	D	A	A				D	A	D
Approach Vol, veh/h		2048			2297						1815	
Approach Delay, s/veh		15.4			6.8						43.0	
Approach LOS		B			A						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.2	49.4		54.4		65.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	10.1	44.9		51.5		59.5						
Max Q Clear Time (g_c+I1), s	10.0	33.0		46.7		2.0						
Green Ext Time (p_c), s	0.0	8.6		3.2		26.5						

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

























Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 6: SR-57 NB Ramps & Lambert Road

Existing  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	294	1969	0	0	1091	457	864	0	430	0	0	0
Future Volume (veh/h)	294	1969	0	0	1091	457	864	0	430	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	330	2212	0	0	1408	456	982	0	489			
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	381	2757	0	0	2212	625	1162	0	533			
Arrive On Green	0.23	1.00	0.00	0.00	0.42	0.42	0.36	0.00	0.36			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	330	2212	0	0	1408	456	982	0	489			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	11.6	0.0	0.0	0.0	25.2	30.6	33.2	0.0	37.4			
Cycle Q Clear(g_c), s	11.6	0.0	0.0	0.0	25.2	30.6	33.2	0.0	37.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	381	2757	0	0	2212	625	1162	0	533			
V/C Ratio(X)	0.87	0.80	0.00	0.00	0.64	0.73	0.84	0.00	0.92			
Avail Cap(c_a), veh/h	450	2757	0	0	2212	625	1241	0	569			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.26	0.26	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	45.1	0.0	0.0	0.0	27.8	29.4	35.7	0.0	37.0			
Incr Delay (d2), s/veh	4.3	0.7	0.0	0.0	1.4	7.3	5.3	0.0	19.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.2	0.0	0.0	10.4	11.7	13.9	0.0	16.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	0.7	0.0	0.0	29.2	36.7	40.9	0.0	56.2			
LnGrp LOS	D	A	A	A	C	D	D	A	E			
Approach Vol, veh/h		2542			1864			1471				
Approach Delay, s/veh		7.0			31.1			46.0				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.9			18.5	54.4		47.1				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		65.5			16.5	44.5		45.5				
Max Q Clear Time (g_c+I1), s		2.0			13.6	32.6		39.4				
Green Ext Time (p_c), s		31.5			0.3	8.0		3.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				24.4								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane




























Existing  
 AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	12	306	49	58	528
Future Volume (veh/h)	7	12	306	49	58	528
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	12	20	382	61	69	629
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	70	62	2306	365	840	2666
Arrive On Green	0.04	0.04	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1688	1502	3000	461	947	3455
Grp Volume(v), veh/h	12	20	220	223	69	629
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1689	947	1683
Q Serve(g_s), s	0.4	0.8	1.9	1.9	1.1	2.9
Cycle Q Clear(g_c), s	0.4	0.8	1.9	1.9	3.0	2.9
Prop In Lane	1.00	1.00		0.27	1.00	
Lane Grp Cap(c), veh/h	70	62	1333	1338	840	2666
V/C Ratio(X)	0.17	0.32	0.16	0.17	0.08	0.24
Avail Cap(c_a), veh/h	619	551	1333	1338	840	2666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.54	0.54	0.64	0.64
Uniform Delay (d), s/veh	27.8	27.9	1.5	1.5	1.9	1.6
Incr Delay (d2), s/veh	1.2	3.0	0.1	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.1	0.1	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.9	30.9	1.6	1.6	2.0	1.7
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	32		443			698
Approach Delay, s/veh	30.2		1.6			1.8
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		52.5			52.5	7.5
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		28.0			28.0	22.0
Max Q Clear Time (g_c+I1), s		3.9			5.0	2.8
Green Ext Time (p_c), s		2.5			4.5	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			2.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Existing  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		  	  	
Traffic Volume (veh/h)	31	51	33	249	77	220	31	410	192	262	846	55
Future Volume (veh/h)	31	51	33	249	77	220	31	410	192	262	846	55
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	38	62	40	336	104	297	37	494	231	276	891	58
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	82	53	400	312	835	486	843	379	1244	1624	105
Arrive On Green	0.04	0.08	0.08	0.12	0.18	0.18	0.58	0.52	0.52	0.38	0.35	0.35
Sat Flow, veh/h	1688	1006	649	3274	1772	1502	1688	3263	1469	3274	4641	301
Grp Volume(v), veh/h	38	0	102	336	104	297	37	488	237	276	618	331
Grp Sat Flow(s),veh/h/ln	1688	0	1655	1637	1772	1502	1688	1612	1507	1637	1612	1718
Q Serve(g_s), s	2.7	0.0	7.2	12.0	6.2	2.0	1.2	12.6	13.3	6.9	18.5	18.6
Cycle Q Clear(g_c), s	2.7	0.0	7.2	12.0	6.2	2.0	1.2	12.6	13.3	6.9	18.5	18.6
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.97	1.00		0.18
Lane Grp Cap(c), veh/h	61	0	134	400	312	835	486	833	389	1244	1129	601
V/C Ratio(X)	0.63	0.00	0.76	0.84	0.33	0.36	0.08	0.59	0.61	0.22	0.55	0.55
Avail Cap(c_a), veh/h	98	0	455	546	679	1146	486	833	389	1244	1129	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	0.0	54.0	51.5	43.3	7.1	18.3	24.5	24.7	25.2	31.4	31.4
Incr Delay (d2), s/veh	10.2	0.0	8.5	8.4	0.6	0.3	0.1	2.8	6.4	0.1	1.9	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	3.3	5.4	2.8	2.7	0.5	4.1	4.4	2.7	7.4	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	0.0	62.4	59.9	43.9	7.3	18.4	27.3	31.1	25.3	33.3	35.0
LnGrp LOS	E	A	E	E	D	A	B	C	C	C	C	C
Approach Vol, veh/h		140			737			762			1225	
Approach Delay, s/veh		63.7			36.5			28.1			31.9	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	49.6	36.0	19.7	14.7	38.6	47.0	8.3	26.1				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	18.0	31.0	20.0	* 33	7.0	42.0	7.0	46.0				
Max Q Clear Time (g_c+I1), s	8.9	15.3	14.0	9.2	3.2	20.6	4.7	8.2				
Green Ext Time (p_c), s	0.6	4.2	0.6	0.5	0.0	6.3	0.0	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.6								
HCM 6th LOS				C								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 9: Puente Street & Imperial Highway

Existing  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕	↖	↖	↕	↖	↖	↕↕	↖
Traffic Volume (veh/h)	182	1452	62	67	1238	150	50	118	163	112	78	114
Future Volume (veh/h)	182	1452	62	67	1238	150	50	118	163	112	78	114
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	209	1669	71	72	1331	161	59	139	192	137	95	139
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	2419	103	249	2531	786	285	388	329	220	738	329
Arrive On Green	0.14	0.51	0.51	0.30	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1688	4758	202	1688	4837	1502	1146	1772	1502	1049	3367	1502
Grp Volume(v), veh/h	209	1131	609	72	1331	161	59	139	192	137	95	139
Grp Sat Flow(s),veh/h/ln	1688	1612	1736	1688	1612	1502	1146	1772	1502	1049	1683	1502
Q Serve(g_s), s	14.6	31.9	31.9	3.9	0.0	0.0	5.2	8.0	13.7	15.3	2.7	9.6
Cycle Q Clear(g_c), s	14.6	31.9	31.9	3.9	0.0	0.0	8.0	8.0	13.7	23.2	2.7	9.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	1639	882	249	2531	786	285	388	329	220	738	329
V/C Ratio(X)	0.88	0.69	0.69	0.29	0.53	0.20	0.21	0.36	0.58	0.62	0.13	0.42
Avail Cap(c_a), veh/h	352	1639	882	249	2531	786	359	502	425	288	954	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.21	0.21	0.21	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	50.5	22.3	22.3	37.5	0.0	0.0	40.8	39.7	41.9	49.5	37.6	40.3
Incr Delay (d2), s/veh	15.6	2.4	4.4	0.1	0.2	0.1	0.4	0.6	1.6	1.9	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	11.7	13.1	1.5	0.0	0.0	1.5	3.5	5.1	4.0	1.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	24.7	26.8	37.6	0.2	0.1	41.2	40.3	43.6	51.4	37.7	40.9
LnGrp LOS	E	C	C	D	A	A	D	D	D	D	D	D
Approach Vol, veh/h		1949			1564			390			371	
Approach Delay, s/veh		29.8			1.9			42.0			44.0	
Approach LOS		C			A			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.3	22.7	66.0		31.3	20.9	67.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		34.0	11.0	* 61		34.0	25.0	47.0				
Max Q Clear Time (g_c+I1), s		15.7	5.9	33.9		25.2	16.6	2.0				
Green Ext Time (p_c), s		1.5	0.0	13.6		1.1	0.3	12.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 10: Berry Street & Imperial Highway

Existing  
AM Peak Hour






































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑		↰	↑↑↑			↑↑		↰	↑	↰
Traffic Volume (veh/h)	155	1680	4	56	1643	278	2	26	29	296	15	170
Future Volume (veh/h)	155	1680	4	56	1643	278	2	26	29	296	15	170
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	161	1750	4	66	1933	327	4	46	51	403	0	224
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	3070	7	84	1880	313	7	83	77	422	0	188
Arrive On Green	0.41	1.00	1.00	0.03	0.30	0.30	0.05	0.05	0.05	0.13	0.00	0.13
Sat Flow, veh/h	1688	4983	11	1688	4177	695	141	1624	1502	3375	0	1502
Grp Volume(v), veh/h	161	1132	622	66	1485	775	50	0	51	403	0	224
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1647	1765	0	1502	1688	0	1502
Q Serve(g_s), s	8.3	0.0	0.0	4.7	54.0	54.0	3.3	0.0	4.0	14.2	0.0	15.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	4.7	54.0	54.0	3.3	0.0	4.0	14.2	0.0	15.0
Prop In Lane	1.00		0.01	1.00		0.42	0.08		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	350	1987	1090	84	1451	741	90	0	77	422	0	188
V/C Ratio(X)	0.46	0.57	0.57	0.79	1.02	1.05	0.55	0.00	0.66	0.96	0.00	1.19
Avail Cap(c_a), veh/h	350	1987	1090	127	1451	741	309	0	263	422	0	188
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.34	0.34	0.34	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	30.3	0.0	0.0	57.4	41.9	41.9	55.6	0.0	55.9	52.2	0.0	52.5
Incr Delay (d2), s/veh	0.8	1.0	1.7	6.4	20.2	32.5	5.2	0.0	9.4	32.2	0.0	127.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.3	0.5	2.1	25.7	28.8	1.6	0.0	1.7	7.8	0.0	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	1.0	1.7	63.8	62.1	74.4	60.8	0.0	65.3	84.4	0.0	179.6
LnGrp LOS	C	A	A	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		1915			2326			101			627	
Approach Delay, s/veh		3.7			66.2			63.1			118.4	
Approach LOS		A			E			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.1	9.9	78.9		20.0	29.9	59.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		21.0	9.0	56.0		15.0	11.0	* 54				
Max Q Clear Time (g_c+I1), s		6.0	6.7	2.0		17.0	10.3	56.0				
Green Ext Time (p_c), s		0.4	0.0	17.7		0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				48.7								
HCM 6th LOS				D								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Existing  
 AM Peak Hour
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	 	
Traffic Volume (veh/h)	139	1526	348	166	1362	61	419	427	159	121	836	151
Future Volume (veh/h)	139	1526	348	166	1362	61	419	427	159	121	836	151
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	145	1590	362	182	1497	67	537	547	204	127	880	159
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1612	501	1075	3000	931	546	1854	576	218	982	438
Arrive On Green	0.10	0.67	0.67	0.33	0.62	0.62	0.17	0.38	0.38	0.13	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	145	1590	362	182	1497	67	537	547	204	127	880	159
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	5.2	38.4	19.6	4.7	20.4	2.8	19.6	9.4	11.6	4.4	27.4	6.7
Cycle Q Clear(g_c), s	5.2	38.4	19.6	4.7	20.4	2.8	19.6	9.4	11.6	4.4	27.4	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	1612	501	1075	3000	931	546	1854	576	218	982	438
V/C Ratio(X)	0.89	0.99	0.72	0.17	0.50	0.07	0.98	0.29	0.35	0.58	0.90	0.36
Avail Cap(c_a), veh/h	164	1612	501	1075	3000	931	546	1854	576	246	982	438
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.65	0.65	0.65	0.57	0.57	0.57	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	53.7	19.7	18.3	28.6	12.5	16.2	49.8	25.7	26.4	50.4	23.4	19.1
Incr Delay (d2), s/veh	29.1	15.1	5.8	0.0	0.3	0.1	34.4	0.4	1.7	2.5	11.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.4	4.9	1.8	6.7	0.7	10.4	3.6	4.3	1.8	8.6	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	34.8	24.1	28.7	12.9	16.3	84.2	26.1	28.1	52.9	34.7	21.2
LnGrp LOS	F	C	C	C	B	B	F	C	C	D	C	C
Approach Vol, veh/h		2097			1746			1288			1166	
Approach Delay, s/veh		36.3			14.7			50.7			34.9	
Approach LOS		D			B			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	51.0	45.2	45.0	24.0	40.0	10.0	80.2				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	9.0	* 46	7.0	* 40	20.0	35.0	6.0	41.0				
Max Q Clear Time (g_c+I1), s	6.4	13.6	6.7	40.4	21.6	29.4	7.2	22.4				
Green Ext Time (p_c), s	0.1	4.5	0.0	0.0	0.0	3.0	0.0	10.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



# HCM 6th Signalized Intersection Summary

## 12: State College Boulevard & Imperial Highway

Existing  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1549	221	470	1520	159	145	160	403	90	498	37
Future Volume (veh/h)	55	1549	221	470	1520	159	145	160	403	90	498	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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	63	1780	254	511	1652	173	179	198	498	101	560	42
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	663	1810	258	1018	2136	736	218	1072	478	158	926	69
Arrive On Green	0.20	0.33	0.33	0.31	0.44	0.44	0.07	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	3274	5429	775	3274	4837	1502	3274	3367	1502	3274	3175	238
Grp Volume(v), veh/h	63	1499	535	511	1652	173	179	198	498	101	296	306
Grp Sat Flow(s),veh/h/ln	1637	1524	1632	1637	1612	1502	1637	1683	1502	1637	1683	1729
Q Serve(g_s), s	1.9	39.0	39.0	15.3	34.7	5.6	6.5	5.1	25.6	3.6	18.2	18.2
Cycle Q Clear(g_c), s	1.9	39.0	39.0	15.3	34.7	5.6	6.5	5.1	25.6	3.6	18.2	18.2
Prop In Lane	1.00		0.47	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	663	1524	544	1018	2136	736	218	1072	478	158	491	504
V/C Ratio(X)	0.10	0.98	0.98	0.50	0.77	0.24	0.82	0.18	1.04	0.64	0.60	0.61
Avail Cap(c_a), veh/h	663	1524	544	1018	2136	736	218	1072	478	164	491	504
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)	0.34	0.34	0.34	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	39.7	39.7	33.8	28.4	12.6	55.3	29.6	18.4	56.1	36.5	36.6
Incr Delay (d2), s/veh	0.0	10.1	18.9	0.4	2.8	0.8	21.4	0.4	52.4	7.7	5.4	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	15.3	17.7	5.9	13.1	1.3	3.3	2.1	15.1	1.6	8.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	49.8	58.6	34.2	31.2	13.3	76.7	30.0	70.8	63.8	42.0	41.9
LnGrp LOS	D	D	E	C	C	B	E	C	F	E	D	D
Approach Vol, veh/h		2097			2336			875			703	
Approach Delay, s/veh		51.7			30.5			62.7			45.1	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	43.2	41.6	45.0	13.0	40.0	28.6	58.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0				
Max Green Setting (Gmax), s	6.0	37.0	19.0	40.0	8.0	* 35	6.0	53.0				
Max Q Clear Time (g_c+I1), s	5.6	27.6	17.3	41.0	8.5	20.2	3.9	36.7				
Green Ext Time (p_c), s	0.0	2.2	0.4	0.0	0.0	3.0	0.0	10.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			44.3									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 13: Imperial Highway & SR-57 SB Ramps

Existing  
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (veh/h)	0	1438	1668	0	591	513
Future Volume (veh/h)	0	1438	1668	0	591	513
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1563	1853	0	789	400
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2257	2257	0	1238	551
Arrive On Green	0.00	0.47	0.47	0.00	0.37	0.37
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1563	1853	0	789	400
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	15.3	19.9	0.0	11.6	13.8
Cycle Q Clear(g_c), s	0.0	15.3	19.9	0.0	11.6	13.8
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2257	2257	0	1238	551
V/C Ratio(X)	0.00	0.69	0.82	0.00	0.64	0.73
Avail Cap(c_a), veh/h	0	2257	2257	0	1238	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.6	13.8	0.0	15.7	16.4
Incr Delay (d2), s/veh	0.0	1.8	3.5	0.0	2.5	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.5	6.1	0.0	4.4	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	14.4	17.3	0.0	18.2	24.5
LnGrp LOS	A	B	B	A	B	C
Approach Vol, veh/h		1563	1853		1189	
Approach Delay, s/veh		14.4	17.3		20.4	
Approach LOS		B	B		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				33.0	27.0	33.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				28.0	22.0	28.0
Max Q Clear Time (g_c+I1), s				17.3	15.8	21.9
Green Ext Time (p_c), s				7.0	2.7	4.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			17.1			
HCM 6th LOS			B			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Existing  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↔	↗			↗↗
Traffic Volume (veh/h)	126	1333	0	0	956	6	852	152	793	0	0	55
Future Volume (veh/h)	126	1333	0	0	956	6	852	152	793	0	0	55
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	135	1433	0	0	1099	7	884	574	718	0	0	83
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	309	2096	0	0	1312	8	1631	856	726	0	0	0
Arrive On Green	0.18	0.43	0.00	0.00	0.21	0.21	0.48	0.48	0.48	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6544	40	3375	1772	1502			0
Grp Volume(v), veh/h	135	1433	0	0	798	308	884	574	718			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1765	1688	1772	1502			
Q Serve(g_s), s	8.5	28.6	0.0	0.0	20.1	20.1	22.0	29.7	56.8			
Cycle Q Clear(g_c), s	8.5	28.6	0.0	0.0	20.1	20.1	22.0	29.7	56.8			
Prop In Lane	1.00		0.00	0.00		0.02	1.00		1.00			
Lane Grp Cap(c), veh/h	309	2096	0	0	952	368	1631	856	726			
V/C Ratio(X)	0.44	0.68	0.00	0.00	0.84	0.84	0.54	0.67	0.99			
Avail Cap(c_a), veh/h	309	2096	0	0	952	368	1631	856	726			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	43.5	27.4	0.0	0.0	45.6	45.6	21.7	23.7	30.7			
Incr Delay (d2), s/veh	1.0	1.8	0.0	0.0	8.7	19.9	1.3	4.2	30.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	10.7	0.0	0.0	8.1	10.6	8.9	13.2	25.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	29.2	0.0	0.0	54.3	65.5	23.0	27.8	61.6			
LnGrp LOS	D	C	A	A	D	E	C	C	E			
Approach Vol, veh/h		1568			1106			2176				
Approach Delay, s/veh		30.5			57.4			37.0				
Approach LOS		C			E			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		63.0		57.0			27.0	30.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		58.0		41.0			12.0	* 25				
Max Q Clear Time (g_c+I1), s		58.8		30.6			10.5	22.1				
Green Ext Time (p_c), s		0.0		6.3			0.0	1.8				

Intersection Summary

HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶↶		↶	↶↶	
Traffic Volume (vph)	67	843	84	77	975	35	54	159	66	159	367	61
Future Volume (vph)	67	843	84	77	975	35	54	159	66	159	367	61
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.986			0.995			0.956			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4750	0	1676	4794	0	1676	3205	0	1676	3283	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4750	0	1676	4794	0	1676	3205	0	1676	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			5			49			17	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	75	947	94	85	1071	38	61	179	74	177	408	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	1041	0	85	1109	0	61	253	0	177	476	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	15.0	45.0		16.0	46.0		13.0	33.0		26.0	46.0	
Total Split (%)	12.5%	37.5%		13.3%	38.3%		10.8%	27.5%		21.7%	38.3%	
Maximum Green (s)	12.0	40.0		13.0	41.0		10.0	28.0		23.0	41.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.1	62.8		10.0	62.6		10.8	16.1		16.9	23.8	
Actuated g/C Ratio	0.08	0.52		0.08	0.52		0.09	0.13		0.14	0.20	
v/c Ratio	0.53	0.42		0.61	0.44		0.41	0.54		0.75	0.72	
Control Delay	65.9	20.8		72.1	7.2		52.3	36.2		68.5	49.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.9	20.8		72.1	7.2		52.3	36.2		68.5	49.8	
LOS	E	C		E	A		D	D		E	D	
Approach Delay		23.8			11.8			39.3			54.9	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	56	171		52	26		50	95		133	179	
Queue Length 95th (ft)	105	293		90	358		m89	132		201	226	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	167	2493		181	2502		176	785		321	1132	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.42		0.47	0.44		0.35	0.32		0.55	0.42	

Intersection Summary

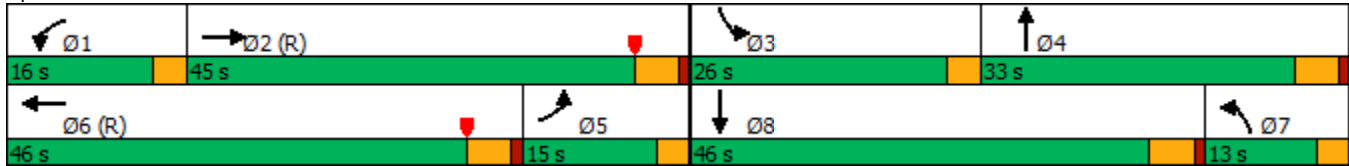
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Existing  
 AM Peak Hour

Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕↕↕		↘	↕↕↕		↘	↕↕		↘	↕↕	
Traffic Volume (vph)	25	886	96	135	1062	90	43	140	63	163	372	27
Future Volume (vph)	25	886	96	135	1062	90	43	140	63	163	372	27
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985			0.988			0.953			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4745	0	1676	4760	0	1676	3195	0	1676	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4745	0	1676	4760	0	1676	3195	0	1676	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			13			55			6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	27	963	104	144	1130	96	58	189	85	220	503	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1067	0	144	1226	0	58	274	0	220	539	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	9.0	41.6		21.0	53.6		13.0	31.4		26.0	44.4	
Total Split (%)	7.5%	34.7%		17.5%	44.7%		10.8%	26.2%		21.7%	37.0%	
Maximum Green (s)	6.0	34.6		17.0	46.6		10.0	25.1		23.0	38.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.9	51.6		13.9	63.8		8.1	15.0		19.2	27.7	
Actuated g/C Ratio	0.05	0.43		0.12	0.53		0.07	0.12		0.16	0.23	
v/c Ratio	0.33	0.52		0.74	0.48		0.52	0.61		0.82	0.70	
Control Delay	67.8	24.4		77.1	8.3		66.2	34.8		72.4	46.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	67.8	24.4		77.1	8.3		66.2	34.8		72.4	46.7	
LOS	E	C		E	A		E	C		E	D	
Approach Delay		25.5			15.5			40.3			54.2	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	18	243		107	29		43	87		165	207	
Queue Length 95th (ft)	m45	342		m124	339		61	114		196	182	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	89	2048		237	2535		139	711		321	1057	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.30	0.52		0.61	0.48		0.42	0.39		0.69	0.51	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 31.6 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

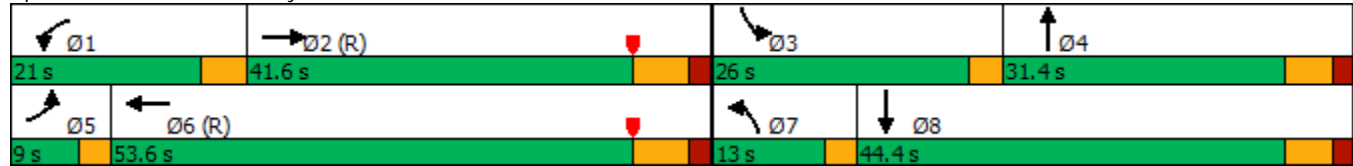


Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Existing  
 AM Peak Hour































Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 29.2	Intersection LOS: C
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road



Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (vph)	111	954	248	204	1087	147	187	311	139	114	722	246
Future Volume (vph)	111	954	248	204	1087	147	187	311	139	114	722	246
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.982				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4731	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4731	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		23				181			220
Link Speed (mph)		45		45				35			35	
Link Distance (ft)		3309		3979				1995			706	
Travel Time (s)		50.1		60.3				38.9			13.8	
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Adj. Flow (vph)	128	1097	285	237	1264	171	243	404	181	119	752	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	1097	285	237	1435	0	243	404	181	119	752	256
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24				24			24	
Link Offset(ft)		0		0				0			0	
Crosswalk Width(ft)		16		16				16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117				117			117	
Detector 2 Size(ft)		6		6				6			6	
Detector 2 Type		Cl+Ex		Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0				0.0			0.0	
Detector 3 Position(ft)		234		234				234			234	
Detector 3 Size(ft)		6		6				6			6	
Detector 3 Type		Cl+Ex		Cl+Ex				Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	16.0	43.0	43.0	23.0	50.0		15.0	40.0	40.0	14.0	39.0	39.0
Total Split (%)	13.3%	35.8%	35.8%	19.2%	41.7%		12.5%	33.3%	33.3%	11.7%	32.5%	32.5%
Maximum Green (s)	12.0	38.0	38.0	19.0	45.0		11.0	35.0	35.0	10.0	34.0	34.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	11.3	39.3	39.3	18.4	46.3		10.8	34.5	34.5	9.8	33.5	33.5
Actuated g/C Ratio	0.09	0.33	0.33	0.15	0.39		0.09	0.29	0.29	0.08	0.28	0.28
v/c Ratio	0.81	0.70	0.44	0.92	0.78		0.83	0.42	0.32	0.87	0.80	0.44
Control Delay	95.2	29.5	6.1	87.3	15.9		84.2	28.4	3.9	103.5	47.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.2	29.5	6.1	87.3	15.9		84.2	28.4	3.9	103.5	47.7	9.5
LOS	F	C	A	F	B		F	C	A	F	D	A
Approach Delay		30.6			26.0			39.4			44.9	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	88	303	95	145	273		92	151	2	93	283	21
Queue Length 95th (ft)	m#190	119	15	m#295	208		124	81	4	#202	359	90
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	167	1576	652	265	1841		298	977	565	139	950	582
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.70	0.44	0.89	0.78		0.82	0.41	0.32	0.86	0.79	0.44

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

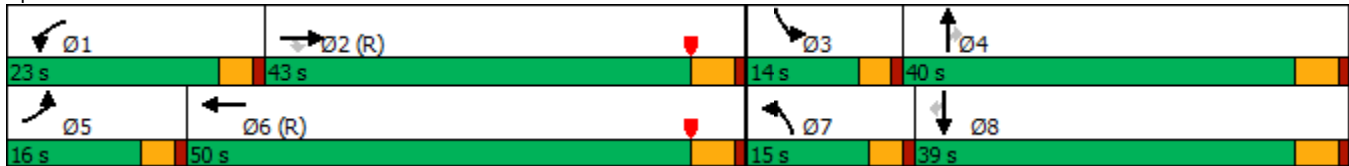
# Lanes, Volumes, Timings

## 3: Brea Boulevard & Lambert Road

Existing  
AM Peak Hour

Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 33.7	Intersection LOS: C
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (vph)	7	966	235	496	1443	478	144	143	132	793	715	4
Future Volume (vph)	7	966	235	496	1443	478	144	143	132	793	715	4
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.971				0.850		0.963	0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5895	0	3252	4818	1500	3252	3093	1365	3252	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5895	0	3252	4818	1500	3252	3093	1365	3252	3350	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						140		27	164			
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Adj. Flow (vph)	8	1123	273	577	1678	556	192	191	176	933	841	5
Shared Lane Traffic (%)									36%			
Lane Group Flow (vph)	8	1396	0	577	1678	556	192	254	113	933	846	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3		8
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3		8
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0		10.0
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0		33.0
Total Split (s)	6.0	37.0		27.0	58.0	41.0	13.0	15.0	15.0	41.0		43.0
Total Split (%)	5.0%	30.8%		22.5%	48.3%	34.2%	10.8%	12.5%	12.5%	34.2%		35.8%
Maximum Green (s)	2.0	32.0		23.0	53.0	37.0	9.0	10.0	10.0	37.0		38.0
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0		5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None		Min
Walk Time (s)		5.0			5.0							5.0
Flash Dont Walk (s)		19.0			15.0							23.0
Pedestrian Calls (#/hr)		2			2							2
Act Effct Green (s)	2.5	33.0		22.6	58.4	99.7	8.9	10.1	10.1	36.3		37.5
Actuated g/C Ratio	0.02	0.28		0.19	0.49	0.83	0.07	0.08	0.08	0.30		0.31
v/c Ratio	0.12	0.86		0.94	0.72	0.44	0.80	0.89	0.43	0.95		0.81
Control Delay	81.4	24.8		77.4	22.1	1.4	79.1	81.2	7.2	59.8		45.0
Queue Delay	0.0	1.4		0.0	0.9	0.6	0.0	0.0	0.0	0.0		0.0
Total Delay	81.4	26.2		77.4	23.0	2.0	79.1	81.2	7.2	59.8		45.0
LOS	F	C		E	C	A	E	F	A	E		D
Approach Delay		26.5			30.0			65.5				52.8
Approach LOS		C			C			E				D
Queue Length 50th (ft)	3	331		244	253	24	76	97	0	360		314
Queue Length 95th (ft)	m5	254		m#300	310	m38	96	#128	0	#436		364
Internal Link Dist (ft)		3899			382			1336				981
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	67	1621		623	2345	1277	243	284	265	1002		1060
Starvation Cap Reductn	0	0		0	369	362	0	0	0	0		0
Spillback Cap Reductn	0	93		0	0	0	0	0	2	0		0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0		0
Reduced v/c Ratio	0.12	0.91		0.93	0.85	0.61	0.79	0.89	0.43	0.93		0.80

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 21 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1325	512	200	1775	0	0	0	0	929	0	646
Future Volume (vph)	0	1325	512	200	1775	0	0	0	0	929	0	646
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.989	0.850								0.957	0.850
Flt Protected				0.950						0.950	0.966	
Satd. Flow (prot)	0	4503	1290	3252	4818	0	0	0	0	1593	1485	1425
Flt Permitted				0.950						0.950	0.966	
Satd. Flow (perm)	0	4503	1290	3252	4818	0	0	0	0	1593	1485	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11	450								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95	0.86	0.86	0.86
Adj. Flow (vph)	0	1456	563	233	2064	0	0	0	0	1080	0	751
Shared Lane Traffic (%)			20%							41%		24%
Lane Group Flow (vph)	0	1569	450	233	2064	0	0	0	0	637	623	571
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		49.4	49.4	14.6	64.0					56.0	56.0	56.0
Total Split (%)		41.2%	41.2%	12.2%	53.3%					46.7%	46.7%	46.7%
Maximum Green (s)		44.9	44.9	10.1	59.5					51.5	51.5	51.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		45.2	45.2	10.1	59.8					51.2	51.2	51.2
Actuated g/C Ratio		0.38	0.38	0.08	0.50					0.43	0.43	0.43
v/c Ratio		0.92	0.59	0.85	0.86					0.94	0.94	0.89
Control Delay		36.2	6.5	70.0	26.7					55.9	53.2	47.0
Queue Delay		3.3	0.7	0.0	1.1					0.0	0.0	0.0
Total Delay		39.6	7.2	70.0	27.7					55.9	53.2	47.0
LOS		D	A	E	C					E	D	D
Approach Delay		32.4			32.0						52.2	
Approach LOS		C			C						D	
Queue Length 50th (ft)		244	61	95	286					485	462	389
Queue Length 95th (ft)		m#399	m79	m#130	341					#681	#672	#574
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1702	766	273	2399					683	668	642
Starvation Cap Reductn		80	101	0	142					0	0	0
Spillback Cap Reductn		25	0	0	74					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.97	0.68	0.85	0.91					0.93	0.93	0.89

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 24.9 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 38.1  
 Intersection Capacity Utilization 82.4%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

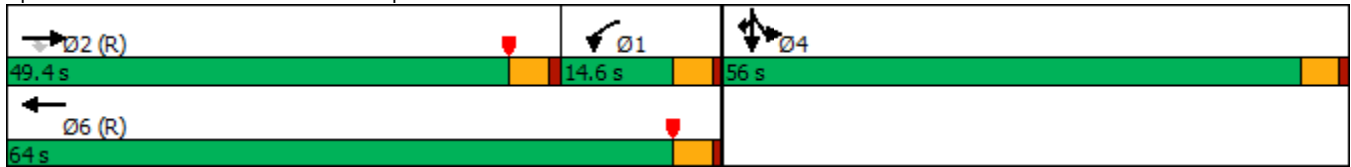
Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Existing  
 AM Peak Hour

Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	294	1969	0	0	1091	457	864	0	430	0	0	0
Future Volume (vph)	294	1969	0	0	1091	457	864	0	430	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.986	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4489	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4489	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15	409			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88	0.95	0.95	0.95
Adj. Flow (vph)	330	2212	0	0	1284	538	982	0	489	0	0	0
Shared Lane Traffic (%)						24%						
Lane Group Flow (vph)	330	2212	0	0	1413	409	982	0	489	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	21.0	70.0			49.0	49.0	50.0		50.0			
Total Split (%)	17.5%	58.3%			40.8%	40.8%	41.7%		41.7%			
Maximum Green (s)	16.5	65.5			44.5	44.5	45.5		45.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	15.8	68.7			48.4	48.4	42.3		42.3			
Actuated g/C Ratio	0.13	0.57			0.40	0.40	0.35		0.35			
v/c Ratio	0.77	0.80			0.78	0.54	0.86		0.87			
Control Delay	60.6	10.3			35.2	5.4	44.2		48.5			
Queue Delay	0.0	0.6			0.2	0.0	0.0		0.0			
Total Delay	60.6	10.9			35.4	5.4	44.2		48.5			
LOS	E	B			D	A	D		D			
Approach Delay		17.4			28.7			45.7				
Approach LOS		B			C			D				
Queue Length 50th (ft)	130	285			381	0	350		308			
Queue Length 95th (ft)	m140	306			412	55	414		#438			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	452	2758			1821	764	1233		602			
Starvation Cap Reductn	0	209			0	0	0		0			
Spillback Cap Reductn	0	0			58	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.73	0.87			0.80	0.54	0.80		0.81			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 33.5 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.0 Intersection LOS: C  
 Intersection Capacity Utilization 82.4% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings  
 6: SR-57 NB Ramps & Lambert Road

Existing  
 AM Peak Hour

Queue shown is maximum after two cycles.












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	12	306	49	58	528
Future Volume (vph)	7	12	306	49	58	528
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.979			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3283	0	1676	3353
Flt Permitted	0.950				0.495	
Satd. Flow (perm)	1676	1500	3283	0	874	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20	40			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Adj. Flow (vph)	12	20	383	61	69	629
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	20	444	0	69	629
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing  
AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	27.0	27.0	33.0		33.0	33.0
Total Split (%)	45.0%	45.0%	55.0%		55.0%	55.0%
Maximum Green (s)	22.0	22.0	28.0		28.0	28.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	8.3	8.2	51.4		51.4	51.4
Actuated g/C Ratio	0.14	0.14	0.86		0.86	0.86
v/c Ratio	0.05	0.09	0.16		0.09	0.22
Control Delay	20.1	10.0	2.2		4.2	3.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	20.1	10.0	2.2		4.2	3.4
LOS	C	A	A		A	A
Approach Delay	13.8		2.2			3.4
Approach LOS	B		A			A
Queue Length 50th (ft)	4	0	0		0	0
Queue Length 95th (ft)	9	7	m53		m30	94
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	614	562	2817		748	2871
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.02	0.04	0.16		0.09	0.22

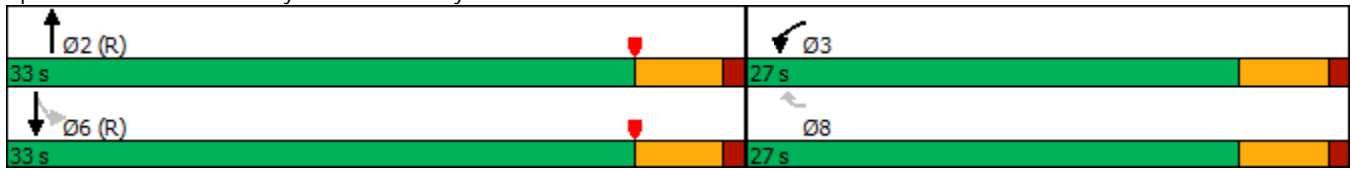
Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 36 (60%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.22  
 Intersection Signal Delay: 3.3  
 Intersection LOS: A  
 Intersection Capacity Utilization 33.1%  
 ICU Level of Service A  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing  
AM Peak Hour

Splits and Phases: 7: Berry Street & Mercury Lane





Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	51	33	249	77	220	31	410	192	262	846	55
Future Volume (vph)	31	51	33	249	77	220	31	410	192	262	846	55
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.941				0.850		0.952			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1661	0	3252	1765	1500	1676	4586	0	3252	4774	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1661	0	3252	1765	1500	1676	4586	0	3252	4774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				156		95			9	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Adj. Flow (vph)	38	62	40	336	104	297	37	494	231	276	891	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	102	0	336	104	297	37	725	0	276	949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	11.0	38.0		24.0	51.0	22.0	11.0	36.0		22.0	47.0	
Total Split (%)	9.2%	31.7%		20.0%	42.5%	18.3%	9.2%	30.0%		18.3%	39.2%	
Maximum Green (s)	7.0	33.0		20.0	46.0	18.0	7.0	31.0		18.0	42.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	6.8	14.3		17.1	28.9	47.3	6.8	54.7		15.8	67.9	
Actuated g/C Ratio	0.06	0.12		0.14	0.24	0.39	0.06	0.46		0.13	0.57	
v/c Ratio	0.40	0.46		0.72	0.25	0.43	0.39	0.34		0.65	0.35	
Control Delay	67.7	39.9		58.4	36.5	9.8	72.1	12.7		45.6	8.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	67.7	39.9		58.4	36.5	9.8	72.1	12.7		45.6	8.4	
LOS	E	D		E	D	A	E	B		D	A	
Approach Delay		47.4			35.7			15.6			16.8	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	29	56		129	71	63	30	49		106	41	
Queue Length 95th (ft)	60	80		140	75	48	m57	193		m144	m266	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	97	476		542	676	685	97	2143		487	2705	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.39	0.21		0.62	0.15	0.43	0.38	0.34		0.57	0.35	

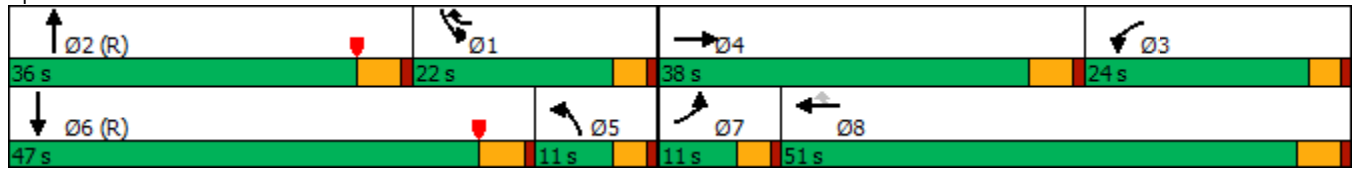
Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	22.9
Intersection LOS:	C
Intersection Capacity Utilization:	49.4%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Lanes, Volumes, Timings  
 8: Brea Boulevard & Birch Street
























Existing  
 AM Peak Hour

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Existing  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1452	62	67	1238	150	50	118	163	112	78	114
Future Volume (vph)	182	1452	62	67	1238	150	50	118	163	112	78	114
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4789	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.692			0.565		
Satd. Flow (perm)	1676	4789	0	1676	4818	1500	1221	1765	1500	997	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				161			173			139
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		713			2627			1029			2657	
Travel Time (s)		10.8			39.8			17.5			45.3	
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Adj. Flow (vph)	209	1669	71	72	1331	161	59	139	192	137	95	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1740	0	72	1331	161	59	139	192	137	95	139
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	29.0	66.0		15.0	52.0	52.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	24.2%	55.0%		12.5%	43.3%	43.3%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	25.0	61.0		11.0	47.0	47.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	19.7	76.8		10.1	65.1	65.1	21.2	21.2	21.2	21.2	21.2	21.2
Actuated g/C Ratio	0.16	0.64		0.08	0.54	0.54	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.76	0.57		0.51	0.51	0.18	0.27	0.45	0.47	0.78	0.16	0.37
Control Delay	65.2	15.2		62.3	28.4	11.6	42.7	46.7	11.3	50.7	22.6	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	15.2		62.3	28.4	11.6	42.7	46.7	11.3	50.7	22.6	4.8
LOS	E	B		E	C	B	D	D	B	D	C	A
Approach Delay		20.6			28.2			28.6			26.3	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	156	271		48	238	33	40	98	13	39	14	0
Queue Length 95th (ft)	221	401		m52	m267	m41	67	131	57	70	26	10
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	349	3067		153	2613	887	345	500	548	282	950	524
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.57		0.47	0.51	0.18	0.17	0.28	0.35	0.49	0.10	0.27

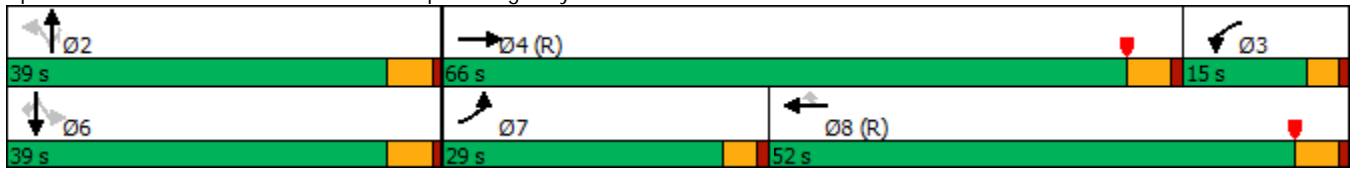
Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	111 (93%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	24.6
Intersection LOS:	C
Intersection Capacity Utilization:	61.0%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing  
 AM Peak Hour

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗			↗↗		↗	↗	↗
Traffic Volume (vph)	155	1680	4	56	1643	278	2	26	29	296	15	170
Future Volume (vph)	155	1680	4	56	1643	278	2	26	29	296	15	170
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.978			0.924				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.957	
Satd. Flow (prot)	1676	4818	0	1676	4712	0	0	3092	0	1593	1604	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.957	
Satd. Flow (perm)	1676	4818	0	1676	4712	0	0	3092	0	1593	1604	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					36			51				224
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Adj. Flow (vph)	161	1750	4	66	1933	327	4	46	51	389	20	224
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	161	1754	0	66	2260	0	0	101	0	202	207	224
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		26.0	26.0		11.0	11.0	11.0
Total Split (s)	15.0	61.0		13.0	59.0		26.0	26.0		20.0	20.0	20.0
Total Split (%)	12.5%	50.8%		10.8%	49.2%		21.7%	21.7%		16.7%	16.7%	16.7%
Maximum Green (s)	11.0	56.0		9.0	54.0		21.0	21.0		15.0	15.0	15.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		14.0	14.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effect Green (s)	11.0	61.9		8.6	57.4		9.8	9.8		22.7	22.7	22.7
Actuated g/C Ratio	0.09	0.52		0.07	0.48		0.08	0.08		0.19	0.19	0.19
v/c Ratio	1.05	0.71		0.55	0.99		0.34	0.34		0.67	0.68	0.48
Control Delay	125.4	14.3		48.3	56.6		29.1	29.1		61.7	62.4	25.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	125.4	14.3		48.3	56.6		29.1	29.1		61.7	62.4	25.3
LOS	F	B		D	E		C	C		E	E	C
Approach Delay		23.6			56.3		29.1	29.1			49.1	
Approach LOS		C			E		C	C			D	
Queue Length 50th (ft)	~137	408		47	680		20	20		173	177	95
Queue Length 95th (ft)	#277	147		m56	m#731		20	20		#265	#272	101
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	153	2483		129	2274		583	583		301	303	465
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.05	0.71		0.51	0.99		0.17	0.17		0.67	0.68	0.48

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay:	42.3
Intersection LOS:	D
Intersection Capacity Utilization:	76.5%
ICU Level of Service:	D
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

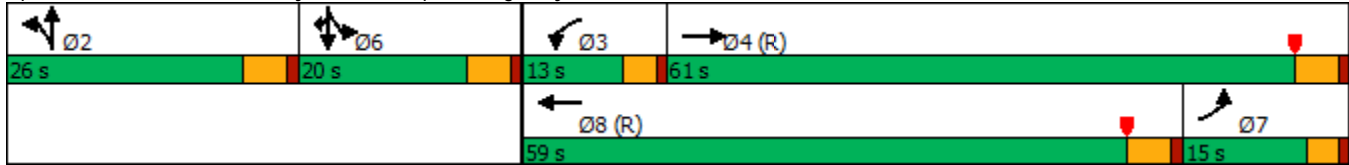


Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Existing  
 AM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (vph)	139	1526	348	166	1362	61	419	427	159	121	836	151
Future Volume (vph)	139	1526	348	166	1362	61	419	427	159	121	836	151
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168			136			150			136
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Adj. Flow (vph)	145	1590	363	182	1497	67	537	547	204	127	880	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	1590	363	182	1497	67	537	547	204	127	880	159
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		
Link Offset(ft)		0		0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		
Detector 2 Size(ft)		6		6			6			6		
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	10.0	45.0	45.0	11.0	46.0	46.0	24.0	51.0	51.0	13.0	40.0	40.0
Total Split (%)	8.3%	37.5%	37.5%	9.2%	38.3%	38.3%	20.0%	42.5%	42.5%	10.8%	33.3%	33.3%
Maximum Green (s)	6.0	40.0	40.0	7.0	41.0	41.0	20.0	46.0	46.0	9.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	6.0	40.0	40.0	7.0	41.0	41.0	20.0	46.0	46.0	9.0	35.0	35.0
Actuated g/C Ratio	0.05	0.33	0.33	0.06	0.34	0.34	0.17	0.38	0.38	0.08	0.29	0.29
v/c Ratio	0.90	0.99	0.59	0.96	0.91	0.11	0.99	0.30	0.31	0.52	0.90	0.30
Control Delay	106.6	51.9	19.7	76.4	17.2	0.4	86.6	26.3	8.9	47.2	41.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.6	51.9	19.7	76.4	17.2	0.4	86.6	26.3	8.9	47.2	41.8	5.4
LOS	F	D	B	E	B	A	F	C	A	D	D	A
Approach Delay		50.1			22.7			48.7			37.4	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	62	278	85	75	232	0	216	106	27	52	372	14
Queue Length 95th (ft)	m#107	#548	166	m#119	#318	m0	#258	116	56	m69	#434	19
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	162	1606	612	189	1646	602	542	1846	667	243	977	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.99	0.59	0.96	0.91	0.11	0.99	0.30	0.31	0.52	0.90	0.30

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 13 (11%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 39.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 88.1%  
 ICU Level of Service E  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

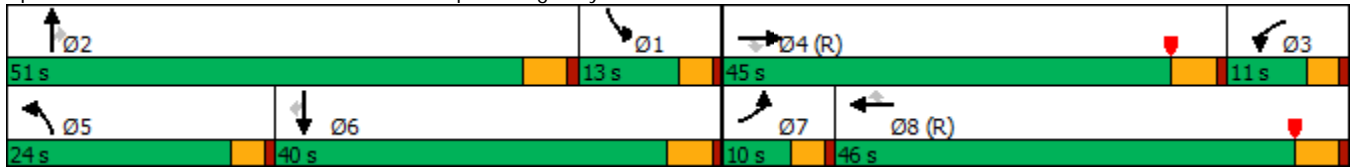
Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Existing  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (vph)	55	1549	221	470	1520	159	145	160	403	90	498	37
Future Volume (vph)	55	1549	221	470	1520	159	145	160	403	90	498	37
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.981				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				173			262		6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4135			486			892			1016	
Travel Time (s)		62.7			7.4			15.2			17.3	
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Adj. Flow (vph)	63	1780	254	511	1652	173	179	198	498	101	560	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	2034	0	511	1652	173	179	198	498	101	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	45.0		23.0	58.0	10.0	12.0	42.0	42.0	10.0	40.0	
Total Split (%)	8.3%	37.5%		19.2%	48.3%	8.3%	10.0%	35.0%	35.0%	8.3%	33.3%	
Maximum Green (s)	6.0	40.0		19.0	53.0	6.0	8.0	37.0	37.0	6.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	40.0		19.0	55.0	62.8	8.0	37.0	37.0	6.0	35.0	
Actuated g/C Ratio	0.05	0.33		0.16	0.46	0.52	0.07	0.31	0.31	0.05	0.29	
v/c Ratio	0.39	1.01		0.99	0.75	0.20	0.83	0.19	0.77	0.62	0.62	
Control Delay	48.3	30.6		80.2	26.2	5.1	84.9	31.1	26.7	73.0	39.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.3	30.6		80.2	26.2	5.1	84.9	31.1	26.7	73.0	39.7	
LOS	D	C		F	C	A	F	C	C	E	D	
Approach Delay		31.1			36.5			39.6			44.5	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	26	~240		208	335	26	72	59	173	40	210	
Queue Length 95th (ft)	m31	m#332		m#310	341	m31	#111	80	244	#74	268	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2006		514	2207	867	216	1033	643	162	972	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.39	1.01		0.99	0.75	0.20	0.83	0.19	0.77	0.62	0.62	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 76 (63%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.01  
 Intersection Signal Delay: 36.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 77.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing  
 AM Peak Hour

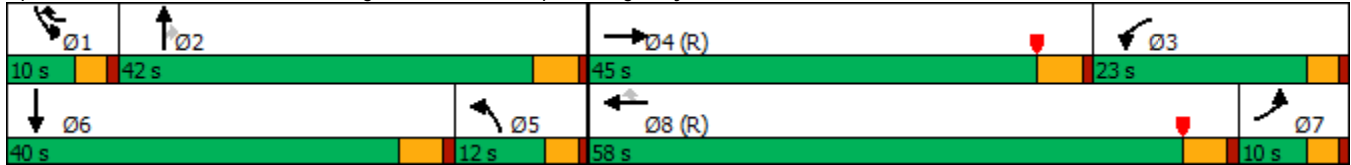
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1438	1668	0	591	513
Future Volume (vph)	0	1438	1668	0	591	513
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.967	0.850
Flt Protected					0.962	
Satd. Flow (prot)	0	4818	4818	0	3185	1365
Flt Permitted					0.962	
Satd. Flow (perm)	0	4818	4818	0	3185	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					4	4
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Adj. Flow (vph)	0	1563	1853	0	642	558
Shared Lane Traffic (%)						32%
Lane Group Flow (vph)	0	1563	1853	0	821	379
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		33.0	33.0		27.0	27.0
Total Split (%)		55.0%	55.0%		45.0%	45.0%
Maximum Green (s)		28.0	28.0		22.0	22.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		28.0	28.0		22.0	22.0
Actuated g/C Ratio		0.47	0.47		0.37	0.37
v/c Ratio		0.70	0.82		0.70	0.75
Control Delay		11.3	11.9		20.1	28.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		11.3	11.9		20.1	28.6
LOS		B	B		C	C
Approach Delay		11.3	11.9		22.7	
Approach LOS		B	B		C	
Queue Length 50th (ft)		139	120		125	126
Queue Length 95th (ft)		m138	167		182	#268
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2248	2248		1170	503
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.70	0.82		0.70	0.75

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 14 (23%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 14.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 103.4%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

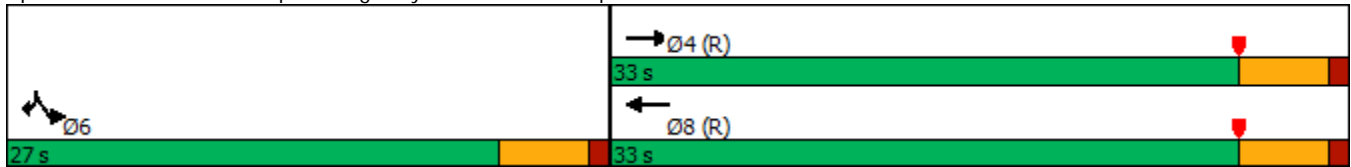
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↕	↗			↗↗
Traffic Volume (vph)	126	1333	0	0	956	6	852	152	793	0	0	55
Future Volume (vph)	126	1333	0	0	956	6	852	152	793	0	0	55
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.999			0.917	0.850			0.850
Flt Protected	0.950						0.950	0.992				
Satd. Flow (prot)	1676	4818	0	0	6065	0	3051	1381	1425	0	0	2640
Flt Permitted	0.950						0.950	0.992				
Satd. Flow (perm)	1676	4818	0	0	6065	0	3051	1381	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			72	159			297
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Adj. Flow (vph)	135	1433	0	0	1099	7	1014	181	944	0	0	83
Shared Lane Traffic (%)							10%		37%			
Lane Group Flow (vph)	135	1433	0	0	1106	0	913	631	595	0	0	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Existing  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	16.0	46.0			30.0		63.0	63.0	63.0			11.0
Total Split (%)	13.3%	38.3%			25.0%		52.5%	52.5%	52.5%			9.2%
Maximum Green (s)	12.0	41.0			25.0		58.0	58.0	58.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lead	Lead	Lead			Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	12.0	43.2			27.2		58.0	58.0	58.0			6.0
Actuated g/C Ratio	0.10	0.36			0.23		0.48	0.48	0.48			0.05
v/c Ratio	0.81	0.83			0.80		0.62	0.90	0.77			0.20
Control Delay	71.5	31.8			49.7		25.2	42.3	26.4			1.1
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	71.5	31.8			49.7		25.2	42.3	26.4			1.1
LOS	E	C			D		C	D	C			A
Approach Delay		35.2			49.7			30.6				1.1
Approach LOS		D			D			C				A
Queue Length 50th (ft)	96	330			242		278	459	294			0
Queue Length 95th (ft)	m#174	386			275		315	#653	401			0
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	167	1734			1375		1474	704	770			414
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.81	0.83			0.80		0.62	0.90	0.77			0.20

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 1 (1%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 35.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 70.1%  
 ICU Level of Service C  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

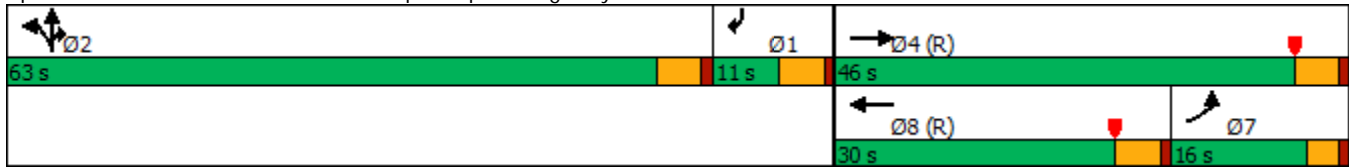
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Existing  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



HCM 6th Signalized Intersection Summary  
 1: Puente Street & Lambert Road

Existing  
 PM Peak Hour



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (veh/h)	51	883	53	84	1418	146	124	324	122	104	207	91
Future Volume (veh/h)	51	883	53	84	1418	146	124	324	122	104	207	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	56	970	58	88	1477	152	157	410	154	137	272	120
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	2371	142	109	1763	181	180	475	176	162	429	184
Arrive On Green	0.16	0.51	0.51	0.06	0.40	0.40	0.21	0.40	0.40	0.10	0.19	0.19
Sat Flow, veh/h	1688	4668	279	1688	4456	458	1688	2402	892	1688	2293	985
Grp Volume(v), veh/h	56	670	358	88	1069	560	157	286	278	137	198	194
Grp Sat Flow(s),veh/h/ln	1688	1612	1722	1688	1612	1689	1688	1683	1611	1688	1683	1595
Q Serve(g_s), s	3.5	15.5	15.5	6.2	36.0	36.0	10.8	18.7	19.1	9.6	13.0	13.5
Cycle Q Clear(g_c), s	3.5	15.5	15.5	6.2	36.0	36.0	10.8	18.7	19.1	9.6	13.0	13.5
Prop In Lane	1.00		0.16	1.00		0.27	1.00		0.55	1.00		0.62
Lane Grp Cap(c), veh/h	271	1638	875	109	1276	668	180	333	319	162	315	298
V/C Ratio(X)	0.21	0.41	0.41	0.81	0.84	0.84	0.87	0.86	0.87	0.84	0.63	0.65
Avail Cap(c_a), veh/h	271	1638	875	183	1344	704	253	393	376	253	393	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	18.3	18.3	55.4	32.8	32.8	46.4	34.7	34.9	53.3	44.9	45.1
Incr Delay (d2), s/veh	0.1	0.8	1.4	3.4	4.4	8.1	15.1	12.8	14.9	8.3	0.8	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.6	6.2	2.7	14.0	15.4	4.7	7.0	7.0	4.4	5.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	19.1	19.8	58.7	37.2	40.8	61.5	47.5	49.8	61.7	45.7	46.5
LnGrp LOS	D	B	B	E	D	D	E	D	D	E	D	D
Approach Vol, veh/h		1084			1717			721			529	
Approach Delay, s/veh		20.6			39.5			51.4			50.1	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	66.0	14.5	28.7	24.3	52.5	15.8	27.5				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	13.0	45.0	18.0	28.0	8.0	* 50	18.0	28.0				
Max Q Clear Time (g_c+I1), s	8.2	17.5	11.6	21.1	5.5	38.0	12.8	15.5				
Green Ext Time (p_c), s	0.0	10.7	0.1	2.6	0.0	9.5	0.1	2.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				38.0								
HCM 6th LOS				D								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary































## 2: Berry Street & Lambert Road

Existing  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	33	1029	65	46	1468	113	123	342	112	149	268	57
Future Volume (veh/h)	33	1029	65	46	1468	113	123	342	112	149	268	57
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	38	1169	74	48	1545	119	131	364	119	171	308	66
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	2353	149	61	2392	184	154	431	139	197	546	115
Arrive On Green	0.01	0.17	0.17	0.04	0.52	0.52	0.18	0.34	0.34	0.12	0.20	0.20
Sat Flow, veh/h	1688	4650	294	1688	4581	353	1688	2503	807	1688	2766	584
Grp Volume(v), veh/h	38	811	432	48	1087	577	131	243	240	171	186	188
Grp Sat Flow(s),veh/h/ln	1688	1612	1719	1688	1612	1708	1688	1683	1627	1688	1683	1667
Q Serve(g_s), s	2.7	27.4	27.4	3.4	29.2	29.2	9.0	16.0	16.5	12.0	11.9	12.3
Cycle Q Clear(g_c), s	2.7	27.4	27.4	3.4	29.2	29.2	9.0	16.0	16.5	12.0	11.9	12.3
Prop In Lane	1.00		0.17	1.00		0.21	1.00		0.50	1.00		0.35
Lane Grp Cap(c), veh/h	47	1632	870	61	1684	892	154	290	280	197	333	329
V/C Ratio(X)	0.80	0.50	0.50	0.79	0.65	0.65	0.85	0.84	0.86	0.87	0.56	0.57
Avail Cap(c_a), veh/h	70	1632	870	141	1684	892	239	355	343	267	383	379
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.49	0.49	0.49	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	36.1	36.1	57.4	20.7	20.7	48.3	37.8	38.0	52.1	43.4	43.6
Incr Delay (d2), s/veh	17.0	0.9	1.7	4.3	0.9	1.8	9.7	11.6	14.0	16.0	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.0	13.0	1.5	10.4	11.2	3.8	6.2	6.3	5.8	4.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.2	37.0	37.8	61.7	21.6	22.5	58.0	49.4	52.0	68.1	44.0	44.1
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1281			1712			614			545	
Approach Delay, s/veh		38.5			23.0			52.3			51.6	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	67.7	17.0	27.0	6.4	69.7	13.9	30.0				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	10.0	45.4	19.0	25.3	5.0	51.4	17.0	27.3				
Max Q Clear Time (g_c+I1), s	5.4	29.4	14.0	18.5	4.7	31.2	11.0	14.3				
Green Ext Time (p_c), s	0.0	9.6	0.1	2.2	0.0	14.7	0.1	2.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			35.9									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road
























Existing  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	148	1075	368	188	1367	73	404	591	162	57	338	80
Future Volume (veh/h)	148	1075	368	188	1367	73	404	591	162	57	338	80
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	164	1194	409	196	1424	76	421	616	169	70	412	98
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1952	606	221	2002	107	464	887	396	88	586	261
Arrive On Green	0.11	0.40	0.40	0.13	0.43	0.43	0.14	0.26	0.26	0.05	0.17	0.17
Sat Flow, veh/h	1688	4837	1502	1688	4701	251	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	164	1194	409	196	977	523	421	616	169	70	412	98
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1727	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	11.5	23.5	26.8	13.7	29.9	29.9	15.2	19.8	11.2	4.9	13.8	6.9
Cycle Q Clear(g_c), s	11.5	23.5	26.8	13.7	29.9	29.9	15.2	19.8	11.2	4.9	13.8	6.9
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1952	606	221	1374	735	464	887	396	88	586	261
V/C Ratio(X)	0.90	0.61	0.68	0.89	0.71	0.71	0.91	0.69	0.43	0.79	0.70	0.37
Avail Cap(c_a), veh/h	183	1952	606	225	1374	735	464	1010	450	141	814	363
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)	0.79	0.79	0.79	0.54	0.54	0.54	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	28.3	29.3	51.3	28.4	28.4	50.7	39.8	36.7	56.2	46.6	43.8
Incr Delay (d2), s/veh	32.4	1.1	4.7	19.3	1.7	3.2	21.0	2.1	1.0	6.0	2.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	8.8	10.2	6.8	11.2	12.3	7.5	8.3	4.2	2.2	5.9	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.2	29.5	34.1	70.6	30.1	31.5	71.8	41.9	37.7	62.2	48.9	45.1
LnGrp LOS	F	C	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1767			1696			1206			580	
Approach Delay, s/veh		35.7			35.2			51.7			49.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	53.4	10.3	36.6	17.0	56.1	21.0	25.9				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0	10.0	36.0	13.0	43.0	17.0	29.0				
Max Q Clear Time (g_c+I1), s	15.7	28.8	6.9	21.8	13.5	31.9	17.2	15.8				
Green Ext Time (p_c), s	0.0	9.7	0.0	7.9	0.0	9.9	0.0	5.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			40.8									
HCM 6th LOS			D									



HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Existing  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1149	201	350	1314	942	280	559	384	531	320	10
Future Volume (veh/h)	14	1149	201	350	1314	942	280	559	384	531	320	10
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	15	1209	212	365	1369	981	304	721	342	590	356	11
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1708	298	355	2054	938	362	768	325	656	1033	32
Arrive On Green	0.01	0.32	0.32	0.04	0.14	0.14	0.11	0.22	0.22	0.20	0.31	0.31
Sat Flow, veh/h	3274	5261	917	3274	4837	1502	3375	3544	1502	3274	3334	103
Grp Volume(v), veh/h	15	1050	371	365	1369	981	304	721	342	590	179	188
Grp Sat Flow(s),veh/h/ln	1637	1524	1607	1637	1612	1502	1688	1772	1502	1637	1683	1753
Q Serve(g_s), s	0.5	24.2	24.4	13.0	32.2	51.0	10.6	24.0	26.0	21.1	9.9	9.9
Cycle Q Clear(g_c), s	0.5	24.2	24.4	13.0	32.2	51.0	10.6	24.0	26.0	21.1	9.9	9.9
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	27	1484	522	355	2054	938	362	768	325	656	522	543
V/C Ratio(X)	0.55	0.71	0.71	1.03	0.67	1.05	0.84	0.94	1.05	0.90	0.34	0.35
Avail Cap(c_a), veh/h	55	1484	522	355	2054	938	478	768	325	928	603	628
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	0.55	0.55	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	35.5	35.6	57.9	43.5	27.7	52.6	46.2	47.0	46.8	32.0	32.0
Incr Delay (d2), s/veh	4.6	2.1	6.0	43.1	1.0	34.7	7.8	19.0	63.9	7.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.9	10.0	7.8	14.0	29.8	4.8	12.3	15.2	9.0	4.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	37.7	41.6	101.0	44.5	62.4	60.4	65.2	110.9	53.8	32.1	32.1
LnGrp LOS	E	D	D	F	D	F	E	E	F	D	C	C
Approach Vol, veh/h		1436			2715			1367			957	
Approach Delay, s/veh		39.0			58.5			75.6			45.5	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	44.0	28.0	31.0	5.0	56.0	16.9	42.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	29.0	34.0	26.0	2.0	40.0	17.0	43.0				
Max Q Clear Time (g_c+I1), s	15.0	26.4	23.1	28.0	2.5	53.0	12.6	11.9				
Green Ext Time (p_c), s	0.0	2.2	0.9	0.0	0.0	0.0	0.2	3.4				

Intersection Summary

HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 5: SR-57 SB Ramps & Lambert Road

Existing  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1280	785	275	1884	0	0	0	0	564	0	688
Future Volume (veh/h)	0	1280	785	275	1884	0	0	0	0	564	0	688
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1169	927	309	2117	0				876	0	481
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1540	1305	357	2811	0				1161	0	516
Arrive On Green	0.00	0.14	0.14	0.22	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3544	3003	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1169	927	309	2117	0				876	0	481
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	38.1	35.3	10.9	0.0	0.0				27.6	0.0	37.1
Cycle Q Clear(g_c), s	0.0	38.1	35.3	10.9	0.0	0.0				27.6	0.0	37.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1540	1305	357	2811	0				1161	0	516
V/C Ratio(X)	0.00	0.76	0.71	0.86	0.75	0.00				0.75	0.00	0.93
Avail Cap(c_a), veh/h	0	1540	1305	396	2811	0				1212	0	539
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.38	0.38	0.35	0.35	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.4	44.2	46.1	0.0	0.0				34.9	0.0	38.0
Incr Delay (d2), s/veh	0.0	1.4	1.3	6.7	0.7	0.0				2.6	0.0	22.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.3	14.4	4.2	0.2	0.0				11.7	0.0	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.7	45.5	52.7	0.7	0.0				37.5	0.0	60.7
LnGrp LOS	A	D	D	D	A	A				D	A	E
Approach Vol, veh/h		2096			2426						1357	
Approach Delay, s/veh		46.2			7.3						45.7	
Approach LOS		D			A						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	17.6	56.6		45.8		74.2						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	14.5	48.9		43.1		67.9						
Max Q Clear Time (g_c+I1), s	12.9	40.1		39.1		2.0						
Green Ext Time (p_c), s	0.2	6.7		2.2		29.4						

### Intersection Summary

HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

























### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 6: SR-57 NB Ramps & Lambert Road

Existing  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	355	1506	0	0	1187	612	1042	0	508	0	0	0
Future Volume (veh/h)	355	1506	0	0	1187	612	1042	0	508	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	362	1537	0	0	1490	468	1109	0	540			
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	475	2636	0	0	1927	544	1244	0	571			
Arrive On Green	0.14	0.54	0.00	0.00	0.36	0.36	0.38	0.00	0.38			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	362	1537	0	0	1490	468	1109	0	540			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	12.8	25.4	0.0	0.0	29.8	34.6	38.1	0.0	41.8			
Cycle Q Clear(g_c), s	12.8	25.4	0.0	0.0	29.8	34.6	38.1	0.0	41.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	475	2636	0	0	1927	544	1244	0	571			
V/C Ratio(X)	0.76	0.58	0.00	0.00	0.77	0.86	0.89	0.00	0.95			
Avail Cap(c_a), veh/h	475	2636	0	0	1927	544	1269	0	582			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.37	0.37	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	49.3	18.2	0.0	0.0	33.9	35.4	34.9	0.0	36.0			
Incr Delay (d2), s/veh	2.8	0.4	0.0	0.0	3.1	16.1	8.2	0.0	24.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.3	8.8	0.0	0.0	12.7	14.5	16.3	0.0	18.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	18.6	0.0	0.0	37.0	51.6	43.0	0.0	60.5			
LnGrp LOS	D	B	A	A	D	D	D	A	E			
Approach Vol, veh/h		1899			1958			1649				
Approach Delay, s/veh		25.0			40.5			48.8				
Approach LOS		C			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		69.9			21.9	48.0		50.1				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		64.5			16.5	43.5		46.5				
Max Q Clear Time (g_c+I1), s		27.4			14.8	36.6		43.8				
Green Ext Time (p_c), s		13.9			0.2	5.3		1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					37.6							
HCM 6th LOS					D							
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

# HCM 6th Signalized Intersection Summary

## 7: Berry Street & Mercury Lane

Existing  
PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	47	489	10	24	435
Future Volume (veh/h)	50	47	489	10	24	435
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	81	76	509	10	30	551
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	156	139	2501	49	733	2493
Arrive On Green	0.09	0.09	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1688	1502	3466	66	882	3455
Grp Volume(v), veh/h	81	76	254	265	30	551
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1760	882	1683
Q Serve(g_s), s	2.7	2.9	2.8	2.8	0.6	3.0
Cycle Q Clear(g_c), s	2.7	2.9	2.8	2.8	3.4	3.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	156	139	1247	1304	733	2493
V/C Ratio(X)	0.52	0.55	0.20	0.20	0.04	0.22
Avail Cap(c_a), veh/h	591	526	1247	1304	733	2493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.36	0.36	0.81	0.81
Uniform Delay (d), s/veh	25.9	26.0	2.4	2.4	2.9	2.4
Incr Delay (d2), s/veh	2.6	3.3	0.1	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	0.3	0.3	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.6	29.3	2.5	2.5	3.0	2.6
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	157		519			581
Approach Delay, s/veh	28.9		2.5			2.6
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		49.4			49.4	10.6
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		4.8			5.4	4.9
Green Ext Time (p_c), s		2.9			3.7	0.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.9			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Existing  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	75	127	21	353	136	455	70	632	278	328	598	70
Future Volume (veh/h)	75	127	21	353	136	455	70	632	278	328	598	70
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	83	141	23	388	149	500	80	718	316	377	687	80
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	173	28	444	352	784	447	881	383	1058	1429	165
Arrive On Green	0.06	0.12	0.12	0.14	0.20	0.20	0.53	0.53	0.53	0.32	0.32	0.32
Sat Flow, veh/h	1688	1486	242	3274	1772	1502	1688	3302	1436	3274	4398	508
Grp Volume(v), veh/h	83	0	164	388	149	500	80	701	333	377	502	265
Grp Sat Flow(s),veh/h/ln	1688	0	1728	1637	1772	1502	1688	1612	1513	1637	1612	1681
Q Serve(g_s), s	5.8	0.0	11.1	13.9	8.8	5.7	3.0	21.5	22.0	10.6	14.9	15.1
Cycle Q Clear(g_c), s	5.8	0.0	11.1	13.9	8.8	5.7	3.0	21.5	22.0	10.6	14.9	15.1
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.95	1.00		0.30
Lane Grp Cap(c), veh/h	104	0	201	444	352	784	447	860	404	1058	1048	546
V/C Ratio(X)	0.80	0.00	0.82	0.87	0.42	0.64	0.18	0.82	0.83	0.36	0.48	0.48
Avail Cap(c_a), veh/h	169	0	475	491	576	974	447	860	404	1058	1048	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	0.0	51.8	50.9	42.1	9.4	21.4	25.6	25.7	31.0	32.4	32.5
Incr Delay (d2), s/veh	13.0	0.0	7.9	15.0	0.8	1.0	0.2	7.2	15.0	0.2	1.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.3	6.6	4.0	5.7	1.1	6.6	7.2	4.2	6.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	0.0	59.7	65.8	42.9	10.3	21.6	32.8	40.7	31.3	33.9	35.5
LnGrp LOS	E	A	E	E	D	B	C	C	D	C	C	D
Approach Vol, veh/h		247			1037			1114			1144	
Approach Delay, s/veh		62.7			35.8			34.3			33.4	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.8	37.0	21.3	18.9	35.8	44.0	11.4	28.8				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	32.0	18.0	* 33	12.0	39.0	12.0	39.0				
Max Q Clear Time (g_c+I1), s	12.6	24.0	15.9	13.1	5.0	17.1	7.8	10.8				
Green Ext Time (p_c), s	0.7	4.1	0.3	0.8	0.1	5.0	0.1	2.9				

Intersection Summary

HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D





























Notes

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

# HCM 6th Signalized Intersection Summary

## 9: Puente Street & Imperial Highway

Existing  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	132	1551	34	115	1553	204	30	50	93	140	122	185
Future Volume (veh/h)	132	1551	34	115	1553	204	30	50	93	140	122	185
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	145	1704	37	120	1618	212	39	65	121	154	134	203
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	2274	49	375	2879	894	219	330	280	246	627	280
Arrive On Green	0.10	0.47	0.47	0.07	0.20	0.20	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1688	4872	106	1688	4837	1502	1043	1772	1502	1198	3367	1502
Grp Volume(v), veh/h	145	1128	613	120	1618	212	39	65	121	154	134	203
Grp Sat Flow(s),veh/h/ln	1688	1612	1753	1688	1612	1502	1043	1772	1502	1198	1683	1502
Q Serve(g_s), s	10.1	34.4	34.4	8.1	36.3	14.3	3.9	3.7	8.6	15.0	4.0	15.3
Cycle Q Clear(g_c), s	10.1	34.4	34.4	8.1	36.3	14.3	8.0	3.7	8.6	18.7	4.0	15.3
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	1505	818	375	2879	894	219	330	280	246	627	280
V/C Ratio(X)	0.84	0.75	0.75	0.32	0.56	0.24	0.18	0.20	0.43	0.63	0.21	0.73
Avail Cap(c_a), veh/h	267	1505	818	375	2879	894	320	502	425	362	954	425
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.27	0.27	0.27	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	53.0	26.2	26.3	47.0	34.1	25.3	44.8	41.2	43.2	49.1	41.4	45.9
Incr Delay (d2), s/veh	13.5	3.5	6.2	0.1	0.2	0.2	0.4	0.3	1.1	2.0	0.1	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	13.0	14.8	3.5	15.6	5.7	1.0	1.6	3.2	4.5	1.7	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	29.7	32.5	47.1	34.3	25.4	45.1	41.5	44.3	51.1	41.5	48.7
LnGrp LOS	E	C	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1886			1950			225			491	
Approach Delay, s/veh		33.4			34.1			43.6			47.5	
Approach LOS		C			C			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.4	31.6	61.0		27.4	16.2	76.4				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		34.0	16.0	* 56		34.0	19.0	53.0				
Max Q Clear Time (g_c+I1), s		10.6	10.1	36.4		20.7	12.1	38.3				
Green Ext Time (p_c), s		0.8	0.1	11.3		1.7	0.2	9.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			35.8									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 10: Berry Street & Imperial Highway

Existing  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↖		↗	↖	↖
Traffic Volume (veh/h)	130	1811	9	57	1766	315	4	7	6	390	29	189
Future Volume (veh/h)	130	1811	9	57	1766	315	4	7	6	390	29	189
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	153	2131	11	63	1941	346	6	10	8	456	0	210
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	3108	16	79	1795	314	23	38	30	478	0	213
Arrive On Green	0.31	0.83	0.83	0.09	0.87	0.87	0.03	0.03	0.03	0.14	0.00	0.14
Sat Flow, veh/h	1688	4967	26	1688	4142	725	824	1376	1104	3375	0	1502
Grp Volume(v), veh/h	153	1383	759	63	1503	784	13	0	11	456	0	210
Grp Sat Flow(s),veh/h/ln	1688	1612	1767	1688	1612	1641	1731	0	1573	1688	0	1502
Q Serve(g_s), s	8.6	20.1	20.1	4.4	52.0	52.0	0.9	0.0	0.9	16.1	0.0	16.7
Cycle Q Clear(g_c), s	8.6	20.1	20.1	4.4	52.0	52.0	0.9	0.0	0.9	16.1	0.0	16.7
Prop In Lane	1.00		0.01	1.00		0.44	0.48		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	389	2018	1106	79	1397	711	48	0	43	478	0	213
V/C Ratio(X)	0.39	0.69	0.69	0.80	1.08	1.10	0.26	0.00	0.26	0.95	0.00	0.99
Avail Cap(c_a), veh/h	389	2018	1106	84	1397	711	303	0	275	478	0	213
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.37	0.37	0.37	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	35.0	5.5	5.5	53.8	8.0	8.0	57.2	0.0	57.2	51.1	0.0	51.4
Incr Delay (d2), s/veh	0.5	1.4	2.6	17.0	39.9	54.4	2.9	0.0	3.2	29.3	0.0	57.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.8	4.6	2.1	10.5	13.6	0.4	0.0	0.4	8.6	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	6.9	8.1	70.9	47.9	62.4	60.1	0.0	60.3	80.4	0.0	108.7
LnGrp LOS	D	A	A	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2295			2350			24				666
Approach Delay, s/veh		9.2			53.3			60.2				89.3
Approach LOS		A			D			E				F
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	9.6	80.1		22.0	32.7	57.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		21.0	6.0	57.0		17.0	11.0	* 52				
Max Q Clear Time (g_c+I1), s		2.9	6.4	22.1		18.7	10.6	54.0				
Green Ext Time (p_c), s		0.0	0.0	20.5		0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			38.9									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Existing  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	153	1612	388	334	1547	161	418	715	247	198	595	210
Future Volume (veh/h)	153	1612	388	334	1547	161	418	715	247	198	595	210
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	168	1771	426	337	1563	163	431	737	255	228	684	241
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1612	501	1094	2947	915	409	1492	463	327	982	438
Arrive On Green	0.02	0.11	0.11	0.33	0.61	0.61	0.13	0.31	0.31	0.20	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	168	1771	426	337	1563	163	431	737	255	228	684	241
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	6.1	40.0	35.6	9.2	22.4	6.6	15.0	14.9	17.0	7.8	17.1	11.8
Cycle Q Clear(g_c), s	6.1	40.0	35.6	9.2	22.4	6.6	15.0	14.9	17.0	7.8	17.1	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	1612	501	1094	2947	915	409	1492	463	327	982	438
V/C Ratio(X)	0.77	1.10	0.85	0.31	0.53	0.18	1.05	0.49	0.55	0.70	0.70	0.55
Avail Cap(c_a), veh/h	218	1612	501	1094	2947	915	409	1492	463	355	982	438
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.49	0.49	0.49	0.09	0.09	0.09	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	57.8	53.4	57.1	29.7	13.5	13.6	52.5	33.9	34.6	46.3	21.3	20.2
Incr Delay (d2), s/veh	8.0	49.7	8.9	0.0	0.1	0.0	59.2	1.2	4.7	4.7	3.6	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	24.6	15.5	3.5	7.3	1.8	9.4	5.9	6.6	3.1	5.2	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	103.1	66.0	29.7	13.6	13.7	111.7	35.0	39.2	51.0	24.8	24.5
LnGrp LOS	E	F	E	C	B	B	F	D	D	D	C	C
Approach Vol, veh/h		2365			2063			1423			1153	
Approach Delay, s/veh		93.8			16.2			59.0			29.9	
Approach LOS		F			B			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	42.0	45.4	45.0	19.0	40.0	12.0	78.4				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	* 37	12.0	* 40	15.0	35.0	8.0	44.0				
Max Q Clear Time (g_c+I1), s	9.8	19.0	11.2	42.0	17.0	19.1	8.1	24.4				
Green Ext Time (p_c), s	0.2	5.4	0.1	0.0	0.0	4.9	0.0	11.1				

Intersection Summary

HCM 6th Ctrl Delay	53.4
HCM 6th LOS	D



































Notes

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



HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Existing  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	 
Traffic Volume (veh/h)	117	1828	186	473	1899	508	265	443	311	389	384	137
Future Volume (veh/h)	117	1828	186	473	1899	508	265	443	311	389	384	137
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	119	1865	190	509	2042	546	285	476	334	409	404	144
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1840	187	382	1895	738	355	1038	463	327	732	258
Arrive On Green	0.05	0.32	0.32	0.12	0.39	0.39	0.11	0.31	0.31	0.10	0.30	0.30
Sat Flow, veh/h	3274	5663	577	3274	4837	1502	3274	3367	1502	3274	2441	860
Grp Volume(v), veh/h	119	1506	549	509	2042	546	285	476	334	409	277	271
Grp Sat Flow(s),veh/h/ln	1637	1524	1668	1637	1612	1502	1637	1683	1502	1637	1683	1617
Q Serve(g_s), s	4.3	39.0	39.0	14.0	47.0	22.9	10.2	13.7	23.7	12.0	16.6	16.9
Cycle Q Clear(g_c), s	4.3	39.0	39.0	14.0	47.0	22.9	10.2	13.7	23.7	12.0	16.6	16.9
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	164	1486	542	382	1895	738	355	1038	463	327	505	485
V/C Ratio(X)	0.73	1.01	1.01	1.33	1.08	0.74	0.80	0.46	0.72	1.25	0.55	0.56
Avail Cap(c_a), veh/h	164	1486	542	382	1895	738	355	1038	463	327	505	485
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)	0.14	0.14	0.14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	40.5	40.5	53.0	36.5	24.4	52.3	33.4	36.9	54.0	35.2	35.3
Incr Delay (d2), s/veh	2.3	12.3	17.9	166.6	45.2	6.6	12.6	1.5	9.4	135.1	4.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	15.6	17.9	14.4	25.3	7.8	4.7	5.7	9.6	11.0	7.2	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	52.8	58.4	219.6	81.7	30.9	64.8	34.9	46.3	189.1	39.4	39.9
LnGrp LOS	E	F	F	F	F	C	E	C	D	F	D	D
Approach Vol, veh/h		2174			3097			1095			957	
Approach Delay, s/veh		54.5			95.4			46.2			103.5	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	18.0	44.0	17.0	41.0	10.0	52.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	14.0	39.0	13.0	36.0	6.0	47.0				
Max Q Clear Time (g_c+I1), s	14.0	25.7	16.0	41.0	12.2	18.9	6.3	49.0				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.1	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				77.0								
HCM 6th LOS				E								

# HCM 6th Signalized Intersection Summary

## 13: Imperial Highway & SR-57 SB Ramps

Existing  
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (veh/h)	0	1655	2268	0	646	598
Future Volume (veh/h)	0	1655	2268	0	646	598
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1706	2465	0	898	456
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2701	2701	0	1209	538
Arrive On Green	0.00	0.56	0.56	0.00	0.36	0.36
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1706	2465	0	898	456
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	28.9	55.1	0.0	27.9	33.6
Cycle Q Clear(g_c), s	0.0	28.9	55.1	0.0	27.9	33.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2701	2701	0	1209	538
V/C Ratio(X)	0.00	0.63	0.91	0.00	0.74	0.85
Avail Cap(c_a), veh/h	0	2701	2701	0	1209	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.1	23.9	0.0	33.7	35.5
Incr Delay (d2), s/veh	0.0	1.1	6.0	0.0	4.1	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.1	20.2	0.0	12.0	14.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.2	29.9	0.0	37.8	50.7
LnGrp LOS	A	B	C	A	D	D
Approach Vol, veh/h		1706	2465		1354	
Approach Delay, s/veh		19.2	29.9		42.1	
Approach LOS		B	C		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				72.0	48.0	72.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				67.0	43.0	67.0
Max Q Clear Time (g_c+I1), s				30.9	35.6	57.1
Green Ext Time (p_c), s				16.1	3.4	8.9

### Intersection Summary



























HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Existing  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (veh/h)	160	1752	0	0	1454	25	1046	101	501	0	0	241
Future Volume (veh/h)	160	1752	0	0	1454	25	1046	101	501	0	0	241
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	170	1864	0	0	1634	28	1322	0	391	0	0	287
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	366	2701	0	0	1865	32	1814	0	538	0	0	0
Arrive On Green	0.22	0.56	0.00	0.00	0.30	0.30	0.36	0.00	0.36	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6466	107	5063	0	1502		0	
Grp Volume(v), veh/h	170	1864	0	0	1201	461	1322	0	391		0.0	
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1753	1688	0	1502			
Q Serve(g_s), s	10.5	33.2	0.0	0.0	29.9	30.0	27.2	0.0	27.1			
Cycle Q Clear(g_c), s	10.5	33.2	0.0	0.0	29.9	30.0	27.2	0.0	27.1			
Prop In Lane	1.00		0.00	0.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	366	2701	0	0	1371	526	1814	0	538			
V/C Ratio(X)	0.46	0.69	0.00	0.00	0.88	0.88	0.73	0.00	0.73			
Avail Cap(c_a), veh/h	366	2701	0	0	1371	526	1814	0	538			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.9	19.0	0.0	0.0	39.9	39.9	33.4	0.0	33.4			
Incr Delay (d2), s/veh	0.9	1.5	0.0	0.0	8.1	18.2	2.6	0.0	8.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	11.7	0.0	0.0	11.8	15.0	11.5	0.0	11.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	20.5	0.0	0.0	48.0	58.1	36.0	0.0	41.7			
LnGrp LOS	D	C	A	A	D	E	D	A	D			
Approach Vol, veh/h		2034			1662			1713				
Approach Delay, s/veh		22.3			50.8			37.3				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		48.0		72.0			31.0	41.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		43.0		56.0			16.0	* 36				
Max Q Clear Time (g_c+I1), s		29.2		35.2			12.5	32.0				
Green Ext Time (p_c), s		6.3		13.2			0.1	3.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				35.8								
HCM 6th LOS				D								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	51	883	53	84	1418	146	124	324	122	104	207	91
Future Volume (vph)	51	883	53	84	1418	146	124	324	122	104	207	91
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.986			0.959			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4779	0	1676	4750	0	1676	3215	0	1676	3199	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4779	0	1676	4750	0	1676	3215	0	1676	3199	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			18			42			55	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Adj. Flow (vph)	56	970	58	88	1477	152	157	410	154	137	272	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	1028	0	88	1629	0	157	564	0	137	392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	11.0	50.0		16.0	55.0		21.0	33.0		21.0	33.0	
Total Split (%)	9.2%	41.7%		13.3%	45.8%		17.5%	27.5%		17.5%	27.5%	
Maximum Green (s)	8.0	45.0		13.0	50.0		18.0	28.0		18.0	28.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	7.1	55.7		10.2	60.4		14.8	24.4		13.7	23.3	
Actuated g/C Ratio	0.06	0.46		0.08	0.50		0.12	0.20		0.11	0.19	
v/c Ratio	0.57	0.46		0.62	0.68		0.76	0.82		0.72	0.59	
Control Delay	76.7	24.3		66.1	12.7		70.7	56.6		71.2	40.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.7	24.3		66.1	12.7		70.7	56.6		71.2	40.8	
LOS	E	C		E	B		E	E		E	D	
Approach Delay		27.0			15.5			59.7			48.7	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	43	199		58	330		126	199		104	124	
Queue Length 95th (ft)	88	274		m85	525		172	221		138	136	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	111	2223		181	2398		251	782		251	788	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.46		0.49	0.68		0.63	0.72		0.55	0.50	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 67 (56%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

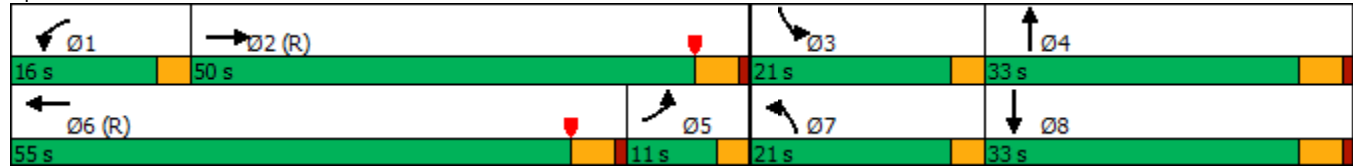
# Lanes, Volumes, Timings

## 1: Puente Street & Lambert Road

Existing  
PM Peak Hour

Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 30.8	Intersection LOS: C
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	33	1029	65	46	1468	113	123	342	112	149	268	57
Future Volume (vph)	33	1029	65	46	1468	113	123	342	112	149	268	57
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991			0.989			0.963			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4774	0	1676	4765	0	1676	3229	0	1676	3266	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4774	0	1676	4765	0	1676	3229	0	1676	3266	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13			34			20	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	38	1169	74	48	1545	119	131	364	119	171	308	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	1243	0	48	1664	0	131	483	0	171	374	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	8.0	52.4		14.0	58.4		20.0	31.6		22.0	33.6	
Total Split (%)	6.7%	43.7%		11.7%	48.7%		16.7%	26.3%		18.3%	28.0%	
Maximum Green (s)	5.0	45.4		10.0	51.4		17.0	25.3		19.0	27.3	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.8	56.8		7.6	59.4		13.2	21.3		15.7	23.8	
Actuated g/C Ratio	0.05	0.47		0.06	0.50		0.11	0.18		0.13	0.20	
v/c Ratio	0.47	0.55		0.46	0.70		0.71	0.80		0.78	0.56	
Control Delay	85.8	19.0		82.6	14.5		87.2	38.7		73.9	44.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	85.8	19.0		82.6	14.5		87.2	38.7		73.9	44.0	
LOS	F	B		F	B		F	D		E	D	
Approach Delay		21.0			16.4			49.1			53.4	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	23	286		39	124		107	144		129	130	
Queue Length 95th (ft)	m#62	371		m50	m139		174	131		195	168	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	82	2264		139	2364		237	707		265	758	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.55		0.35	0.70		0.55	0.68		0.65	0.49	

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 12.4 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated



# Lanes, Volumes, Timings

## 2: Berry Street & Lambert Road

Existing  
PM Peak Hour

Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 27.5	Intersection LOS: C
Intersection Capacity Utilization 76.1%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road

Ø1 14 s	Ø2 (R) 52.4 s	Ø3 22 s	Ø4 31.6 s
Ø5 8 s	Ø6 (R) 58.4 s	Ø7 20 s	Ø8 33.6 s

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	1075	368	188	1367	73	404	591	162	57	338	80
Future Volume (vph)	148	1075	368	188	1367	73	404	591	162	57	338	80
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			355		8				165			127
Link Speed (mph)		45		45				35			35	
Link Distance (ft)		3309		3979				1995			706	
Travel Time (s)		50.1		60.3				38.9			13.8	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	164	1194	409	196	1424	76	421	616	169	70	412	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	1194	409	196	1500	0	421	616	169	70	412	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24				24			24	
Link Offset(ft)		0		0				0			0	
Crosswalk Width(ft)		16		16				16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117			117				117	
Detector 2 Size(ft)		6		6			6				6	
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex				Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0				0.0	
Detector 3 Position(ft)		234		234			234				234	
Detector 3 Size(ft)		6		6			6				6	
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex				Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	45.0	45.0	20.0	48.0		21.0	41.0	41.0	14.0	34.0	34.0
Total Split (%)	14.2%	37.5%	37.5%	16.7%	40.0%		17.5%	34.2%	34.2%	11.7%	28.3%	28.3%
Maximum Green (s)	13.0	40.0	40.0	16.0	43.0		17.0	36.0	36.0	10.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.8	44.4	44.4	16.1	46.7		16.8	34.9	34.9	8.5	24.7	24.7
Actuated g/C Ratio	0.12	0.37	0.37	0.13	0.39		0.14	0.29	0.29	0.07	0.21	0.21
v/c Ratio	0.85	0.67	0.53	0.88	0.81		0.93	0.63	0.31	0.59	0.60	0.24
Control Delay	79.3	32.0	12.0	103.8	17.9		69.4	42.1	12.2	74.2	46.3	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	32.0	12.0	103.8	17.9		69.4	42.1	12.2	74.2	46.3	4.3
LOS	E	C	B	F	B		E	D	B	E	D	A
Approach Delay		31.8			27.8			47.5			42.6	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	104	317	148	153	354		164	230	29	53	148	0
Queue Length 95th (ft)	m#250	377	255	m#245	94		#263	300	m79	93	177	16
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	194	1782	778	231	1863		460	1010	567	139	810	458
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.67	0.53	0.85	0.81		0.92	0.61	0.30	0.50	0.51	0.21

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

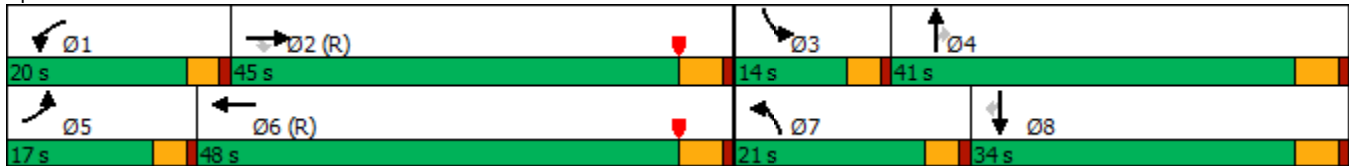
# Lanes, Volumes, Timings

## 3: Brea Boulevard & Lambert Road

Existing  
PM Peak Hour

Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 35.3	Intersection LOS: D
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (vph)	14	1149	201	350	1314	942	280	559	384	531	320	10
Future Volume (vph)	14	1149	201	350	1314	942	280	559	384	531	320	10
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.978				0.850		0.978	0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5937	0	3252	4818	1500	3252	3141	1365	3252	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5937	0	3252	4818	1500	3252	3141	1365	3252	3340	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						55		14	175		3	
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	15	1209	212	365	1369	981	304	608	417	590	356	11
Shared Lane Traffic (%)									25%			
Lane Group Flow (vph)	15	1421	0	365	1369	981	304	712	313	590	367	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	34.0		17.0	45.0	38.0	21.0	31.0	31.0	38.0	48.0	
Total Split (%)	5.0%	28.3%		14.2%	37.5%	31.7%	17.5%	25.8%	25.8%	31.7%	40.0%	
Maximum Green (s)	2.0	29.0		13.0	40.0	34.0	17.0	26.0	26.0	34.0	43.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	29.0		13.0	43.6	82.6	14.9	26.0	26.0	34.0	45.1	
Actuated g/C Ratio	0.02	0.24		0.11	0.36	0.69	0.12	0.22	0.22	0.28	0.38	
v/c Ratio	0.28	0.99		1.04	0.78	0.94	0.76	1.03	0.72	0.64	0.29	
Control Delay	102.1	41.7		106.7	37.3	21.3	63.1	87.1	29.5	41.5	27.2	
Queue Delay	0.0	3.0		0.0	1.6	0.1	0.0	0.0	0.4	1.7	0.0	
Total Delay	102.1	44.8		106.7	38.9	21.3	63.1	87.1	29.9	43.2	27.2	
LOS	F	D		F	D	C	E	F	C	D	C	
Approach Delay		45.3			41.7			68.1			37.1	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	6	319		~161	279	193	118	~319	109	206	103	
Queue Length 95th (ft)	m10	#411		m#250	382	#1007	164	#450	231	269	146	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1434		352	1750	1049	460	692	432	921	1258	
Starvation Cap Reductn	0	0		0	213	1	0	0	0	0	0	
Spillback Cap Reductn	0	19		0	0	0	0	0	11	178	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	1.00		1.04	0.89	0.94	0.66	1.03	0.74	0.79	0.29	

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 21 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

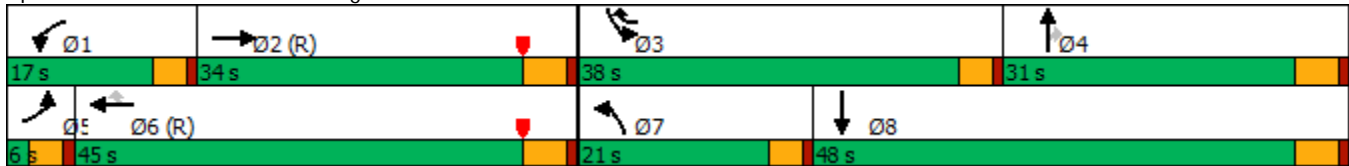
# Lanes, Volumes, Timings

## 4: State College Boulevard & Lambert Road

Existing  
PM Peak Hour

Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 47.3	Intersection LOS: D
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1280	785	275	1884	0	0	0	0	564	0	688
Future Volume (vph)	0	1280	785	275	1884	0	0	0	0	564	0	688
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.970	0.850								0.897	0.850
Flt Protected				0.950						0.950	0.985	
Satd. Flow (prot)	0	4416	1290	3252	4818	0	0	0	0	1593	1419	1425
Flt Permitted				0.950						0.950	0.985	
Satd. Flow (perm)	0	4416	1290	3252	4818	0	0	0	0	1593	1419	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52	491								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	1333	818	309	2117	0	0	0	0	620	0	756
Shared Lane Traffic (%)			40%							23%		42%
Lane Group Flow (vph)	0	1660	491	309	2117	0	0	0	0	477	461	438
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		53.4	53.4	19.0	72.4					47.6	47.6	47.6
Total Split (%)		44.5%	44.5%	15.8%	60.3%					39.7%	39.7%	39.7%
Maximum Green (s)		48.9	48.9	14.5	67.9					43.1	43.1	43.1
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		51.1	51.1	14.2	69.8					41.2	41.2	41.2
Actuated g/C Ratio		0.43	0.43	0.12	0.58					0.34	0.34	0.34
v/c Ratio		0.87	0.59	0.80	0.75					0.87	0.88	0.83
Control Delay		20.6	4.7	60.7	9.7					54.7	52.0	46.4
Queue Delay		4.7	1.1	0.0	0.5					0.0	0.1	0.0
Total Delay		25.3	5.8	60.7	10.2					54.7	52.1	46.4
LOS		C	A	E	B					D	D	D
Approach Delay		20.8			16.7						51.2	
Approach LOS		C			B						D	
Queue Length 50th (ft)		440	56	119	311					352	321	283
Queue Length 95th (ft)		m461	m253	m139	335					#544	#529	#462
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1911	831	395	2804					572	544	547
Starvation Cap Reductn		196	148	0	282					0	0	0
Spillback Cap Reductn		0	0	0	100					0	1	1
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.97	0.72	0.78	0.84					0.83	0.85	0.80

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 58.9 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 26.1  
 Intersection Capacity Utilization 82.3%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Existing  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1506	0	0	1187	612	1042	0	508	0	0	0
Future Volume (vph)	355	1506	0	0	1187	612	1042	0	508	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.978	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4453	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4453	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					30	421			55			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		588			682			1141				1432
Travel Time (s)		8.9			10.3			25.9				32.5
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	362	1537	0	0	1236	638	1109	0	540	0	0	0
Shared Lane Traffic (%)						34%						
Lane Group Flow (vph)	362	1537	0	0	1453	421	1109	0	540	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	21.0	69.0			48.0	48.0	51.0		51.0			
Total Split (%)	17.5%	57.5%			40.0%	40.0%	42.5%		42.5%			
Maximum Green (s)	16.5	64.5			43.5	43.5	46.5		46.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	16.5	65.8			44.8	44.8	45.2		45.2			
Actuated g/C Ratio	0.14	0.55			0.37	0.37	0.38		0.38			
v/c Ratio	0.81	0.58			0.86	0.57	0.91		0.90			
Control Delay	52.1	13.9			40.9	5.8	46.7		51.4			
Queue Delay	0.0	0.3			0.0	0.0	0.0		0.0			
Total Delay	52.1	14.2			40.9	5.8	46.7		51.4			
LOS	D	B			D	A	D		D			
Approach Delay		21.4			33.0			48.3				
Approach LOS		C			C			D				
Queue Length 50th (ft)	153	152			400	0	406		352			
Queue Length 95th (ft)	m170	168			471	87	#507		#564			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	447	2641			1681	745	1260		614			
Starvation Cap Reductn	0	414			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.81	0.69			0.86	0.57	0.88		0.88			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 50.5 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 33.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 82.3%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

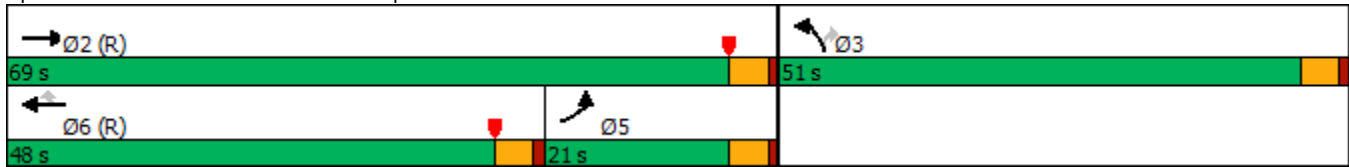
Lanes, Volumes, Timings  
 6: SR-57 NB Ramps & Lambert Road

Existing  
 PM Peak Hour

Queue shown is maximum after two cycles.












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	47	489	10	24	435
Future Volume (vph)	50	47	489	10	24	435
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3343	0	1676	3353
Flt Permitted	0.950				0.460	
Satd. Flow (perm)	1676	1500	3343	0	812	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		76	4			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Adj. Flow (vph)	81	76	509	10	30	551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	76	519	0	30	551
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing  
PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effect Green (s)	9.5	9.3	47.1		47.1	47.1
Actuated g/C Ratio	0.16	0.16	0.78		0.78	0.78
v/c Ratio	0.30	0.26	0.20		0.05	0.21
Control Delay	23.7	7.7	3.0		2.6	2.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	23.7	7.7	3.0		2.6	2.2
LOS	C	A	A		A	A
Approach Delay	15.9		3.0			2.2
Approach LOS	B		A			A
Queue Length 50th (ft)	27	0	42		2	16
Queue Length 95th (ft)	34	11	m84		m8	43
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	574	2623		637	2630
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.13	0.20		0.05	0.21

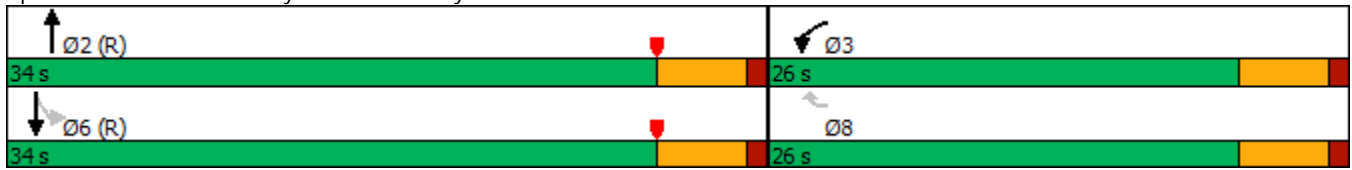
Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	45 (75%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.30
Intersection Signal Delay:	4.3
Intersection LOS:	A
Intersection Capacity Utilization:	34.4%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing  
PM Peak Hour

Splits and Phases: 7: Berry Street & Mercury Lane





Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	127	21	353	136	455	70	632	278	328	598	70
Future Volume (vph)	75	127	21	353	136	455	70	632	278	328	598	70
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.979				0.850		0.954			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1728	0	3252	1765	1500	1676	4596	0	3252	4741	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1728	0	3252	1765	1500	1676	4596	0	3252	4741	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				122		90			18	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Adj. Flow (vph)	83	141	23	388	149	500	80	718	316	377	687	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	164	0	388	149	500	80	1034	0	377	767	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	16.0	38.0		22.0	44.0	23.0	16.0	37.0		23.0	44.0	
Total Split (%)	13.3%	31.7%		18.3%	36.7%	19.2%	13.3%	30.8%		19.2%	36.7%	
Maximum Green (s)	12.0	33.0		18.0	39.0	19.0	12.0	32.0		19.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.3	18.4		18.4	28.6	49.4	10.9	46.2		19.0	56.4	
Actuated g/C Ratio	0.09	0.15		0.15	0.24	0.41	0.09	0.38		0.16	0.47	
v/c Ratio	0.58	0.61		0.78	0.35	0.73	0.53	0.57		0.73	0.34	
Control Delay	68.6	53.3		60.4	39.7	21.9	64.1	14.8		51.5	36.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.6	53.3		60.4	39.7	21.9	64.1	14.8		51.5	36.9	
LOS	E	D		E	D	C	E	B		D	D	
Approach Delay		58.5			38.9			18.3			41.7	
Approach LOS		E			D			B			D	
Queue Length 50th (ft)	62	117		148	101	190	63	81		105	203	
Queue Length 95th (ft)	116	160		#220	140	205	m110	96		m157	249	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	167	480		516	573	689	167	1826		514	2239	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.50	0.34		0.75	0.26	0.73	0.48	0.57		0.73	0.34	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 34.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.0%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

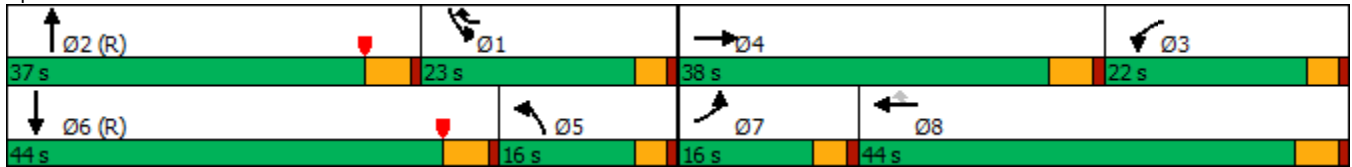
Lanes, Volumes, Timings  
 8: Brea Boulevard & Birch Street

Existing  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Existing  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	1551	34	115	1553	204	30	50	93	140	122	185
Future Volume (vph)	132	1551	34	115	1553	204	30	50	93	140	122	185
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4803	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.667			0.715		
Satd. Flow (perm)	1676	4803	0	1676	4818	1500	1177	1765	1500	1262	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				213			121			203
Link Speed (mph)		45			45			40				40
Link Distance (ft)		713			2627			1029				2657
Travel Time (s)		10.8			39.8			17.5				45.3
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Adj. Flow (vph)	145	1704	37	120	1618	213	39	65	121	154	134	203
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	1741	0	120	1618	213	39	65	121	154	134	203
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2				6
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	23.0	61.0		20.0	58.0	58.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	19.2%	50.8%		16.7%	48.3%	48.3%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	19.0	56.0		16.0	53.0	53.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	15.1	68.7		16.0	69.6	69.6	21.3	21.3	21.3	21.3	21.3	21.3
Actuated g/C Ratio	0.13	0.57		0.13	0.58	0.58	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.69	0.63		0.54	0.58	0.22	0.19	0.21	0.33	0.69	0.23	0.47
Control Delay	66.6	19.8		54.3	15.4	4.1	40.3	40.6	8.6	57.4	38.2	20.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	19.8		54.3	15.4	4.1	40.3	40.6	8.6	57.4	38.2	20.0
LOS	E	B		D	B	A	D	D	A	E	D	B
Approach Delay		23.4			16.6			23.4			36.7	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	108	305		98	328	19	26	44	0	123	52	71
Queue Length 95th (ft)	174	465		m109	m510	m56	43	63	28	182	78	128
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	265	2751		223	2794	959	333	500	511	357	950	570
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.63		0.54	0.58	0.22	0.12	0.13	0.24	0.43	0.14	0.36

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 51 (43%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 21.9 Intersection LOS: C  
 Intersection Capacity Utilization 68.4% ICU Level of Service C  
 Analysis Period (min) 15

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

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing  
 PM Peak Hour

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕↕↕		↖	↕↕↕			↕↕		↖	↕	↗
Traffic Volume (vph)	130	1811	9	57	1766	315	4	7	6	390	29	189
Future Volume (vph)	130	1811	9	57	1766	315	4	7	6	390	29	189
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.977			0.950				0.850
Flt Protected	0.950			0.950				0.988		0.950	0.959	
Satd. Flow (prot)	1676	4813	0	1676	4707	0	0	3147	0	1593	1608	1500
Flt Permitted	0.950			0.950				0.988		0.950	0.959	
Satd. Flow (perm)	1676	4813	0	1676	4707	0	0	3147	0	1593	1608	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			37			8				210
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Adj. Flow (vph)	153	2131	11	63	1941	346	6	10	8	433	32	210
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	153	2142	0	63	2287	0	0	24	0	234	231	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		26.0	26.0		11.0	11.0	11.0
Total Split (s)	15.0	62.0		10.0	57.0		26.0	26.0		22.0	22.0	22.0
Total Split (%)	12.5%	51.7%		8.3%	47.5%		21.7%	21.7%		18.3%	18.3%	18.3%
Maximum Green (s)	11.0	57.0		6.0	52.0		21.0	21.0		17.0	17.0	17.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		14.0	14.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	11.0	65.1		8.2	60.1		9.1	9.1		25.2	25.2	25.2
Actuated g/C Ratio	0.09	0.54		0.07	0.50		0.08	0.08		0.21	0.21	0.21
v/c Ratio	1.00	0.82		0.55	0.96		0.10	0.10		0.70	0.69	0.44
Control Delay	135.8	41.2		78.3	29.8		36.8	36.8		66.2	65.2	22.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	135.8	41.2		78.3	29.8		36.8	36.8		66.2	65.2	22.4
LOS	F	D		E	C		D	D		E	E	C
Approach Delay		47.5			31.1		36.8	36.8			52.2	
Approach LOS		D			C		D	D			D	
Queue Length 50th (ft)	126	616		52	-278		6	6		194	191	49
Queue Length 95th (ft)	#242	628		m64	m#781		13	13		#387	#380	120
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	153	2611		114	2375		557	557		334	337	480
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.00	0.82		0.55	0.96		0.04	0.04		0.70	0.69	0.44

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	40.9
Intersection LOS:	D
Intersection Capacity Utilization:	81.6%
ICU Level of Service:	D
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

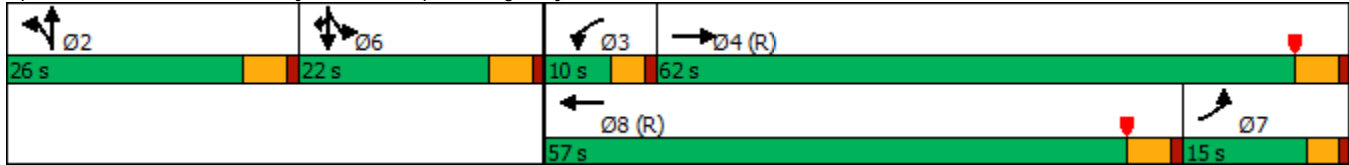


Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Existing  
 PM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔↔
Traffic Volume (vph)	153	1612	388	334	1547	161	418	715	247	198	595	210
Future Volume (vph)	153	1612	388	334	1547	161	418	715	247	198	595	210
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			177			136			217			145
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	168	1771	426	337	1563	163	431	737	255	228	684	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1771	426	337	1563	163	431	737	255	228	684	241
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	12.0	45.0	45.0	16.0	49.0	49.0	19.0	42.0	42.0	17.0	40.0	40.0
Total Split (%)	10.0%	37.5%	37.5%	13.3%	40.8%	40.8%	15.8%	35.0%	35.0%	14.2%	33.3%	33.3%
Maximum Green (s)	8.0	40.0	40.0	12.0	44.0	44.0	15.0	37.0	37.0	13.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	8.0	40.0	40.0	12.0	44.0	44.0	15.0	37.0	37.0	13.0	35.0	35.0
Actuated g/C Ratio	0.07	0.33	0.33	0.10	0.37	0.37	0.12	0.31	0.31	0.11	0.29	0.29
v/c Ratio	0.78	1.10	0.69	1.04	0.89	0.26	1.06	0.50	0.42	0.65	0.70	0.45
Control Delay	56.9	94.4	31.1	56.3	10.3	0.7	111.9	35.3	8.8	40.1	23.3	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	94.4	31.1	56.3	10.3	0.7	111.9	35.3	8.8	40.1	23.3	8.1
LOS	E	F	C	E	B	A	F	D	A	D	C	A
Approach Delay		80.3			17.0			53.7			23.4	
Approach LOS		F			B			D			C	
Queue Length 50th (ft)	69	~574	232	~145	216	3	~189	170	21	96	288	46
Queue Length 95th (ft)	m84	#677	m329	m#140	m189	m2	#293	212	88	m102	123	m27
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	216	1606	618	325	1766	636	406	1485	612	352	977	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.10	0.69	1.04	0.89	0.26	1.06	0.50	0.42	0.65	0.70	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 80 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.10  
 Intersection Signal Delay: 46.9  
 Intersection Capacity Utilization 87.9%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service E

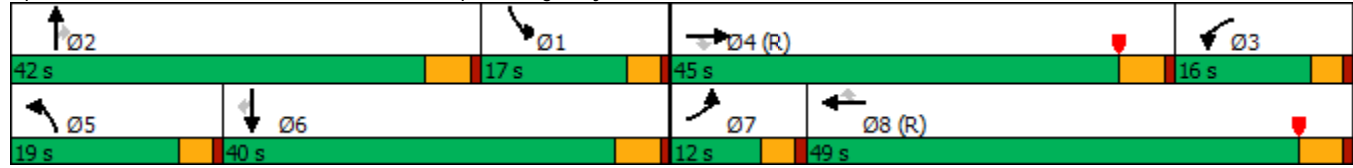
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Existing  
 PM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Existing  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	1828	186	473	1899	508	265	443	311	389	384	137
Future Volume (vph)	117	1828	186	473	1899	508	265	443	311	389	384	137
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3222	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3222	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				128			165			43
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	119	1865	190	509	2042	546	285	476	334	409	404	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	2055	0	509	2042	546	285	476	334	409	548	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	44.0		18.0	52.0	16.0	17.0	42.0	42.0	16.0	41.0	
Total Split (%)	8.3%	36.7%		15.0%	43.3%	13.3%	14.2%	35.0%	35.0%	13.3%	34.2%	
Maximum Green (s)	6.0	39.0		14.0	47.0	12.0	13.0	37.0	37.0	12.0	36.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effect Green (s)	6.0	39.0		14.0	47.0	64.0	13.0	37.0	37.0	12.0	36.0	
Actuated g/C Ratio	0.05	0.32		0.12	0.39	0.53	0.11	0.31	0.31	0.10	0.30	
v/c Ratio	0.73	1.05		1.34	1.08	0.64	0.81	0.46	0.58	1.26	0.55	
Control Delay	52.4	38.9		198.0	74.9	16.7	70.6	35.2	21.6	182.8	34.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.4	38.9		198.0	74.9	16.7	70.6	35.2	21.6	182.8	34.7	
LOS	D	D		F	E	B	E	D	C	F	C	
Approach Delay		39.6			84.9			40.3			98.0	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	50	~491		~263	~640	175	112	156	108	~204	172	
Queue Length 95th (ft)	m53	m244		m#310	#737	m208	#180	208	207	#306	230	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1959		379	1887	859	352	1033	576	325	996	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	1.05		1.34	1.08	0.64	0.81	0.46	0.58	1.26	0.55	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	24 (20%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.34
Intersection Signal Delay:	66.5
Intersection LOS:	E
Intersection Capacity Utilization:	85.1%
ICU Level of Service:	E
Analysis Period (min):	15

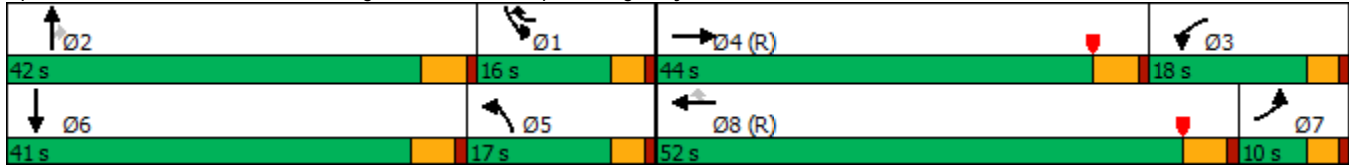
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing  
 PM Peak Hour

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1655	2268	0	646	598
Future Volume (vph)	0	1655	2268	0	646	598
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.963	0.850
Flt Protected					0.964	
Satd. Flow (prot)	0	4818	4818	0	3178	1365
Flt Permitted					0.964	
Satd. Flow (perm)	0	4818	4818	0	3178	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	2
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Adj. Flow (vph)	0	1706	2465	0	710	657
Shared Lane Traffic (%)						35%
Lane Group Flow (vph)	0	1706	2465	0	940	427
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		72.0	72.0		48.0	48.0
Total Split (%)		60.0%	60.0%		40.0%	40.0%
Maximum Green (s)		67.0	67.0		43.0	43.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		67.0	67.0		43.0	43.0
Actuated g/C Ratio		0.56	0.56		0.36	0.36
v/c Ratio		0.63	0.92		0.82	0.87
Control Delay		4.6	14.9		42.3	55.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		4.6	14.9		42.3	55.6
LOS		A	B		D	E
Approach Delay		4.6	14.9		46.4	
Approach LOS		A	B		D	
Queue Length 50th (ft)		60	346		338	335
Queue Length 95th (ft)		m64	383		423	#543
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2690	2690		1140	490
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.63	0.92		0.82	0.87

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 49 (41%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 19.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 128.8%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

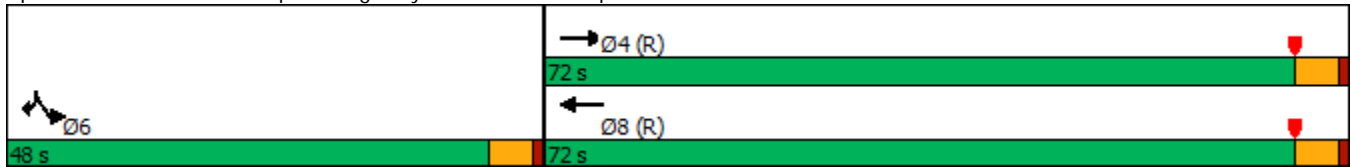
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing  
 PM Peak Hour

Queue shown is maximum after two cycles.



























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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Existing  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (vph)	160	1752	0	0	1454	25	1046	101	501	0	0	241
Future Volume (vph)	160	1752	0	0	1454	25	1046	101	501	0	0	241
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.997			0.959	0.850			0.850
Flt Protected	0.950						0.950	0.976				
Satd. Flow (prot)	1676	4818	0	0	6052	0	3051	1420	1425	0	0	2640
Flt Permitted	0.950						0.950	0.976				
Satd. Flow (perm)	1676	4818	0	0	6052	0	3051	1420	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			17	119			319
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Adj. Flow (vph)	170	1864	0	0	1634	28	1113	107	533	0	0	287
Shared Lane Traffic (%)							20%		23%			
Lane Group Flow (vph)	170	1864	0	0	1662	0	890	453	410	0	0	287
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Existing  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	20.0	61.0			41.0		48.0	48.0	48.0			11.0
Total Split (%)	16.7%	50.8%			34.2%		40.0%	40.0%	40.0%			9.2%
Maximum Green (s)	16.0	56.0			36.0		43.0	43.0	43.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lag	Lag	Lag			Lead
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	16.0	56.0			36.0		43.0	43.0	43.0			6.0
Actuated g/C Ratio	0.13	0.47			0.30		0.36	0.36	0.36			0.05
v/c Ratio	0.76	0.83			0.91		0.81	0.87	0.70			0.66
Control Delay	53.8	17.2			49.4		42.1	53.6	30.3			11.7
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	53.8	17.2			49.4		42.1	53.6	30.3			11.7
LOS	D	B			D		D	D	C			B
Approach Delay		20.3			49.4			42.3				11.7
Approach LOS		C			D			D				B
Queue Length 50th (ft)	121	297			360		340	366	204			0
Queue Length 95th (ft)	m#208	375			404		429	#593	335			22
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	223	2248			1817		1093	519	586			435
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.76	0.83			0.91		0.81	0.87	0.70			0.66

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 32 (27%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 35.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 69.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

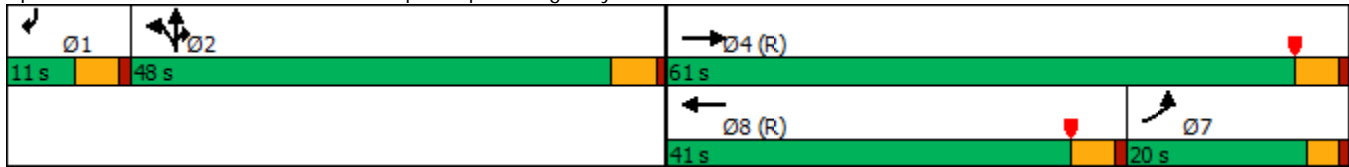
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Existing  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



*APPENDIX D-III*

**EXISTING PLUS PROJECT TRAFFIC CONDITIONS  
– ICU METHODOLOGY**

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	54	159	66	159	367	61	67	844	84	77	978	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	159	66	159	367	61	67	844	84	77	978	35
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	40	17	40	92	15	17	211	21	19	245	9
Total Analysis Volume [veh/h]	54	159	66	159	367	61	67	844	84	77	978	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.09	0.13	0.13	0.04	0.18	0.18	0.05	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.448											



**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	46	140	71	163	372	27	25	886	97	138	1062	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	140	71	163	372	27	25	886	97	138	1062	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	35	18	41	93	7	6	222	24	35	266	23
Total Analysis Volume [veh/h]	46	140	71	163	372	27	25	886	97	138	1062	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.06	0.06	0.10	0.12	0.12	0.01	0.19	0.19	0.08	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.482											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	187	311	139	114	722	246	111	962	248	204	1090	147
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	311	139	114	722	246	111	962	248	204	1090	147
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	78	35	29	181	62	28	241	62	51	273	37
Total Analysis Volume [veh/h]	187	311	139	114	722	246	111	962	248	204	1090	147
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.09	0.08	0.07	0.21	0.14	0.07	0.19	0.15	0.12	0.24	0.24
Intersection LOS	B											
Intersection V/C	0.626											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	144	143	132	793	715	4	7	974	235	496	1446	478
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	143	132	793	715	4	7	974	235	496	1446	478
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	36	33	198	179	1	2	244	59	124	362	120
Total Analysis Volume [veh/h]	144	143	132	793	715	4	7	974	235	496	1446	478
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.05	0.05	0.23	0.21	0.21	0.00	0.18	0.18	0.15	0.28	0.05
Intersection LOS	B											
Intersection V/C	0.661											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	929	0	648	0	1333	512	200	1776	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	929	0	648	0	1333	512	200	1776	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	232	0	162	0	333	128	50	444	0
Total Analysis Volume [veh/h]	0	0	0	929	0	648	0	1333	512	200	1776	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.27	0.00	0.31	0.00	0.27	0.27	0.06	0.35	0.00
Intersection LOS	C											
Intersection V/C	0.707											



**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.691

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T						T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	864	0	430	0	0	0	300	1971	0	0	1092	457
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	864	0	430	0	0	0	300	1971	0	0	1092	457
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	216	0	108	0	0	0	75	493	0	0	273	114
Total Analysis Volume [veh/h]	864	0	430	0	0	0	300	1971	0	0	1092	457
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.00	0.25	0.00	0.00	0.00	0.09	0.39	0.00	0.00	0.23	0.23
Intersection LOS	B											
Intersection V/C	0.691											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.222

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		←		← ↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	306	56	62	528	28	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	306	56	62	528	28	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	14	16	132	7	6
Total Analysis Volume [veh/h]	306	56	62	528	28	23
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.11	0.04	0.16	0.02	0.01
Intersection LOS	A					
Intersection V/C	0.222					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	31	410	194	262	846	55	31	51	33	250	77	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	410	194	262	846	55	31	51	33	250	77	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	103	49	66	212	14	8	13	8	63	19	55
Total Analysis Volume [veh/h]	31	410	194	262	846	55	31	51	33	250	77	220
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.12	0.12	0.08	0.18	0.18	0.02	0.05	0.05	0.07	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.368											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	50	118	163	112	78	114	182	1454	62	67	1243	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	118	163	112	78	114	182	1454	62	67	1243	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	30	41	28	20	29	46	364	16	17	311	38
Total Analysis Volume [veh/h]	50	118	163	112	78	114	182	1454	62	67	1243	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.10	0.07	0.02	0.07	0.11	0.30	0.30	0.04	0.24	0.09
Intersection LOS	A											
Intersection V/C	0.563											



**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	2	26	29	312	15	175	157	1680	4	56	1643	284
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	26	29	312	15	175	157	1680	4	56	1643	284
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	7	78	4	44	39	420	1	14	411	71
Total Analysis Volume [veh/h]	2	26	29	312	15	175	157	1680	4	56	1643	284
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.09	0.10	0.10	0.09	0.33	0.33	0.03	0.38	0.38
Intersection LOS	B											
Intersection V/C	0.640											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	420	427	159	121	836	152	141	1537	351	166	1366	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	420	427	159	121	836	152	141	1537	351	166	1366	61
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	107	40	30	209	38	35	384	88	42	342	15
Total Analysis Volume [veh/h]	420	427	159	121	836	152	141	1537	351	166	1366	61
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.08	0.09	0.04	0.25	0.09	0.04	0.30	0.21	0.05	0.27	0.04
Intersection LOS	C											
Intersection V/C	0.770											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	146	160	403	90	498	37	55	1559	223	470	1523	159
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	160	403	90	498	37	55	1559	223	470	1523	159
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	40	101	23	125	9	14	390	56	118	381	40
Total Analysis Volume [veh/h]	146	160	403	90	498	37	55	1559	223	470	1523	159
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.05	0.24	0.03	0.16	0.16	0.02	0.26	0.26	0.14	0.30	0.07
Intersection LOS	C											
Intersection V/C	0.714											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	591	0	513	0	1441	583	0	1671	208
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	591	0	513	0	1441	583	0	1671	208
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	148	0	128	0	360	146	0	418	52
Total Analysis Volume [veh/h]	0	0	0	591	0	513	0	1441	583	0	1671	208
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.22	0.00	0.28	0.00	0.00	0.33	0.00
Intersection LOS	A											
Intersection V/C	0.594											



**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.606

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	854	152	793	0	0	55	126	1336	547	0	957	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	854	152	793	0	0	55	126	1336	547	0	957	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	214	38	198	0	0	14	32	334	137	0	239	2
Total Analysis Volume [veh/h]	854	152	793	0	0	55	126	1336	547	0	957	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.26	0.26	0.00	0.00	0.02	0.07	0.26	0.00	0.00	0.14	0.14
Intersection LOS	B											
Intersection V/C	0.606											

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	124	324	122	104	207	91	51	886	53	84	1420	146
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	324	122	104	207	91	51	886	53	84	1420	146
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	81	31	26	52	23	13	222	13	21	355	37
Total Analysis Volume [veh/h]	124	324	122	104	207	91	51	886	53	84	1420	146
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.13	0.13	0.06	0.09	0.09	0.03	0.18	0.18	0.05	0.31	0.31
Intersection LOS	A											
Intersection V/C	0.579											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	125	342	117	149	268	57	33	1029	68	54	1468	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	342	117	149	268	57	33	1029	68	54	1468	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	86	29	37	67	14	8	257	17	14	367	28
Total Analysis Volume [veh/h]	125	342	117	149	268	57	33	1029	68	54	1468	113
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.14	0.14	0.09	0.10	0.10	0.02	0.22	0.22	0.03	0.31	0.31
Intersection LOS	B											
Intersection V/C	0.602											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.639

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	404	591	162	57	338	80	148	1080	368	188	1375	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	591	162	57	338	80	148	1080	368	188	1375	73
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	101	148	41	14	85	20	37	270	92	47	344	18
Total Analysis Volume [veh/h]	404	591	162	57	338	80	148	1080	368	188	1375	73
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.17	0.10	0.03	0.10	0.05	0.09	0.21	0.22	0.11	0.28	0.28
Intersection LOS	B											
Intersection V/C	0.639											



**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	280	559	384	531	320	10	14	1154	201	350	1322	942
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	559	384	531	320	10	14	1154	201	350	1322	942
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	140	96	133	80	3	4	289	50	88	331	236
Total Analysis Volume [veh/h]	280	559	384	531	320	10	14	1154	201	350	1322	942
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.18	0.18	0.16	0.10	0.10	0.00	0.20	0.20	0.10	0.26	0.40
Intersection LOS	C											
Intersection V/C	0.793											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	564	0	694	0	1285	785	275	1886	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	564	0	694	0	1285	785	275	1886	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	141	0	174	0	321	196	69	472	0
Total Analysis Volume [veh/h]	0	0	0	564	0	694	0	1285	785	275	1886	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.25	0.00	0.30	0.30	0.08	0.37	0.00
Intersection LOS	B											
Intersection V/C	0.682											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T						T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	1042	0	508	0	0	0	359	1507	0	0	1189	612
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1042	0	508	0	0	0	359	1507	0	0	1189	612
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	261	0	127	0	0	0	90	377	0	0	297	153
Total Analysis Volume [veh/h]	1042	0	508	0	0	0	359	1507	0	0	1189	612
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.31	0.00	0.30	0.00	0.00	0.00	0.11	0.30	0.00	0.00	0.26	0.26
Intersection LOS	C											
Intersection V/C	0.727											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.261

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	489	31	35	435	64	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	489	31	35	435	64	54
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	122	8	9	109	16	14
Total Analysis Volume [veh/h]	489	31	35	435	64	54
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.15	0.15	0.02	0.13	0.04	0.03
Intersection LOS	A					
Intersection V/C	0.261					



**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	70	632	279	328	598	70	75	127	21	355	136	455
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	632	279	328	598	70	75	127	21	355	136	455
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	158	70	82	150	18	19	32	5	89	34	114
Total Analysis Volume [veh/h]	70	632	279	328	598	70	75	127	21	355	136	455
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.18	0.18	0.10	0.13	0.13	0.04	0.09	0.09	0.10	0.08	0.17
Intersection LOS	A											
Intersection V/C	0.540											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	30	50	93	140	122	185	132	1556	34	115	1556	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	50	93	140	122	185	132	1556	34	115	1556	204
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	23	35	31	46	33	389	9	29	389	51
Total Analysis Volume [veh/h]	30	50	93	140	122	185	132	1556	34	115	1556	204
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.05	0.08	0.04	0.11	0.08	0.31	0.31	0.07	0.31	0.12
Intersection LOS	A											
Intersection V/C	0.570											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	4	7	6	401	29	192	135	1811	9	57	1766	331
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	6	401	29	192	135	1811	9	57	1766	331
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	2	100	7	48	34	453	2	14	442	83
Total Analysis Volume [veh/h]	4	7	6	401	29	192	135	1811	9	57	1766	331
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.12	0.13	0.11	0.08	0.36	0.36	0.03	0.41	0.41
Intersection LOS	B											
Intersection V/C	0.672											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	421	715	247	198	595	212	154	1619	390	334	1558	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	421	715	247	198	595	212	154	1619	390	334	1558	161
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	179	62	50	149	53	39	405	98	84	390	40
Total Analysis Volume [veh/h]	421	715	247	198	595	212	154	1619	390	334	1558	161
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.14	0.15	0.06	0.18	0.12	0.05	0.32	0.23	0.10	0.31	0.09
Intersection LOS	C											
Intersection V/C	0.765											



**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.784

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	267	443	311	389	384	137	117	1834	187	473	1909	508
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	267	443	311	389	384	137	117	1834	187	473	1909	508
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	111	78	97	96	34	29	459	47	118	477	127
Total Analysis Volume [veh/h]	267	443	311	389	384	137	117	1834	187	473	1909	508
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.13	0.18	0.11	0.15	0.15	0.03	0.30	0.30	0.14	0.37	0.18
Intersection LOS	C											
Intersection V/C	0.784											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.741

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	646	0	598	0	1657	892	0	2278	469
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	646	0	598	0	1657	892	0	2278	469
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	162	0	150	0	414	223	0	570	117
Total Analysis Volume [veh/h]	0	0	0	646	0	598	0	1657	892	0	2278	469
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.19	0.00	0.24	0.00	0.32	0.00	0.00	0.45	0.00
Intersection LOS	C											
Intersection V/C	0.741											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1052	101	501	0	0	241	160	1754	396	0	1457	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1052	101	501	0	0	241	160	1754	396	0	1457	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	263	25	125	0	0	60	40	439	99	0	364	6
Total Analysis Volume [veh/h]	1052	101	501	0	0	241	160	1754	396	0	1457	25
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

























V/C, Movement V/C Ratio	0.21	0.24	0.24	0.00	0.00	0.07	0.09	0.34	0.00	0.00	0.22	0.22
Intersection LOS	C											
Intersection V/C	0.708											

*APPENDIX D-IV*

**EXISTING PLUS PROJECT TRAFFIC CONDITIONS  
– HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

























Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	67	844	84	77	978	35	54	159	66	159	367	61
Future Volume (veh/h)	67	844	84	77	978	35	54	159	66	159	367	61
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	75	948	94	85	1075	38	61	179	74	177	408	68
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	525	2480	245	106	1387	49	77	303	121	204	541	89
Arrive On Green	0.31	0.55	0.55	0.06	0.29	0.29	0.02	0.04	0.04	0.12	0.19	0.19
Sat Flow, veh/h	1688	4475	443	1688	4797	169	1688	2351	936	1688	2891	478
Grp Volume(v), veh/h	75	683	359	85	722	391	61	126	127	177	236	240
Grp Sat Flow(s),veh/h/ln	1688	1612	1692	1688	1612	1741	1688	1683	1603	1688	1683	1686
Q Serve(g_s), s	3.8	14.4	14.4	6.0	24.6	24.7	4.3	8.8	9.3	12.4	15.9	16.2
Cycle Q Clear(g_c), s	3.8	14.4	14.4	6.0	24.6	24.7	4.3	8.8	9.3	12.4	15.9	16.2
Prop In Lane	1.00		0.26	1.00		0.10	1.00		0.58	1.00		0.28
Lane Grp Cap(c), veh/h	525	1787	938	106	932	503	77	217	207	204	315	315
V/C Ratio(X)	0.14	0.38	0.38	0.80	0.77	0.78	0.79	0.58	0.61	0.87	0.75	0.76
Avail Cap(c_a), veh/h	525	1787	938	183	1102	595	141	393	374	323	575	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	15.1	15.1	55.5	39.1	39.1	58.5	54.3	54.5	51.8	46.1	46.2
Incr Delay (d2), s/veh	0.0	0.6	1.2	4.6	5.5	9.8	5.6	0.8	0.9	8.6	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.0	5.5	2.6	10.1	11.5	2.0	3.9	4.0	5.6	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	15.7	16.3	60.1	44.6	48.9	64.1	55.1	55.4	60.4	47.5	47.6
LnGrp LOS	C	B	B	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1117			1198			314			653	
Approach Delay, s/veh		16.9			47.1			57.0			51.0	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	71.5	17.5	20.5	42.3	39.7	10.5	27.5				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	13.0	40.0	23.0	28.0	12.0	* 41	10.0	* 41				
Max Q Clear Time (g_c+I1), s	8.0	16.4	14.4	11.3	5.8	26.7	6.3	18.2				
Green Ext Time (p_c), s	0.0	10.2	0.2	1.8	0.0	8.0	0.0	4.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			38.5									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

































HCM 6th Signalized Intersection Summary  
2: Berry Street & Lambert Road

Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	25	886	97	138	1062	90	46	140	71	163	372	27
Future Volume (veh/h)	25	886	97	138	1062	90	46	140	71	163	372	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	27	963	105	147	1130	96	62	189	96	220	503	36
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	2054	223	172	2521	214	78	261	127	246	696	50
Arrive On Green	0.01	0.15	0.15	0.10	0.56	0.56	0.05	0.12	0.12	0.15	0.22	0.22
Sat Flow, veh/h	1688	4429	482	1688	4542	386	1688	2195	1068	1688	3187	228
Grp Volume(v), veh/h	27	701	367	147	802	424	62	143	142	220	265	274
Grp Sat Flow(s),veh/h/ln	1688	1612	1685	1688	1612	1703	1688	1683	1580	1688	1683	1731
Q Serve(g_s), s	1.9	23.8	23.9	10.3	17.7	17.7	4.4	9.8	10.4	15.4	17.5	17.6
Cycle Q Clear(g_c), s	1.9	23.8	23.9	10.3	17.7	17.7	4.4	9.8	10.4	15.4	17.5	17.6
Prop In Lane	1.00		0.29	1.00		0.23	1.00		0.68	1.00		0.13
Lane Grp Cap(c), veh/h	33	1496	782	172	1790	945	78	200	188	246	368	378
V/C Ratio(X)	0.83	0.47	0.47	0.85	0.45	0.45	0.79	0.71	0.76	0.89	0.72	0.72
Avail Cap(c_a), veh/h	84	1496	782	239	1790	945	141	352	330	323	534	550
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.59	0.59	0.59	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	37.3	37.4	53.0	15.8	15.8	56.6	50.9	51.2	50.3	43.5	43.6
Incr Delay (d2), s/veh	15.4	0.9	1.8	9.1	0.5	0.9	6.5	1.8	2.3	18.3	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.4	11.1	4.7	6.1	6.6	2.0	4.2	4.2	7.6	7.3	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	38.2	39.1	62.1	16.3	16.7	63.1	52.7	53.5	68.6	44.5	44.5
LnGrp LOS	E	D	D	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		1095			1373			347			759	
Approach Delay, s/veh		39.4			21.3			54.9			51.5	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.3	62.7	20.5	20.6	5.3	73.6	8.6	32.5				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	17.0	34.6	23.0	25.1	6.0	46.6	10.0	38.1				
Max Q Clear Time (g_c+I1), s	12.3	25.9	17.4	12.4	3.9	19.7	6.4	19.6				
Green Ext Time (p_c), s	0.1	5.4	0.2	1.8	0.0	13.1	0.0	4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.5									
HCM 6th LOS			D									
























HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	111	962	248	204	1090	147	187	311	139	114	722	246
Future Volume (veh/h)	111	962	248	204	1090	147	187	311	139	114	722	246
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	128	1106	285	237	1267	171	243	404	181	119	752	256
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	1627	505	261	1729	233	294	927	414	141	906	404
Arrive On Green	0.09	0.34	0.34	0.15	0.40	0.40	0.09	0.28	0.28	0.08	0.27	0.27
Sat Flow, veh/h	1688	4837	1502	1688	4310	582	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	128	1106	285	237	948	490	243	404	181	119	752	256
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1667	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	9.0	23.6	18.7	16.6	29.9	29.9	8.8	11.9	11.9	8.3	25.2	18.0
Cycle Q Clear(g_c), s	9.0	23.6	18.7	16.6	29.9	29.9	8.8	11.9	11.9	8.3	25.2	18.0
Prop In Lane	1.00		1.00	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	1627	505	261	1293	669	294	927	414	141	906	404
V/C Ratio(X)	0.84	0.68	0.56	0.91	0.73	0.73	0.83	0.44	0.44	0.85	0.83	0.63
Avail Cap(c_a), veh/h	169	1627	505	267	1293	669	300	982	438	141	954	425
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)	0.79	0.79	0.79	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	34.3	32.6	49.9	30.5	30.5	53.7	35.8	35.8	54.2	41.3	38.6
Incr Delay (d2), s/veh	21.2	1.8	3.6	21.5	2.3	4.4	15.8	0.5	1.0	33.9	6.3	3.4
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	4.6	9.1	7.2	8.3	11.4	12.2	4.2	4.9	4.4	4.8	11.1	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.9	36.1	36.2	71.3	32.8	34.8	69.5	36.3	36.9	88.1	47.6	42.0
LnGrp LOS	E	D	D	E	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1519			1675			828			1127	
Approach Delay, s/veh		39.4			38.8			46.2			50.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.6	45.4	14.0	38.1	14.8	53.1	14.8	37.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	38.0	10.0	35.0	12.0	45.0	11.0	34.0				
Max Q Clear Time (g_c+I1), s	18.6	25.6	10.3	13.9	11.0	31.9	10.8	27.2				
Green Ext Time (p_c), s	0.0	10.1	0.0	7.0	0.0	11.4	0.0	5.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			42.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	974	235	496	1446	478	144	143	132	793	715	4
Future Volume (veh/h)	7	974	235	496	1446	478	144	143	132	793	715	4
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	8	1133	273	577	1681	556	192	271	122	933	841	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	15	1383	330	614	2238	1145	245	295	125	981	1065	6
Arrive On Green	0.00	0.28	0.28	0.38	0.93	0.93	0.07	0.08	0.08	0.30	0.31	0.31
Sat Flow, veh/h	3274	4949	1182	3274	4837	1502	3375	3544	1502	3274	3431	20
Grp Volume(v), veh/h	8	1046	360	577	1681	556	192	271	122	933	413	433
Grp Sat Flow(s),veh/h/ln	1637	1524	1559	1637	1612	1502	1688	1772	1502	1637	1683	1768
Q Serve(g_s), s	0.3	25.7	26.0	20.4	10.2	5.7	6.7	9.1	9.7	33.5	26.9	26.9
Cycle Q Clear(g_c), s	0.3	25.7	26.0	20.4	10.2	5.7	6.7	9.1	9.7	33.5	26.9	26.9
Prop In Lane	1.00		0.76	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	15	1278	436	614	2238	1145	245	295	125	981	522	549
V/C Ratio(X)	0.55	0.82	0.83	0.94	0.75	0.49	0.78	0.92	0.97	0.95	0.79	0.79
Avail Cap(c_a), veh/h	55	1278	436	627	2238	1145	253	295	125	1009	533	560
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.69	0.69	0.69	0.38	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	40.4	40.5	36.8	2.8	0.6	54.7	54.6	54.9	41.2	37.8	37.8
Incr Delay (d2), s/veh	7.9	4.2	11.8	10.6	0.9	0.6	13.1	31.3	72.2	17.2	7.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.7	11.0	7.0	1.4	0.6	3.2	5.3	6.1	15.4	11.7	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	44.6	52.3	47.4	3.7	1.1	67.8	85.9	127.0	58.4	44.8	44.5
LnGrp LOS	E	D	D	D	A	A	E	F	F	E	D	D
Approach Vol, veh/h		1414			2814			585			1779	
Approach Delay, s/veh		46.7			12.2			88.5			51.9	
Approach LOS		D			B			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	26.5	38.5	40.0	15.0	4.5	60.5	12.7	42.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	23.0	32.0	37.0	10.0	2.0	53.0	9.0	38.0				
Max Q Clear Time (g_c+I1), s	22.4	28.0	35.5	11.7	2.3	12.2	8.7	28.9				
Green Ext Time (p_c), s	0.1	3.3	0.5	0.0	0.0	26.5	0.0	4.7				

Intersection Summary













HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

























HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1333	512	200	1776	0	0	0	0	929	0	648
Future Volume (veh/h)	0	1333	512	200	1776	0	0	0	0	929	0	648
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1549	507	233	2065	0				1314	0	502
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1989	562	319	2463	0				1404	0	624
Arrive On Green	0.00	0.75	0.75	0.19	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1549	507	233	2065	0				1314	0	502
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	21.1	31.4	8.0	0.0	0.0				44.7	0.0	35.2
Cycle Q Clear(g_c), s	0.0	21.1	31.4	8.0	0.0	0.0				44.7	0.0	35.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1989	562	319	2463	0				1404	0	624
V/C Ratio(X)	0.00	0.78	0.90	0.73	0.84	0.00				0.94	0.00	0.80
Avail Cap(c_a), veh/h	0	1989	562	319	2463	0				1448	0	644
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.36	0.36	0.48	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.1	13.4	46.8	0.0	0.0				33.5	0.0	30.8
Incr Delay (d2), s/veh	0.0	1.1	8.9	4.1	1.8	0.0				11.5	0.0	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.3	5.5	3.1	0.4	0.0				20.1	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.2	22.3	50.9	1.8	0.0				45.0	0.0	37.9
LnGrp LOS	A	B	C	D	A	A				D	A	D
Approach Vol, veh/h		2056			2298						1816	
Approach Delay, s/veh		15.5			6.8						43.0	
Approach LOS		B			A						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.2	49.4		54.4		65.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	10.1	44.9		51.5		59.5						
Max Q Clear Time (g_c+I1), s	10.0	33.4		46.7		2.0						
Green Ext Time (p_c), s	0.0	8.4		3.2		26.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			20.3									
HCM 6th LOS			C									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												














HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	300	1971	0	0	1092	457	864	0	430	0	0	0
Future Volume (veh/h)	300	1971	0	0	1092	457	864	0	430	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	337	2215	0	0	1408	456	982	0	489			
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	387	2757	0	0	2202	622	1162	0	533			
Arrive On Green	0.24	1.00	0.00	0.00	0.41	0.41	0.36	0.00	0.36			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	337	2215	0	0	1408	456	982	0	489			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	11.9	0.0	0.0	0.0	25.3	30.7	33.2	0.0	37.4			
Cycle Q Clear(g_c), s	11.9	0.0	0.0	0.0	25.3	30.7	33.2	0.0	37.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	387	2757	0	0	2202	622	1162	0	533			
V/C Ratio(X)	0.87	0.80	0.00	0.00	0.64	0.73	0.84	0.00	0.92			
Avail Cap(c_a), veh/h	450	2757	0	0	2202	622	1241	0	569			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.25	0.25	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	44.9	0.0	0.0	0.0	28.0	29.6	35.7	0.0	37.0			
Incr Delay (d2), s/veh	4.4	0.7	0.0	0.0	1.4	7.5	5.3	0.0	19.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.4	0.2	0.0	0.0	10.5	11.7	13.9	0.0	16.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	0.7	0.0	0.0	29.4	37.1	40.9	0.0	56.2			
LnGrp LOS	D	A	A	A	C	D	D	A	E			
Approach Vol, veh/h		2552			1864			1471				
Approach Delay, s/veh		7.1			31.3			46.0				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.9			18.7	54.2		47.1				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		65.5			16.5	44.5		45.5				
Max Q Clear Time (g_c+I1), s		2.0			13.9	32.7		39.4				
Green Ext Time (p_c), s		31.6			0.3	7.9		3.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				24.5								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												




























HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane

Existing + Project  
 AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	28	23	306	56	62	528
Future Volume (veh/h)	28	23	306	56	62	528
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	47	39	382	70	74	629
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	129	114	2155	391	795	2549
Arrive On Green	0.08	0.08	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1688	1502	2934	517	939	3455
Grp Volume(v), veh/h	47	39	225	227	74	629
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1679	939	1683
Q Serve(g_s), s	1.6	1.5	2.2	2.3	1.4	3.3
Cycle Q Clear(g_c), s	1.6	1.5	2.2	2.3	3.7	3.3
Prop In Lane	1.00	1.00		0.31	1.00	
Lane Grp Cap(c), veh/h	129	114	1275	1271	795	2549
V/C Ratio(X)	0.37	0.34	0.18	0.18	0.09	0.25
Avail Cap(c_a), veh/h	619	551	1275	1271	795	2549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.66	0.66	0.63	0.63
Uniform Delay (d), s/veh	26.3	26.3	2.0	2.0	2.6	2.2
Incr Delay (d2), s/veh	1.7	1.8	0.2	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.3	0.3	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.1	28.0	2.2	2.2	2.7	2.3
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	86		452			703
Approach Delay, s/veh	28.1		2.2			2.4
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		50.4			50.4	9.6
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		28.0			28.0	22.0
Max Q Clear Time (g_c+I1), s		4.3			5.7	3.6
Green Ext Time (p_c), s		2.5			4.5	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			4.1			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street


























Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		  	  	
Traffic Volume (veh/h)	31	51	33	250	77	220	31	410	194	262	846	55
Future Volume (veh/h)	31	51	33	250	77	220	31	410	194	262	846	55
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	38	62	40	338	104	297	37	494	234	276	891	58
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	82	53	402	313	835	485	839	383	1242	1624	105
Arrive On Green	0.04	0.08	0.08	0.12	0.18	0.18	0.58	0.52	0.52	0.38	0.35	0.35
Sat Flow, veh/h	1688	1006	649	3274	1772	1502	1688	3249	1481	3274	4641	301
Grp Volume(v), veh/h	38	0	102	338	104	297	37	490	238	276	618	331
Grp Sat Flow(s),veh/h/ln	1688	0	1655	1637	1772	1502	1688	1612	1505	1637	1612	1718
Q Serve(g_s), s	2.7	0.0	7.2	12.1	6.2	2.0	1.2	12.7	13.4	6.9	18.5	18.6
Cycle Q Clear(g_c), s	2.7	0.0	7.2	12.1	6.2	2.0	1.2	12.7	13.4	6.9	18.5	18.6
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.98	1.00		0.18
Lane Grp Cap(c), veh/h	61	0	134	402	313	835	485	833	389	1242	1129	601
V/C Ratio(X)	0.63	0.00	0.76	0.84	0.33	0.36	0.08	0.59	0.61	0.22	0.55	0.55
Avail Cap(c_a), veh/h	98	0	455	546	679	1145	485	833	389	1242	1129	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	0.0	54.0	51.5	43.2	7.1	18.4	24.6	24.7	25.2	31.4	31.4
Incr Delay (d2), s/veh	10.2	0.0	8.5	8.5	0.6	0.3	0.1	2.8	6.5	0.1	1.9	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	3.3	5.4	2.8	2.7	0.5	4.2	4.4	2.7	7.4	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	0.0	62.4	60.0	43.8	7.3	18.5	27.4	31.2	25.3	33.3	35.0
LnGrp LOS	E	A	E	E	D	A	B	C	C	C	C	C
Approach Vol, veh/h		140			739			765			1225	
Approach Delay, s/veh		63.7			36.6			28.1			31.9	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	49.5	36.0	19.7	14.7	38.5	47.0	8.3	26.2				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	18.0	31.0	20.0	* 33	7.0	42.0	7.0	46.0				
Max Q Clear Time (g_c+I1), s	8.9	15.4	14.1	9.2	3.2	20.6	4.7	8.2				
Green Ext Time (p_c), s	0.6	4.2	0.6	0.5	0.0	6.3	0.0	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.7								
HCM 6th LOS				C								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
9: Puente Street & Imperial Highway

Existing + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	182	1454	62	67	1243	150	50	118	163	112	78	114
Future Volume (veh/h)	182	1454	62	67	1243	150	50	118	163	112	78	114
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	209	1671	71	72	1337	161	59	139	192	137	95	139
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	2419	103	249	2531	786	285	388	329	220	738	329
Arrive On Green	0.14	0.51	0.51	0.30	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1688	4758	202	1688	4837	1502	1146	1772	1502	1049	3367	1502
Grp Volume(v), veh/h	209	1132	610	72	1337	161	59	139	192	137	95	139
Grp Sat Flow(s),veh/h/ln	1688	1612	1736	1688	1612	1502	1146	1772	1502	1049	1683	1502
Q Serve(g_s), s	14.6	31.9	32.0	3.9	0.0	0.0	5.2	8.0	13.7	15.3	2.7	9.6
Cycle Q Clear(g_c), s	14.6	31.9	32.0	3.9	0.0	0.0	8.0	8.0	13.7	23.2	2.7	9.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	1639	882	249	2531	786	285	388	329	220	738	329
V/C Ratio(X)	0.88	0.69	0.69	0.29	0.53	0.20	0.21	0.36	0.58	0.62	0.13	0.42
Avail Cap(c_a), veh/h	352	1639	882	249	2531	786	359	502	425	288	954	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	50.5	22.4	22.4	37.5	0.0	0.0	40.8	39.7	41.9	49.5	37.6	40.3
Incr Delay (d2), s/veh	15.6	2.4	4.4	0.1	0.1	0.1	0.4	0.6	1.6	1.9	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	11.7	13.1	1.5	0.0	0.0	1.5	3.5	5.1	4.0	1.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	24.8	26.8	37.5	0.1	0.1	41.2	40.3	43.6	51.4	37.7	40.9
LnGrp LOS	E	C	C	D	A	A	D	D	D	D	D	D
Approach Vol, veh/h		1951			1570			390			371	
Approach Delay, s/veh		29.8			1.8			42.0			44.0	
Approach LOS		C			A			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		31.3	22.7	66.0		31.3	20.9	67.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		34.0	11.0	* 61		34.0	25.0	47.0				
Max Q Clear Time (g_c+I1), s		15.7	5.9	34.0		25.2	16.6	2.0				
Green Ext Time (p_c), s		1.5	0.0	13.6		1.1	0.3	12.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Existing + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	157	1680	4	56	1643	284	2	26	29	312	15	175
Future Volume (veh/h)	157	1680	4	56	1643	284	2	26	29	312	15	175
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	164	1750	4	66	1933	334	4	46	51	425	0	230
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	3069	7	84	2389	406	7	83	77	422	0	188
Arrive On Green	0.09	0.62	0.62	0.02	0.19	0.19	0.05	0.05	0.05	0.13	0.00	0.13
Sat Flow, veh/h	1688	4983	11	1688	4163	707	141	1624	1502	3375	0	1502
Grp Volume(v), veh/h	164	1132	622	66	1490	777	50	0	51	425	0	230
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1645	1765	0	1502	1688	0	1502
Q Serve(g_s), s	11.0	24.9	24.9	4.7	53.0	54.4	3.3	0.0	4.0	15.0	0.0	15.0
Cycle Q Clear(g_c), s	11.0	24.9	24.9	4.7	53.0	54.4	3.3	0.0	4.0	15.0	0.0	15.0
Prop In Lane	1.00		0.01	1.00		0.43	0.08		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	1986	1090	84	1851	944	90	0	77	422	0	188
V/C Ratio(X)	1.06	0.57	0.57	0.79	0.81	0.82	0.55	0.00	0.66	1.01	0.00	1.23
Avail Cap(c_a), veh/h	155	1986	1090	127	1851	944	309	0	263	422	0	188
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.34	0.34	0.34	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	54.5	13.6	13.6	58.4	42.2	42.8	55.6	0.0	55.9	52.5	0.0	52.5
Incr Delay (d2), s/veh	81.5	1.0	1.7	6.4	1.3	2.9	5.2	0.0	9.4	45.2	0.0	138.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.3	9.4	2.1	23.1	24.6	1.6	0.0	1.7	8.9	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	136.0	14.6	15.4	64.7	43.6	45.7	60.8	0.0	65.3	97.7	0.0	191.2
LnGrp LOS	F	B	B	E	D	D	E	A	E	F	A	F
Approach Vol, veh/h		1918			2333			101			655	
Approach Delay, s/veh		25.2			44.9			63.1			130.6	
Approach LOS		C			D			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.1	10.0	78.9		20.0	15.0	73.9				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		21.0	9.0	56.0		15.0	11.0	54.0				
Max Q Clear Time (g_c+I1), s		6.0	6.7	26.9		17.0	13.0	56.4				
Green Ext Time (p_c), s		0.4	0.0	14.2		0.0	0.0	0.0				

Intersection Summary


































HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
























HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Existing + Project  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 		
Traffic Volume (veh/h)	141	1537	351	166	1366	61	420	427	159	121	836	152
Future Volume (veh/h)	141	1537	351	166	1366	61	420	427	159	121	836	152
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	147	1601	366	182	1501	67	538	547	204	127	880	160
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1612	501	1075	3000	931	546	1854	576	218	982	438
Arrive On Green	0.10	0.67	0.67	0.33	0.62	0.62	0.17	0.38	0.38	0.13	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	147	1601	366	182	1501	67	538	547	204	127	880	160
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	5.3	39.2	20.1	4.7	20.5	2.8	19.7	9.4	11.6	4.4	27.4	6.8
Cycle Q Clear(g_c), s	5.3	39.2	20.1	4.7	20.5	2.8	19.7	9.4	11.6	4.4	27.4	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	1612	501	1075	3000	931	546	1854	576	218	982	438
V/C Ratio(X)	0.90	0.99	0.73	0.17	0.50	0.07	0.99	0.29	0.35	0.58	0.90	0.37
Avail Cap(c_a), veh/h	164	1612	501	1075	3000	931	546	1854	576	246	982	438
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.63	0.63	0.63	0.57	0.57	0.57	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	53.7	19.9	18.4	28.6	12.6	16.2	49.9	25.7	26.4	50.4	23.4	19.1
Incr Delay (d2), s/veh	30.7	16.2	5.9	0.0	0.3	0.1	34.8	0.4	1.7	2.5	11.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.7	5.0	1.8	6.7	0.7	10.5	3.6	4.3	1.8	8.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.4	36.1	24.3	28.7	12.9	16.3	84.7	26.1	28.1	52.9	34.7	21.2
LnGrp LOS	F	D	C	C	B	B	F	C	C	D	C	C
Approach Vol, veh/h		2114			1750			1289			1167	
Approach Delay, s/veh		37.4			14.7			50.9			34.9	
Approach LOS		D			B			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	51.0	45.2	45.0	24.0	40.0	10.0	80.2				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	9.0	* 46	7.0	* 40	20.0	35.0	6.0	41.0				
Max Q Clear Time (g_c+I1), s	6.4	13.6	6.7	41.2	21.7	29.4	7.3	22.5				
Green Ext Time (p_c), s	0.1	4.5	0.0	0.0	0.0	3.0	0.0	10.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Existing + Project  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1559	223	470	1523	159	146	160	403	90	498	37
Future Volume (veh/h)	55	1559	223	470	1523	159	146	160	403	90	498	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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	63	1792	256	511	1655	173	180	198	498	101	560	42
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	663	1810	258	1018	2136	736	218	1072	478	158	926	69
Arrive On Green	0.20	0.33	0.33	0.31	0.44	0.44	0.07	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	3274	5429	775	3274	4837	1502	3274	3367	1502	3274	3175	238
Grp Volume(v), veh/h	63	1509	539	511	1655	173	180	198	498	101	296	306
Grp Sat Flow(s),veh/h/ln	1637	1524	1632	1637	1612	1502	1637	1683	1502	1637	1683	1729
Q Serve(g_s), s	1.9	39.4	39.4	15.3	34.8	5.6	6.5	5.1	25.6	3.6	18.2	18.2
Cycle Q Clear(g_c), s	1.9	39.4	39.4	15.3	34.8	5.6	6.5	5.1	25.6	3.6	18.2	18.2
Prop In Lane	1.00		0.47	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	663	1524	544	1018	2136	736	218	1072	478	158	491	504
V/C Ratio(X)	0.10	0.99	0.99	0.50	0.77	0.24	0.82	0.18	1.04	0.64	0.60	0.61
Avail Cap(c_a), veh/h	663	1524	544	1018	2136	736	218	1072	478	164	491	504
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)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	39.8	39.8	33.8	28.4	12.6	55.3	29.6	18.4	56.1	36.5	36.6
Incr Delay (d2), s/veh	0.0	11.2	20.0	0.4	2.8	0.8	22.0	0.4	52.4	7.7	5.4	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	15.6	18.0	5.9	13.2	1.3	3.3	2.1	15.1	1.6	8.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	51.0	59.8	34.2	31.2	13.3	77.3	30.0	70.8	63.8	42.0	41.9
LnGrp LOS	D	D	E	C	C	B	E	C	F	E	D	D
Approach Vol, veh/h		2111			2339			876			703	
Approach Delay, s/veh		52.9			30.6			62.9			45.1	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	43.2	41.6	45.0	13.0	40.0	28.6	58.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0				
Max Green Setting (Gmax), s	6.0	37.0	19.0	40.0	8.0	* 35	6.0	53.0				
Max Q Clear Time (g_c+I1), s	5.6	27.6	17.3	41.4	8.5	20.2	3.9	36.8				
Green Ext Time (p_c), s	0.0	2.2	0.4	0.0	0.0	3.0	0.0	10.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			44.8									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (veh/h)	0	1441	1671	0	591	513
Future Volume (veh/h)	0	1441	1671	0	591	513
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1566	1857	0	789	400
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2257	2257	0	1238	551
Arrive On Green	0.00	0.47	0.47	0.00	0.37	0.37
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1566	1857	0	789	400
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	15.3	19.9	0.0	11.6	13.8
Cycle Q Clear(g_c), s	0.0	15.3	19.9	0.0	11.6	13.8
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2257	2257	0	1238	551
V/C Ratio(X)	0.00	0.69	0.82	0.00	0.64	0.73
Avail Cap(c_a), veh/h	0	2257	2257	0	1238	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.6	13.9	0.0	15.7	16.4
Incr Delay (d2), s/veh	0.0	1.8	3.5	0.0	2.5	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.5	6.1	0.0	4.4	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	14.4	17.4	0.0	18.2	24.5
LnGrp LOS	A	B	B	A	B	C
Approach Vol, veh/h		1566	1857		1189	
Approach Delay, s/veh		14.4	17.4		20.4	
Approach LOS		B	B		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				33.0	27.0	33.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				28.0	22.0	28.0
Max Q Clear Time (g_c+I1), s				17.3	15.8	21.9
Green Ext Time (p_c), s				7.0	2.7	4.9

Intersection Summary



























HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (veh/h)	126	1336	0	0	957	6	854	152	793	0	0	55
Future Volume (veh/h)	126	1336	0	0	957	6	854	152	793	0	0	55
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	135	1437	0	0	1100	7	886	575	718	0	0	83
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	309	2096	0	0	1312	8	1631	856	726	0	0	0
Arrive On Green	0.18	0.43	0.00	0.00	0.21	0.21	0.48	0.48	0.48	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6544	40	3375	1772	1502			0
Grp Volume(v), veh/h	135	1437	0	0	799	308	886	575	718			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1765	1688	1772	1502			
Q Serve(g_s), s	8.5	28.7	0.0	0.0	20.1	20.1	22.1	29.8	56.8			
Cycle Q Clear(g_c), s	8.5	28.7	0.0	0.0	20.1	20.1	22.1	29.8	56.8			
Prop In Lane	1.00		0.00	0.00		0.02	1.00		1.00			
Lane Grp Cap(c), veh/h	309	2096	0	0	952	368	1631	856	726			
V/C Ratio(X)	0.44	0.69	0.00	0.00	0.84	0.84	0.54	0.67	0.99			
Avail Cap(c_a), veh/h	309	2096	0	0	952	368	1631	856	726			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	43.5	27.4	0.0	0.0	45.6	45.6	21.7	23.7	30.7			
Incr Delay (d2), s/veh	1.0	1.8	0.0	0.0	8.8	20.0	1.3	4.2	30.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	10.8	0.0	0.0	8.1	10.6	8.9	13.2	25.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	29.3	0.0	0.0	54.3	65.6	23.0	27.9	61.6			
LnGrp LOS	D	C	A	A	D	E	C	C	E			
Approach Vol, veh/h		1572			1107			2179				
Approach Delay, s/veh		30.6			57.5			37.0				
Approach LOS		C			E			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		63.0		57.0			27.0	30.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		58.0		41.0			12.0	* 25				
Max Q Clear Time (g_c+I1), s		58.8		30.7			10.5	22.1				
Green Ext Time (p_c), s		0.0		6.3			0.0	1.7				

Intersection Summary





















HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	844	84	77	978	35	54	159	66	159	367	61
Future Volume (vph)	67	844	84	77	978	35	54	159	66	159	367	61
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.986			0.995			0.956			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4750	0	1676	4794	0	1676	3205	0	1676	3283	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4750	0	1676	4794	0	1676	3205	0	1676	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			5			49			17	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	75	948	94	85	1075	38	61	179	74	177	408	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	1042	0	85	1113	0	61	253	0	177	476	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	15.0	45.0		16.0	46.0		13.0	33.0		26.0	46.0	
Total Split (%)	12.5%	37.5%		13.3%	38.3%		10.8%	27.5%		21.7%	38.3%	
Maximum Green (s)	12.0	40.0		13.0	41.0		10.0	28.0		23.0	41.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.1	62.8		10.0	62.6		10.8	16.1		16.9	23.8	
Actuated g/C Ratio	0.08	0.52		0.08	0.52		0.09	0.13		0.14	0.20	
v/c Ratio	0.53	0.42		0.61	0.44		0.41	0.54		0.75	0.72	
Control Delay	66.0	20.8		72.0	7.3		51.8	35.8		68.5	49.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	66.0	20.8		72.0	7.3		51.8	35.8		68.5	49.8	
LOS	E	C		E	A		D	D		E	D	
Approach Delay		23.8			11.9			38.9			54.9	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	56	172		53	28		51	96		133	179	
Queue Length 95th (ft)	105	293		91	361		m90	134		201	226	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	167	2493		181	2503		176	785		321	1132	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.42		0.47	0.44		0.35	0.32		0.55	0.42	

Intersection Summary

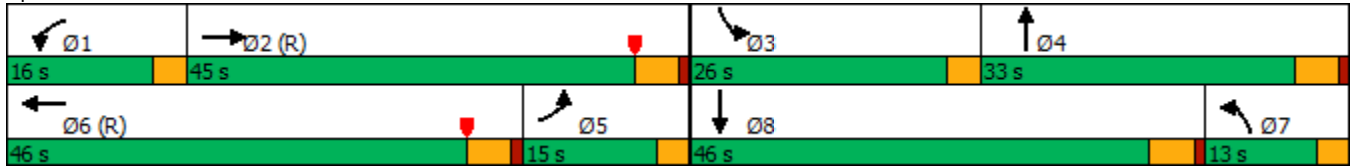
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Existing + Project  
 AM Peak Hour

Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road





Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	25	886	97	138	1062	90	46	140	71	163	372	27
Future Volume (vph)	25	886	97	138	1062	90	46	140	71	163	372	27
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.985			0.988			0.949			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4745	0	1676	4760	0	1676	3182	0	1676	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4745	0	1676	4760	0	1676	3182	0	1676	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			13			67			6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	27	963	105	147	1130	96	62	189	96	220	503	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1068	0	147	1226	0	62	285	0	220	539	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	9.0	41.6		21.0	53.6		13.0	31.4		26.0	44.4	
Total Split (%)	7.5%	34.7%		17.5%	44.7%		10.8%	26.2%		21.7%	37.0%	
Maximum Green (s)	6.0	34.6		17.0	46.6		10.0	25.1		23.0	38.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.9	51.4		14.1	63.7		8.2	15.1		19.2	27.7	
Actuated g/C Ratio	0.05	0.43		0.12	0.53		0.07	0.13		0.16	0.23	
v/c Ratio	0.33	0.52		0.75	0.48		0.54	0.62		0.82	0.70	
Control Delay	68.1	24.6		77.2	8.3		56.8	48.3		72.4	46.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.1	24.6		77.2	8.3		56.8	48.3		72.4	46.7	
LOS	E	C		E	A		E	D		E	D	
Approach Delay		25.7			15.7			49.8			54.2	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	18	245		108	29		46	96		165	207	
Queue Length 95th (ft)	m46	342		m127	340		64	110		196	182	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	89	2039		238	2531		139	718		321	1057	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.30	0.52		0.62	0.48		0.45	0.40		0.69	0.51	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 31.6 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Existing + Project  
 AM Peak Hour
























Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 30.2	Intersection LOS: C
Intersection Capacity Utilization 64.0%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road

↙ Ø1 21 s	→ Ø2 (R) 41.6 s	↘ Ø3 26 s	↑ Ø4 31.4 s
↗ Ø5 9 s	← Ø6 (R) 53.6 s	↖ Ø7 13 s	↓ Ø8 44.4 s

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	962	248	204	1090	147	187	311	139	114	722	246
Future Volume (vph)	111	962	248	204	1090	147	187	311	139	114	722	246
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.982				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4731	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4731	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		23				181			219
Link Speed (mph)		45		45			35		35		35	
Link Distance (ft)		3309		3979			1995		706		706	
Travel Time (s)		50.1		60.3			38.9		13.8		13.8	
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Adj. Flow (vph)	128	1106	285	237	1267	171	243	404	181	119	752	256
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	1106	285	237	1438	0	243	404	181	119	752	256
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24		24		24	
Link Offset(ft)		0		0			0		0		0	
Crosswalk Width(ft)		16		16			16		16		16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117			117		117		117	
Detector 2 Size(ft)		6		6			6		6		6	
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0		0.0		0.0	
Detector 3 Position(ft)		234		234			234		234		234	
Detector 3 Size(ft)		6		6			6		6		6	
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	16.0	43.0	43.0	23.0	50.0		15.0	40.0	40.0	14.0	39.0	39.0
Total Split (%)	13.3%	35.8%	35.8%	19.2%	41.7%		12.5%	33.3%	33.3%	11.7%	32.5%	32.5%
Maximum Green (s)	12.0	38.0	38.0	19.0	45.0		11.0	35.0	35.0	10.0	34.0	34.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	11.3	39.3	39.3	18.4	46.3		10.8	34.5	34.5	9.8	33.5	33.5
Actuated g/C Ratio	0.09	0.33	0.33	0.15	0.39		0.09	0.29	0.29	0.08	0.28	0.28
v/c Ratio	0.81	0.70	0.44	0.92	0.78		0.83	0.42	0.32	0.87	0.80	0.44
Control Delay	95.3	29.7	6.0	87.3	15.9		84.2	28.4	3.9	103.5	47.7	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.3	29.7	6.0	87.3	15.9		84.2	28.4	3.9	103.5	47.7	9.6
LOS	F	C	A	F	B		F	C	A	F	D	A
Approach Delay		30.8			26.0			39.4			44.9	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	89	307	88	145	273		92	151	2	93	283	21
Queue Length 95th (ft)	m#190	121	15	m#295	209		124	81	4	#202	359	91
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	167	1576	652	265	1841		298	977	565	139	950	581
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.70	0.44	0.89	0.78		0.82	0.41	0.32	0.86	0.79	0.44

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

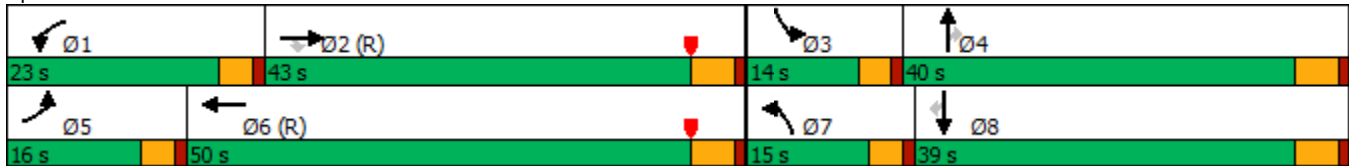
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Existing + Project  
 AM Peak Hour


































Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 33.7	Intersection LOS: C
Intersection Capacity Utilization 73.9%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (vph)	7	974	235	496	1446	478	144	143	132	793	715	4
Future Volume (vph)	7	974	235	496	1446	478	144	143	132	793	715	4
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.971				0.850		0.963	0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5895	0	3252	4818	1500	3252	3093	1365	3252	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5895	0	3252	4818	1500	3252	3093	1365	3252	3350	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						140		27	164			
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Adj. Flow (vph)	8	1133	273	577	1681	556	192	191	176	933	841	5
Shared Lane Traffic (%)									36%			
Lane Group Flow (vph)	8	1406	0	577	1681	556	192	254	113	933	846	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	37.0		27.0	58.0	41.0	13.0	15.0	15.0	41.0	43.0	
Total Split (%)	5.0%	30.8%		22.5%	48.3%	34.2%	10.8%	12.5%	12.5%	34.2%	35.8%	
Maximum Green (s)	2.0	32.0		23.0	53.0	37.0	9.0	10.0	10.0	37.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.5	33.0		22.6	58.4	99.7	8.9	10.1	10.1	36.3	37.5	
Actuated g/C Ratio	0.02	0.28		0.19	0.49	0.83	0.07	0.08	0.08	0.30	0.31	
v/c Ratio	0.12	0.87		0.94	0.72	0.44	0.80	0.89	0.43	0.95	0.81	
Control Delay	81.4	25.0		77.4	22.1	1.4	79.1	81.2	7.2	59.8	45.0	
Queue Delay	0.0	1.6		0.0	0.9	0.6	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.4	26.6		77.4	23.0	2.0	79.1	81.2	7.2	59.8	45.0	
LOS	F	C		E	C	A	E	F	A	E	D	
Approach Delay		26.9			30.0			65.5			52.8	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	3	334		244	254	24	76	97	0	360	314	
Queue Length 95th (ft)	m5	258		m#301	312	m38	96	#128	0	#436	364	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	67	1621		623	2345	1277	243	284	265	1002	1060	
Starvation Cap Reductn	0	0		0	368	362	0	0	0	0	0	
Spillback Cap Reductn	0	94		0	0	0	0	0	2	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.92		0.93	0.85	0.61	0.79	0.89	0.43	0.93	0.80	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 21 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated



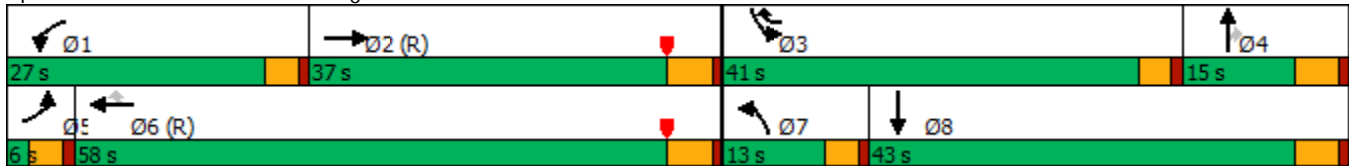
# Lanes, Volumes, Timings

## 4: State College Boulevard & Lambert Road

Existing + Project  
AM Peak Hour













Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 38.5	Intersection LOS: D
Intersection Capacity Utilization 81.2%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1333	512	200	1776	0	0	0	0	929	0	648
Future Volume (vph)	0	1333	512	200	1776	0	0	0	0	929	0	648
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.989	0.850								0.956	0.850
Flt Protected				0.950						0.950	0.966	
Satd. Flow (prot)	0	4503	1290	3252	4818	0	0	0	0	1593	1483	1425
Flt Permitted				0.950						0.950	0.966	
Satd. Flow (perm)	0	4503	1290	3252	4818	0	0	0	0	1593	1483	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11	450								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95	0.86	0.86	0.86
Adj. Flow (vph)	0	1465	563	233	2065	0	0	0	0	1080	0	753
Shared Lane Traffic (%)			20%							41%		24%
Lane Group Flow (vph)	0	1578	450	233	2065	0	0	0	0	637	624	572
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		49.4	49.4	14.6	64.0					56.0	56.0	56.0
Total Split (%)		41.2%	41.2%	12.2%	53.3%					46.7%	46.7%	46.7%
Maximum Green (s)		44.9	44.9	10.1	59.5					51.5	51.5	51.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effct Green (s)		45.2	45.2	10.1	59.8					51.2	51.2	51.2
Actuated g/C Ratio		0.38	0.38	0.08	0.50					0.43	0.43	0.43
v/c Ratio		0.93	0.59	0.85	0.86					0.94	0.94	0.90
Control Delay		36.5	6.4	69.8	26.6					55.9	53.7	47.2
Queue Delay		3.7	0.7	0.0	1.1					0.0	0.0	0.0
Total Delay		40.2	7.1	69.8	27.7					55.9	53.7	47.2
LOS		D	A	E	C					E	D	D
Approach Delay		32.9			31.9						52.4	
Approach LOS		C			C						D	
Queue Length 50th (ft)		244	61	95	286					485	464	390
Queue Length 95th (ft)		m#417	m76	m#130	341					#681	#674	#576
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1702	766	273	2399					683	667	642
Starvation Cap Reductn		79	101	0	142					0	0	0
Spillback Cap Reductn		26	0	0	76					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.97	0.68	0.85	0.91					0.93	0.94	0.89

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 24.9 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 38.4      Intersection LOS: D  
 Intersection Capacity Utilization 82.6%      ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

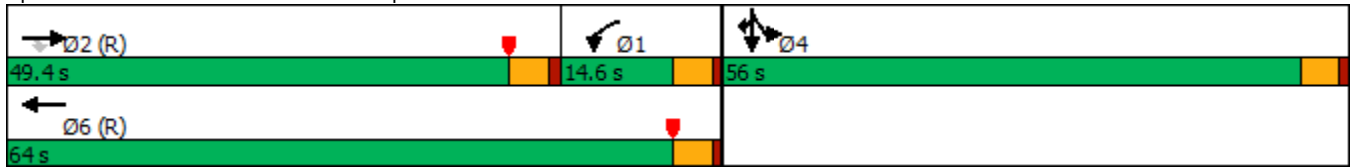
Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Existing + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	300	1971	0	0	1092	457	864	0	430	0	0	0
Future Volume (vph)	300	1971	0	0	1092	457	864	0	430	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.986	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4489	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4489	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15	409			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88	0.95	0.95	0.95
Adj. Flow (vph)	337	2215	0	0	1285	538	982	0	489	0	0	0
Shared Lane Traffic (%)						24%						
Lane Group Flow (vph)	337	2215	0	0	1414	409	982	0	489	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	21.0	70.0			49.0	49.0	50.0		50.0			
Total Split (%)	17.5%	58.3%			40.8%	40.8%	41.7%		41.7%			
Maximum Green (s)	16.5	65.5			44.5	44.5	45.5		45.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lead				Lag			Lag				
Lead-Lag Optimize?	Yes				Yes			Yes				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	15.9	68.7			48.3	48.3	42.3		42.3			
Actuated g/C Ratio	0.13	0.57			0.40	0.40	0.35		0.35			
v/c Ratio	0.78	0.80			0.78	0.54	0.86		0.87			
Control Delay	60.8	10.3			35.4	5.4	44.2		48.5			
Queue Delay	0.0	0.6			0.2	0.0	0.0		0.0			
Total Delay	60.8	10.9			35.6	5.4	44.2		48.5			
LOS	E	B			D	A	D		D			
Approach Delay		17.5			28.8			45.7				
Approach LOS		B			C			D				
Queue Length 50th (ft)	134	284			381	0	350		308			
Queue Length 95th (ft)	m143	305			413	55	414		#438			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	452	2758			1815	763	1233		602			
Starvation Cap Reductn	0	210			0	0	0		0			
Spillback Cap Reductn	0	0			58	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.75	0.87			0.80	0.54	0.80		0.81			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 33.5 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.1  
 Intersection Capacity Utilization 82.6%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings  
 6: SR-57 NB Ramps & Lambert Road

Existing + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.














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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing + Project  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	28	23	306	56	62	528
Future Volume (vph)	28	23	306	56	62	528
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.977			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3276	0	1676	3353
Flt Permitted	0.950				0.491	
Satd. Flow (perm)	1676	1500	3276	0	866	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39	47			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Adj. Flow (vph)	47	39	383	70	74	629
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	39	453	0	74	629
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing + Project  
AM Peak Hour

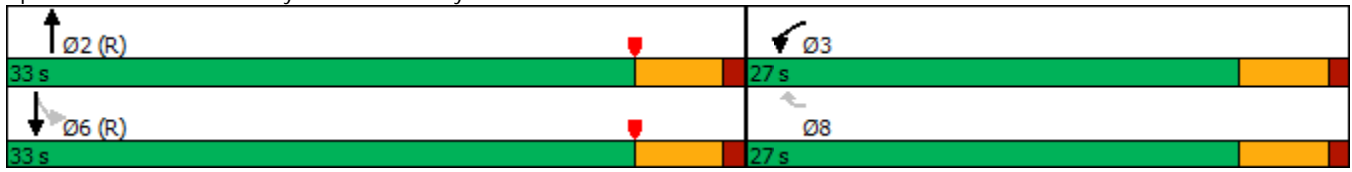


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	27.0	27.0	33.0		33.0	33.0
Total Split (%)	45.0%	45.0%	55.0%		55.0%	55.0%
Maximum Green (s)	22.0	22.0	28.0		28.0	28.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effect Green (s)	8.8	8.8	47.6		47.6	47.6
Actuated g/C Ratio	0.15	0.15	0.79		0.79	0.79
v/c Ratio	0.19	0.15	0.17		0.11	0.24
Control Delay	22.2	8.5	2.3		4.6	3.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	22.2	8.5	2.3		4.6	3.8
LOS	C	A	A		A	A
Approach Delay	16.0		2.3			3.9
Approach LOS	B		A			A
Queue Length 50th (ft)	16	0	28		2	11
Queue Length 95th (ft)	21	8	m54		m31	93
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	614	574	2607		687	2659
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.08	0.07	0.17		0.11	0.24

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 36 (60%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.24  
 Intersection Signal Delay: 4.1  
 Intersection Capacity Utilization 33.3%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing + Project  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	51	33	250	77	220	31	410	194	262	846	55
Future Volume (vph)	31	51	33	250	77	220	31	410	194	262	846	55
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.941				0.850		0.952			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1661	0	3252	1765	1500	1676	4586	0	3252	4774	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1661	0	3252	1765	1500	1676	4586	0	3252	4774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				156		97			9	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Adj. Flow (vph)	38	62	40	338	104	297	37	494	234	276	891	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	102	0	338	104	297	37	728	0	276	949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing + Project  
AM Peak Hour

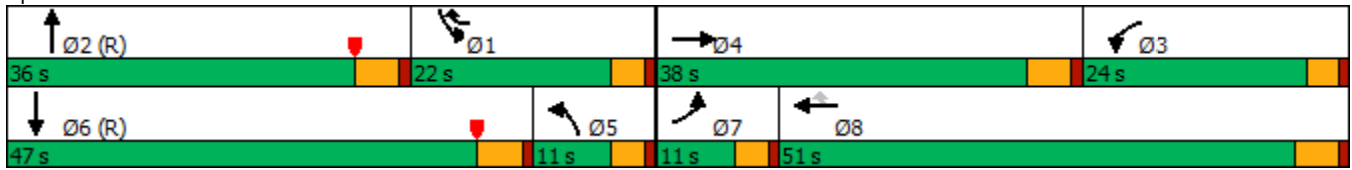


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	11.0	38.0		24.0	51.0	22.0	11.0	36.0		22.0	47.0	
Total Split (%)	9.2%	31.7%		20.0%	42.5%	18.3%	9.2%	30.0%		18.3%	39.2%	
Maximum Green (s)	7.0	33.0		20.0	46.0	18.0	7.0	31.0		18.0	42.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	6.8	14.3		17.2	28.9	47.3	6.8	54.7		15.8	67.9	
Actuated g/C Ratio	0.06	0.12		0.14	0.24	0.39	0.06	0.46		0.13	0.57	
v/c Ratio	0.40	0.46		0.73	0.24	0.43	0.39	0.34		0.65	0.35	
Control Delay	67.7	39.9		58.4	36.5	9.8	72.4	12.8		45.6	8.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	67.7	39.9		58.4	36.5	9.8	72.4	12.8		45.6	8.4	
LOS	E	D		E	D	A	E	B		D	A	
Approach Delay		47.4			35.8			15.6			16.8	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	29	56		129	71	63	30	50		106	41	
Queue Length 95th (ft)	60	80		141	75	48	m56	193		m144	m265	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	97	476		542	676	685	97	2143		487	2704	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.39	0.21		0.62	0.15	0.43	0.38	0.34		0.57	0.35	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	22.9
Intersection LOS:	C
Intersection Capacity Utilization:	49.4%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing + Project  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1454	62	67	1243	150	50	118	163	112	78	114
Future Volume (vph)	182	1454	62	67	1243	150	50	118	163	112	78	114
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4789	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.692			0.565		
Satd. Flow (perm)	1676	4789	0	1676	4818	1500	1221	1765	1500	997	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				161			173			139
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		713		2627			1029			2657		
Travel Time (s)		10.8		39.8			17.5			45.3		
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Adj. Flow (vph)	209	1671	71	72	1337	161	59	139	192	137	95	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1742	0	72	1337	161	59	139	192	137	95	139
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12		12			12			12		12
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	29.0	66.0		15.0	52.0	52.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	24.2%	55.0%		12.5%	43.3%	43.3%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	25.0	61.0		11.0	47.0	47.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	19.7	76.8		10.1	65.1	65.1	21.2	21.2	21.2	21.2	21.2	21.2
Actuated g/C Ratio	0.16	0.64		0.08	0.54	0.54	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.76	0.57		0.51	0.51	0.18	0.27	0.45	0.47	0.78	0.16	0.37
Control Delay	65.2	15.2		63.5	30.5	12.3	42.7	46.7	11.3	50.8	22.6	4.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	15.2		63.5	30.5	12.3	42.7	46.7	11.3	50.8	22.6	4.8
LOS	E	B		E	C	B	D	D	B	D	C	A
Approach Delay		20.6			30.1			28.6			26.4	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	156	272		47	267	37	40	98	13	39	14	0
Queue Length 95th (ft)	221	402		m49	m259	m37	67	131	57	70	26	10
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	349	3067		153	2613	887	345	500	548	282	950	524
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.57		0.47	0.51	0.18	0.17	0.28	0.35	0.49	0.10	0.27

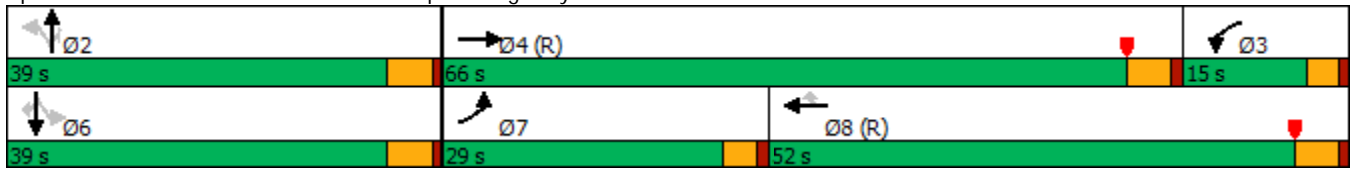
Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	111 (93%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	25.3
Intersection LOS:	C
Intersection Capacity Utilization:	61.0%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing + Project  
 AM Peak Hour





















Splits and Phases: 9: Puente Street & Imperial Highway





Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	1680	4	56	1643	284	2	26	29	312	15	175
Future Volume (vph)	157	1680	4	56	1643	284	2	26	29	312	15	175
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.978			0.924				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.957	
Satd. Flow (prot)	1676	4818	0	1676	4712	0	0	3092	0	1593	1604	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.957	
Satd. Flow (perm)	1676	4818	0	1676	4712	0	0	3092	0	1593	1604	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					37			51				230
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2627			2079			349			889	
Travel Time (s)		39.8			31.5			5.9			15.2	
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Adj. Flow (vph)	164	1750	4	66	1933	334	4	46	51	411	20	230
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	164	1754	0	66	2267	0	0	101	0	214	217	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		26.0	26.0		11.0	11.0	11.0
Total Split (s)	15.0	61.0		13.0	59.0		26.0	26.0		20.0	20.0	20.0
Total Split (%)	12.5%	50.8%		10.8%	49.2%		21.7%	21.7%		16.7%	16.7%	16.7%
Maximum Green (s)	11.0	56.0		9.0	54.0		21.0	21.0		15.0	15.0	15.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		14.0	14.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	12.8	60.3		8.5	54.0		9.8	9.8		24.3	24.3	24.3
Actuated g/C Ratio	0.11	0.50		0.07	0.45		0.08	0.08		0.20	0.20	0.20
v/c Ratio	0.92	0.72		0.55	1.06		0.34	0.34		0.66	0.67	0.47
Control Delay	106.0	18.1		53.6	77.5		29.1	29.1		50.8	51.0	18.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	106.0	18.1		53.6	77.5		29.1	29.1		50.8	51.0	18.3
LOS	F	B		D	E		C	C		D	D	B
Approach Delay		25.6			76.8		29.1	29.1			39.6	
Approach LOS		C			E		C	C			D	
Queue Length 50th (ft)	131	185		50	-722		20	20		172	174	93
Queue Length 95th (ft)	#287	278		m58	m#734		20	20		#284	#288	99
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	179	2421		128	2140		583	583		323	325	487
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.92	0.72		0.52	1.06		0.17	0.17		0.66	0.67	0.47

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.06
Intersection Signal Delay:	51.3
Intersection LOS:	D
Intersection Capacity Utilization:	77.2%
ICU Level of Service:	D
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Existing + Project  
 AM Peak Hour

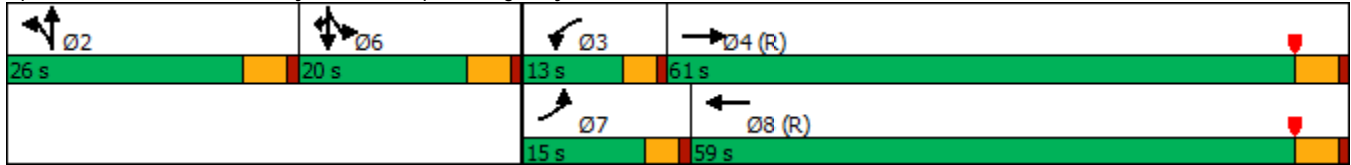
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






































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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	  		 	 	 
Traffic Volume (vph)	141	1537	351	166	1366	61	420	427	159	121	836	152
Future Volume (vph)	141	1537	351	166	1366	61	420	427	159	121	836	152
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			136			150			136
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Adj. Flow (vph)	147	1601	366	182	1501	67	538	547	204	127	880	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	1601	366	182	1501	67	538	547	204	127	880	160
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

# Lanes, Volumes, Timings

## 11: Brea Boulevard & Imperial Highway

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	10.0	45.0	45.0	11.0	46.0	46.0	24.0	51.0	51.0	13.0	40.0	40.0
Total Split (%)	8.3%	37.5%	37.5%	9.2%	38.3%	38.3%	20.0%	42.5%	42.5%	10.8%	33.3%	33.3%
Maximum Green (s)	6.0	40.0	40.0	7.0	41.0	41.0	20.0	46.0	46.0	9.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	6.0	40.0	40.0	7.0	41.0	41.0	20.0	46.0	46.0	9.0	35.0	35.0
Actuated g/C Ratio	0.05	0.33	0.33	0.06	0.34	0.34	0.17	0.38	0.38	0.08	0.29	0.29
v/c Ratio	0.91	1.00	0.60	0.96	0.91	0.11	0.99	0.30	0.31	0.52	0.90	0.30
Control Delay	110.5	46.6	11.6	76.2	17.4	0.4	87.1	26.3	8.9	47.1	41.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.5	46.6	11.6	76.2	17.4	0.4	87.1	26.3	8.9	47.1	41.8	5.5
LOS	F	D	B	E	B	A	F	C	A	D	D	A
Approach Delay		45.0			22.8			48.9			37.4	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	57	336	30	75	231	0	217	106	27	52	372	14
Queue Length 95th (ft)	m#103	#560	107	m#119	#325	m0	#259	116	56	m69	#434	19
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	162	1606	612	189	1646	602	542	1846	667	243	977	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	1.00	0.60	0.96	0.91	0.11	0.99	0.30	0.31	0.52	0.90	0.30

### Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 13 (11%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 38.2  
 Intersection Capacity Utilization 88.4%  
 Analysis Period (min) 15

Intersection LOS: D  
 ICU Level of Service E

# 95th percentile volume exceeds capacity, queue may be longer.

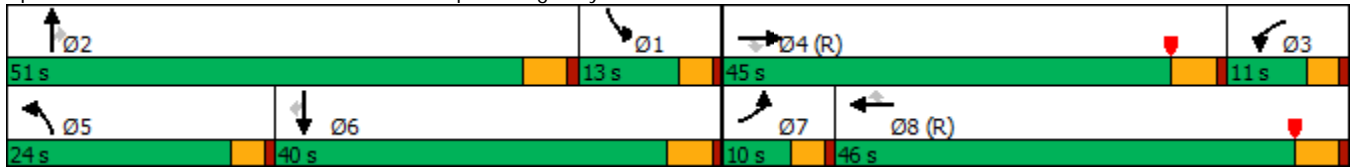
Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Existing + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.


































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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (vph)	55	1559	223	470	1523	159	146	160	403	90	498	37
Future Volume (vph)	55	1559	223	470	1523	159	146	160	403	90	498	37
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.981				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				173			262		6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4135			486			892			1016	
Travel Time (s)		62.7			7.4			15.2			17.3	
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Adj. Flow (vph)	63	1792	256	511	1655	173	180	198	498	101	560	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	2048	0	511	1655	173	180	198	498	101	602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing + Project  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	45.0		23.0	58.0	10.0	12.0	42.0	42.0	10.0	40.0	
Total Split (%)	8.3%	37.5%		19.2%	48.3%	8.3%	10.0%	35.0%	35.0%	8.3%	33.3%	
Maximum Green (s)	6.0	40.0		19.0	53.0	6.0	8.0	37.0	37.0	6.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effect Green (s)	6.0	40.0		19.0	55.0	62.8	8.0	37.0	37.0	6.0	35.0	
Actuated g/C Ratio	0.05	0.33		0.16	0.46	0.52	0.07	0.31	0.31	0.05	0.29	
v/c Ratio	0.39	1.02		0.99	0.75	0.20	0.83	0.19	0.77	0.62	0.62	
Control Delay	48.3	32.6		80.1	26.3	5.1	85.5	31.1	26.7	73.0	39.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.3	32.6		80.1	26.3	5.1	85.5	31.1	26.7	73.0	39.7	
LOS	D	C		F	C	A	F	C	C	E	D	
Approach Delay		33.1			36.5			39.8			44.5	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	25	~263		208	335	26	72	59	173	40	210	
Queue Length 95th (ft)	m31	m#334		m#310	343	m32	#112	80	244	#74	268	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2006		514	2207	867	216	1033	643	162	972	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.39	1.02		0.99	0.75	0.20	0.83	0.19	0.77	0.62	0.62	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	76 (63%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	36.7
Intersection LOS:	D
Intersection Capacity Utilization:	77.7%
ICU Level of Service:	D
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

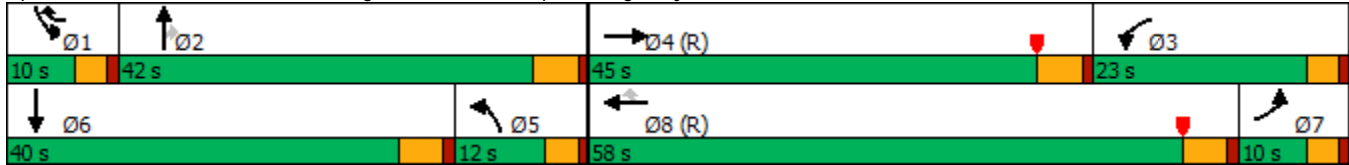


Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing + Project  
 AM Peak Hour

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1441	1671	0	591	513
Future Volume (vph)	0	1441	1671	0	591	513
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.967	0.850
Flt Protected					0.962	
Satd. Flow (prot)	0	4818	4818	0	3185	1365
Flt Permitted					0.962	
Satd. Flow (perm)	0	4818	4818	0	3185	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					4	4
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Adj. Flow (vph)	0	1566	1857	0	642	558
Shared Lane Traffic (%)						32%
Lane Group Flow (vph)	0	1566	1857	0	821	379
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		33.0	33.0		27.0	27.0
Total Split (%)		55.0%	55.0%		45.0%	45.0%
Maximum Green (s)		28.0	28.0		22.0	22.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effect Green (s)		28.0	28.0		22.0	22.0
Actuated g/C Ratio		0.47	0.47		0.37	0.37
v/c Ratio		0.70	0.83		0.70	0.75
Control Delay		11.4	11.9		20.1	28.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		11.4	11.9		20.1	28.6
LOS		B	B		C	C
Approach Delay		11.4	11.9		22.7	
Approach LOS		B	B		C	
Queue Length 50th (ft)		140	120		125	126
Queue Length 95th (ft)		m138	167		182	#268
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2248	2248		1170	503
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.70	0.83		0.70	0.75

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 14 (23%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 14.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 103.5%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

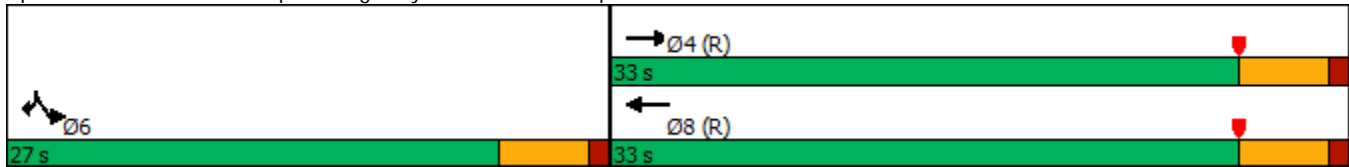
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.



























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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (vph)	126	1336	0	0	957	6	854	152	793	0	0	55
Future Volume (vph)	126	1336	0	0	957	6	854	152	793	0	0	55
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.999			0.917	0.850			0.850
Flt Protected	0.950						0.950	0.992				
Satd. Flow (prot)	1676	4818	0	0	6065	0	3051	1381	1425	0	0	2640
Flt Permitted	0.950						0.950	0.992				
Satd. Flow (perm)	1676	4818	0	0	6065	0	3051	1381	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			72	158			296
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Adj. Flow (vph)	135	1437	0	0	1100	7	1017	181	944	0	0	83
Shared Lane Traffic (%)							10%		37%			
Lane Group Flow (vph)	135	1437	0	0	1107	0	915	632	595	0	0	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	16.0	46.0			30.0		63.0	63.0	63.0			11.0
Total Split (%)	13.3%	38.3%			25.0%		52.5%	52.5%	52.5%			9.2%
Maximum Green (s)	12.0	41.0			25.0		58.0	58.0	58.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lead	Lead	Lead			Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	12.0	43.2			27.2		58.0	58.0	58.0			6.0
Actuated g/C Ratio	0.10	0.36			0.23		0.48	0.48	0.48			0.05
v/c Ratio	0.81	0.83			0.81		0.62	0.90	0.77			0.20
Control Delay	71.5	31.8			49.8		25.2	42.5	26.4			1.1
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	71.5	31.8			49.8		25.2	42.5	26.4			1.1
LOS	E	C			D		C	D	C			A
Approach Delay		35.2			49.8			30.7				1.1
Approach LOS		D			D			C				A
Queue Length 50th (ft)	96	331			243		279	460	295			0
Queue Length 95th (ft)	m#173	387			275		317	#656	402			0
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	167	1734			1375		1474	704	770			413
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.81	0.83			0.81		0.62	0.90	0.77			0.20

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 1 (1%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 35.9 Intersection LOS: D  
 Intersection Capacity Utilization 70.1% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

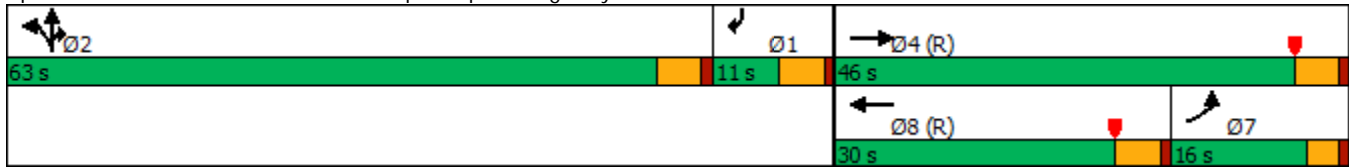
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.

























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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Existing + Project  
PM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	51	886	53	84	1420	146	124	324	122	104	207	91
Future Volume (veh/h)	51	886	53	84	1420	146	124	324	122	104	207	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	56	974	58	88	1479	152	157	410	154	137	272	120
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	2372	141	109	1764	181	180	475	176	162	429	184
Arrive On Green	0.16	0.51	0.51	0.06	0.40	0.40	0.21	0.40	0.40	0.10	0.19	0.19
Sat Flow, veh/h	1688	4669	278	1688	4457	458	1688	2402	892	1688	2293	985
Grp Volume(v), veh/h	56	672	360	88	1070	561	157	286	278	137	198	194
Grp Sat Flow(s),veh/h/ln	1688	1612	1722	1688	1612	1690	1688	1683	1611	1688	1683	1595
Q Serve(g_s), s	3.5	15.5	15.6	6.2	36.0	36.0	10.8	18.7	19.1	9.6	13.0	13.5
Cycle Q Clear(g_c), s	3.5	15.5	15.6	6.2	36.0	36.0	10.8	18.7	19.1	9.6	13.0	13.5
Prop In Lane	1.00		0.16	1.00		0.27	1.00		0.55	1.00		0.62
Lane Grp Cap(c), veh/h	271	1638	875	109	1276	669	180	333	319	162	315	298
V/C Ratio(X)	0.21	0.41	0.41	0.81	0.84	0.84	0.87	0.86	0.87	0.84	0.63	0.65
Avail Cap(c_a), veh/h	271	1638	875	183	1344	704	253	393	376	253	393	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	18.4	18.4	55.4	32.8	32.8	46.4	34.7	34.9	53.3	44.9	45.1
Incr Delay (d2), s/veh	0.1	0.8	1.4	3.4	4.4	8.1	15.1	12.8	14.9	8.3	0.8	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.6	6.2	2.7	14.1	15.4	4.7	7.0	7.0	4.4	5.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	19.1	19.8	58.7	37.2	40.9	61.5	47.5	49.8	61.7	45.7	46.5
LnGrp LOS	D	B	B	E	D	D	E	D	D	E	D	D
Approach Vol, veh/h		1088			1719			721			529	
Approach Delay, s/veh		20.6			39.5			51.4			50.1	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	66.0	14.5	28.7	24.2	52.5	15.8	27.5				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	13.0	45.0	18.0	28.0	8.0	* 50	18.0	28.0				
Max Q Clear Time (g_c+I1), s	8.2	17.6	11.6	21.1	5.5	38.0	12.8	15.5				
Green Ext Time (p_c), s	0.0	10.7	0.1	2.6	0.0	9.4	0.1	2.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					37.9							
HCM 6th LOS					D							
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



# HCM 6th Signalized Intersection Summary































## 2: Berry Street & Lambert Road

Existing + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	1029	68	54	1468	113	125	342	117	149	268	57
Future Volume (veh/h)	33	1029	68	54	1468	113	125	342	117	149	268	57
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	38	1169	77	57	1545	119	133	364	124	171	308	66
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	2308	152	72	2386	184	156	430	144	197	547	116
Arrive On Green	0.01	0.16	0.16	0.04	0.52	0.52	0.18	0.35	0.35	0.12	0.20	0.20
Sat Flow, veh/h	1688	4637	305	1688	4581	353	1688	2475	831	1688	2766	584
Grp Volume(v), veh/h	38	813	433	57	1087	577	133	246	242	171	186	188
Grp Sat Flow(s),veh/h/ln	1688	1612	1717	1688	1612	1708	1688	1683	1622	1688	1683	1667
Q Serve(g_s), s	2.7	27.6	27.6	4.0	29.3	29.3	9.2	16.2	16.7	12.0	11.9	12.3
Cycle Q Clear(g_c), s	2.7	27.6	27.6	4.0	29.3	29.3	9.2	16.2	16.7	12.0	11.9	12.3
Prop In Lane	1.00		0.18	1.00		0.21	1.00		0.51	1.00		0.35
Lane Grp Cap(c), veh/h	47	1606	855	72	1680	890	156	292	282	197	333	330
V/C Ratio(X)	0.80	0.51	0.51	0.79	0.65	0.65	0.85	0.84	0.86	0.87	0.56	0.57
Avail Cap(c_a), veh/h	70	1606	855	141	1680	890	239	355	342	267	383	379
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.49	0.49	0.49	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	36.7	36.7	56.9	20.8	20.8	48.1	37.7	37.8	52.1	43.4	43.5
Incr Delay (d2), s/veh	17.0	1.0	1.8	3.6	1.0	1.8	10.4	12.0	14.4	16.0	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.1	13.0	1.7	10.4	11.3	3.9	6.3	6.4	5.8	4.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.2	37.7	38.6	60.5	21.7	22.6	58.5	49.6	52.3	68.1	43.9	44.1
LnGrp LOS	E	D	D	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1284			1721			621			545	
Approach Delay, s/veh		39.1			23.3			52.5			51.6	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	66.7	17.0	27.1	6.4	69.5	14.1	30.0				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	10.0	45.4	19.0	25.3	5.0	51.4	17.0	27.3				
Max Q Clear Time (g_c+I1), s	6.0	29.6	14.0	18.7	4.7	31.3	11.2	14.3				
Green Ext Time (p_c), s	0.0	9.5	0.1	2.2	0.0	14.6	0.1	2.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									
























HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Existing + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	148	1080	368	188	1375	73	404	591	162	57	338	80
Future Volume (veh/h)	148	1080	368	188	1375	73	404	591	162	57	338	80
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	164	1200	409	196	1432	76	421	616	169	70	412	98
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1952	606	221	2003	106	464	887	396	88	586	261
Arrive On Green	0.11	0.40	0.40	0.13	0.43	0.43	0.14	0.26	0.26	0.05	0.17	0.17
Sat Flow, veh/h	1688	4837	1502	1688	4702	250	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	164	1200	409	196	982	526	421	616	169	70	412	98
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1727	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	11.5	23.6	26.8	13.7	30.2	30.2	15.2	19.8	11.2	4.9	13.8	6.9
Cycle Q Clear(g_c), s	11.5	23.6	26.8	13.7	30.2	30.2	15.2	19.8	11.2	4.9	13.8	6.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1952	606	221	1374	736	464	887	396	88	586	261
V/C Ratio(X)	0.90	0.61	0.68	0.89	0.71	0.72	0.91	0.69	0.43	0.79	0.70	0.37
Avail Cap(c_a), veh/h	183	1952	606	225	1374	736	464	1010	450	141	814	363
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)	0.78	0.78	0.78	0.52	0.52	0.52	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	28.4	29.3	51.3	28.4	28.4	50.7	39.8	36.7	56.2	46.6	43.8
Incr Delay (d2), s/veh	32.1	1.1	4.7	18.7	1.7	3.1	21.0	2.1	1.0	6.0	2.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	8.9	10.2	6.8	11.3	12.4	7.5	8.3	4.2	2.2	5.9	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.9	29.5	34.0	70.0	30.1	31.5	71.8	41.9	37.7	62.2	48.9	45.1
LnGrp LOS	F	C	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1773			1704			1206			580	
Approach Delay, s/veh		35.7			35.2			51.7			49.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.7	53.4	10.3	36.6	17.0	56.1	21.0	25.9				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0	10.0	36.0	13.0	43.0	17.0	29.0				
Max Q Clear Time (g_c+I1), s	15.7	28.8	6.9	21.8	13.5	32.2	17.2	15.8				
Green Ext Time (p_c), s	0.0	9.7	0.0	7.9	0.0	9.7	0.0	5.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			40.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Existing + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1154	201	350	1322	942	280	559	384	531	320	10
Future Volume (veh/h)	14	1154	201	350	1322	942	280	559	384	531	320	10
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	15	1215	212	365	1377	981	304	721	342	590	356	11
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1709	297	355	2054	938	360	768	325	656	1034	32
Arrive On Green	0.01	0.32	0.32	0.04	0.14	0.14	0.11	0.22	0.22	0.20	0.31	0.31
Sat Flow, veh/h	3274	5266	913	3274	4837	1502	3375	3544	1502	3274	3334	103
Grp Volume(v), veh/h	15	1054	373	365	1377	981	304	721	342	590	179	188
Grp Sat Flow(s),veh/h/ln	1637	1524	1607	1637	1612	1502	1688	1772	1502	1637	1683	1753
Q Serve(g_s), s	0.5	24.3	24.5	13.0	32.4	51.0	10.6	24.0	26.0	21.1	9.9	9.9
Cycle Q Clear(g_c), s	0.5	24.3	24.5	13.0	32.4	51.0	10.6	24.0	26.0	21.1	9.9	9.9
Prop In Lane	1.00		0.57	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	27	1484	522	355	2054	938	360	768	325	656	522	544
V/C Ratio(X)	0.55	0.71	0.71	1.03	0.67	1.05	0.84	0.94	1.05	0.90	0.34	0.34
Avail Cap(c_a), veh/h	55	1484	522	355	2054	938	450	768	325	928	617	643
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	0.54	0.54	0.54	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	35.6	35.6	57.9	43.6	27.7	52.6	46.2	47.0	46.8	32.0	32.0
Incr Delay (d2), s/veh	4.6	2.2	6.1	42.8	1.0	34.5	9.6	19.0	63.9	7.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.0	10.1	7.8	14.1	29.8	4.9	12.3	15.2	9.0	4.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	37.7	41.7	100.6	44.6	62.2	62.2	65.2	110.9	53.8	32.1	32.1
LnGrp LOS	E	D	D	F	D	F	E	E	F	D	C	C
Approach Vol, veh/h		1442			2723			1367			957	
Approach Delay, s/veh		39.0			58.4			76.0			45.5	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	44.0	28.0	31.0	5.0	56.0	16.8	42.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	29.0	34.0	26.0	2.0	40.0	16.0	44.0				
Max Q Clear Time (g_c+I1), s	15.0	26.5	23.1	28.0	2.5	53.0	12.6	11.9				
Green Ext Time (p_c), s	0.0	2.1	0.9	0.0	0.0	0.0	0.2	3.5				

Intersection Summary













HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

























HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Existing + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1285	785	275	1886	0	0	0	0	564	0	694
Future Volume (veh/h)	0	1285	785	275	1886	0	0	0	0	564	0	694
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1171	930	309	2119	0				880	0	485
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1534	1300	357	2803	0				1166	0	519
Arrive On Green	0.00	0.14	0.14	0.22	1.00	0.00				0.35	0.00	0.35
Sat Flow, veh/h	0	3544	3003	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1171	930	309	2119	0				880	0	485
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	38.1	35.5	10.9	0.0	0.0				27.7	0.0	37.5
Cycle Q Clear(g_c), s	0.0	38.1	35.5	10.9	0.0	0.0				27.7	0.0	37.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1534	1300	357	2803	0				1166	0	519
V/C Ratio(X)	0.00	0.76	0.72	0.86	0.76	0.00				0.75	0.00	0.93
Avail Cap(c_a), veh/h	0	1534	1300	396	2803	0				1212	0	539
HCM Platoon Ratio	1.00	0.33	0.33	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.38	0.38	0.35	0.35	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.5	44.4	46.1	0.0	0.0				34.8	0.0	38.0
Incr Delay (d2), s/veh	0.0	1.4	1.3	6.7	0.7	0.0				2.6	0.0	23.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.3	14.4	4.2	0.2	0.0				11.7	0.0	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.9	45.7	52.7	0.7	0.0				37.4	0.0	61.2
LnGrp LOS	A	D	D	D	A	A				D	A	E
Approach Vol, veh/h		2101			2428						1365	
Approach Delay, s/veh		46.4			7.3						45.9	
Approach LOS		D			A						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	17.6	56.4		46.0		74.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	14.5	48.9		43.1		67.9						
Max Q Clear Time (g_c+I1), s	12.9	40.1		39.5		2.0						
Green Ext Time (p_c), s	0.2	6.6		2.0		29.4						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				30.2								
HCM 6th LOS				C								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												














HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Existing + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	359	1507	0	0	1189	612	1042	0	508	0	0	0
Future Volume (veh/h)	359	1507	0	0	1189	612	1042	0	508	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	366	1538	0	0	1492	469	1109	0	540			
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	475	2636	0	0	1927	544	1244	0	571			
Arrive On Green	0.14	0.54	0.00	0.00	0.36	0.36	0.38	0.00	0.38			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	366	1538	0	0	1492	469	1109	0	540			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	12.9	25.5	0.0	0.0	29.8	34.7	38.1	0.0	41.8			
Cycle Q Clear(g_c), s	12.9	25.5	0.0	0.0	29.8	34.7	38.1	0.0	41.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	475	2636	0	0	1927	544	1244	0	571			
V/C Ratio(X)	0.77	0.58	0.00	0.00	0.77	0.86	0.89	0.00	0.95			
Avail Cap(c_a), veh/h	475	2636	0	0	1927	544	1269	0	582			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.36	0.36	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	49.4	18.2	0.0	0.0	33.9	35.5	34.9	0.0	36.0			
Incr Delay (d2), s/veh	2.9	0.3	0.0	0.0	3.1	16.3	8.2	0.0	24.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.3	8.8	0.0	0.0	12.8	14.5	16.3	0.0	18.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	18.6	0.0	0.0	37.0	51.8	43.0	0.0	60.5			
LnGrp LOS	D	B	A	A	D	D	D	A	E			
Approach Vol, veh/h		1904			1961			1649				
Approach Delay, s/veh		25.0			40.5			48.8				
Approach LOS		C			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		69.9			21.9	48.0		50.1				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		64.5			16.5	43.5		46.5				
Max Q Clear Time (g_c+I1), s		27.5			14.9	36.7		43.8				
Green Ext Time (p_c), s		13.9			0.2	5.2		1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					37.6							
HCM 6th LOS					D							
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												




























HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane

Existing + Project  
 PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	64	54	489	31	35	435
Future Volume (veh/h)	64	54	489	31	35	435
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	103	87	509	32	44	551
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	162	144	2373	149	715	2483
Arrive On Green	0.10	0.10	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1688	1502	3306	202	865	3455
Grp Volume(v), veh/h	103	87	266	275	44	551
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1736	865	1683
Q Serve(g_s), s	3.5	3.3	3.0	3.0	1.0	3.1
Cycle Q Clear(g_c), s	3.5	3.3	3.0	3.0	4.0	3.1
Prop In Lane	1.00	1.00		0.12	1.00	
Lane Grp Cap(c), veh/h	162	144	1241	1280	715	2483
V/C Ratio(X)	0.64	0.60	0.21	0.21	0.06	0.22
Avail Cap(c_a), veh/h	591	526	1241	1280	715	2483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.28	0.28	0.81	0.81
Uniform Delay (d), s/veh	26.1	26.0	2.5	2.5	3.1	2.5
Incr Delay (d2), s/veh	4.1	4.0	0.1	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.3	0.4	0.4	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.2	30.1	2.6	2.6	3.2	2.6
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	190		541			595
Approach Delay, s/veh	30.2		2.6			2.7
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		49.2			49.2	10.8
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		5.0			6.0	5.5
Green Ext Time (p_c), s		3.1			3.8	0.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			6.6			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Existing + Project  
PM Peak Hour

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		  	  	
Traffic Volume (veh/h)	75	127	21	355	136	455	70	632	279	328	598	70
Future Volume (veh/h)	75	127	21	355	136	455	70	632	279	328	598	70
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	83	141	23	390	149	500	80	718	317	377	687	80
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	173	28	446	353	784	446	880	384	1057	1429	165
Arrive On Green	0.06	0.12	0.12	0.14	0.20	0.20	0.53	0.53	0.53	0.32	0.32	0.32
Sat Flow, veh/h	1688	1486	242	3274	1772	1502	1688	3299	1439	3274	4398	508
Grp Volume(v), veh/h	83	0	164	390	149	500	80	702	333	377	502	265
Grp Sat Flow(s),veh/h/ln	1688	0	1728	1637	1772	1502	1688	1612	1513	1637	1612	1681
Q Serve(g_s), s	5.8	0.0	11.1	14.0	8.8	5.7	3.0	21.6	22.1	10.6	14.9	15.1
Cycle Q Clear(g_c), s	5.8	0.0	11.1	14.0	8.8	5.7	3.0	21.6	22.1	10.6	14.9	15.1
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.95	1.00		0.30
Lane Grp Cap(c), veh/h	104	0	201	446	353	784	446	860	403	1057	1048	546
V/C Ratio(X)	0.80	0.00	0.82	0.88	0.42	0.64	0.18	0.82	0.83	0.36	0.48	0.48
Avail Cap(c_a), veh/h	169	0	475	491	576	973	446	860	403	1057	1048	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	0.0	51.8	50.8	42.0	9.4	21.5	25.6	25.7	31.1	32.4	32.5
Incr Delay (d2), s/veh	13.0	0.0	7.9	15.1	0.8	1.0	0.2	7.3	15.1	0.2	1.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.3	6.7	4.0	5.7	1.2	6.7	7.2	4.2	6.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	0.0	59.7	66.0	42.8	10.3	21.7	32.8	40.8	31.3	33.9	35.5
LnGrp LOS	E	A	E	E	D	B	C	C	D	C	C	D
Approach Vol, veh/h		247			1039			1115			1144	
Approach Delay, s/veh		62.7			35.9			34.4			33.4	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.7	37.0	21.3	18.9	35.7	44.0	11.4	28.9				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	32.0	18.0	* 33	12.0	39.0	12.0	39.0				
Max Q Clear Time (g_c+I1), s	12.6	24.1	16.0	13.1	5.0	17.1	7.8	10.8				
Green Ext Time (p_c), s	0.7	4.0	0.3	0.8	0.1	5.0	0.1	2.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				36.5								
HCM 6th LOS				D								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



# HCM 6th Signalized Intersection Summary

## 9: Puente Street & Imperial Highway

Existing + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1556	34	115	1556	204	30	50	93	140	122	185
Future Volume (veh/h)	132	1556	34	115	1556	204	30	50	93	140	122	185
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	145	1710	37	120	1621	212	39	65	121	154	134	203
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	2274	49	375	2879	894	219	330	280	246	627	280
Arrive On Green	0.10	0.47	0.47	0.07	0.20	0.20	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1688	4872	105	1688	4837	1502	1043	1772	1502	1198	3367	1502
Grp Volume(v), veh/h	145	1132	615	120	1621	212	39	65	121	154	134	203
Grp Sat Flow(s),veh/h/ln	1688	1612	1753	1688	1612	1502	1043	1772	1502	1198	1683	1502
Q Serve(g_s), s	10.1	34.6	34.6	8.1	36.3	14.3	3.9	3.7	8.6	15.0	4.0	15.3
Cycle Q Clear(g_c), s	10.1	34.6	34.6	8.1	36.3	14.3	8.0	3.7	8.6	18.7	4.0	15.3
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	1505	818	375	2879	894	219	330	280	246	627	280
V/C Ratio(X)	0.84	0.75	0.75	0.32	0.56	0.24	0.18	0.20	0.43	0.63	0.21	0.73
Avail Cap(c_a), veh/h	267	1505	818	375	2879	894	320	502	425	362	954	425
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.23	0.23	0.23	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	53.0	26.3	26.3	47.0	34.1	25.3	44.8	41.2	43.2	49.1	41.4	45.9
Incr Delay (d2), s/veh	13.5	3.5	6.3	0.1	0.2	0.1	0.4	0.3	1.1	2.0	0.1	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	13.1	14.9	3.5	15.6	5.7	1.0	1.6	3.2	4.5	1.7	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	29.8	32.6	47.1	34.3	25.4	45.1	41.5	44.3	51.1	41.5	48.7
LnGrp LOS	E	C	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1892			1953			225			491	
Approach Delay, s/veh		33.5			34.1			43.6			47.5	
Approach LOS		C			C			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.4	31.6	61.0		27.4	16.2	76.4				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		34.0	16.0	* 56		34.0	19.0	53.0				
Max Q Clear Time (g_c+I1), s		10.6	10.1	36.6		20.7	12.1	38.3				
Green Ext Time (p_c), s		0.8	0.1	11.3		1.7	0.2	9.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			35.8									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
 10: Berry Street & Imperial Highway


































Existing + Project  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	135	1811	9	57	1766	331	4	7	6	401	29	192
Future Volume (veh/h)	135	1811	9	57	1766	331	4	7	6	401	29	192
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	159	2131	11	63	1941	364	6	10	8	469	0	213
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	3108	16	79	1779	327	23	38	30	478	0	213
Arrive On Green	0.31	0.83	0.83	0.09	0.87	0.87	0.03	0.03	0.03	0.14	0.00	0.14
Sat Flow, veh/h	1688	4967	26	1688	4106	755	824	1376	1104	3375	0	1502
Grp Volume(v), veh/h	159	1383	759	63	1516	789	13	0	11	469	0	213
Grp Sat Flow(s),veh/h/ln	1688	1612	1767	1688	1612	1636	1731	0	1573	1688	0	1502
Q Serve(g_s), s	9.0	20.1	20.1	4.4	52.0	52.0	0.9	0.0	0.9	16.6	0.0	17.0
Cycle Q Clear(g_c), s	9.0	20.1	20.1	4.4	52.0	52.0	0.9	0.0	0.9	16.6	0.0	17.0
Prop In Lane	1.00		0.01	1.00		0.46	0.48		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	389	2018	1106	79	1397	709	48	0	43	478	0	213
V/C Ratio(X)	0.41	0.69	0.69	0.80	1.08	1.11	0.26	0.00	0.26	0.98	0.00	1.00
Avail Cap(c_a), veh/h	389	2018	1106	84	1397	709	303	0	275	478	0	213
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.36	0.36	0.36	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	35.1	5.5	5.5	53.8	8.0	8.0	57.2	0.0	57.2	51.3	0.0	51.5
Incr Delay (d2), s/veh	0.5	1.4	2.6	16.6	43.3	58.8	2.9	0.0	3.2	35.7	0.0	61.4
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	3.5	3.8	4.6	2.1	11.2	14.4	0.4	0.0	0.4	9.2	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	6.9	8.1	70.5	51.3	66.8	60.1	0.0	60.3	87.0	0.0	112.9
LnGrp LOS	D	A	A	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2301			2368			24			682	
Approach Delay, s/veh		9.3			57.0			60.2			95.1	
Approach LOS		A			E			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	9.6	80.1		22.0	32.7	57.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		21.0	6.0	57.0		17.0	11.0	* 52				
Max Q Clear Time (g_c+I1), s		2.9	6.4	22.1		19.0	11.0	54.0				
Green Ext Time (p_c), s		0.0	0.0	20.5		0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			41.4									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

































HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Existing + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 		
Traffic Volume (veh/h)	154	1619	390	334	1558	161	421	715	247	198	595	212
Future Volume (veh/h)	154	1619	390	334	1558	161	421	715	247	198	595	212
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	1779	429	337	1574	163	434	737	255	228	684	244
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1612	501	1094	2947	915	409	1492	463	327	982	438
Arrive On Green	0.02	0.11	0.11	0.33	0.61	0.61	0.13	0.31	0.31	0.20	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	169	1779	429	337	1574	163	434	737	255	228	684	244
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	6.2	40.0	35.8	9.2	22.6	6.6	15.0	14.9	17.0	7.8	17.1	12.0
Cycle Q Clear(g_c), s	6.2	40.0	35.8	9.2	22.6	6.6	15.0	14.9	17.0	7.8	17.1	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	1612	501	1094	2947	915	409	1492	463	327	982	438
V/C Ratio(X)	0.77	1.10	0.86	0.31	0.53	0.18	1.06	0.49	0.55	0.70	0.70	0.56
Avail Cap(c_a), veh/h	218	1612	501	1094	2947	915	409	1492	463	355	982	438
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.48	0.48	0.48	0.09	0.09	0.09	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	57.8	53.4	57.2	29.7	13.6	13.6	52.5	33.9	34.6	46.3	21.3	20.2
Incr Delay (d2), s/veh	8.1	51.6	9.1	0.0	0.1	0.0	61.4	1.2	4.7	4.7	3.6	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	24.9	15.7	3.5	7.4	1.8	9.5	5.9	6.6	3.1	5.2	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	105.0	66.3	29.7	13.7	13.7	113.9	35.0	39.2	51.0	24.8	24.6
LnGrp LOS	E	F	E	C	B	B	F	D	D	D	C	C
Approach Vol, veh/h		2377			2074			1426			1156	
Approach Delay, s/veh		95.3			16.3			59.8			29.9	
Approach LOS		F			B			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	42.0	45.4	45.0	19.0	40.0	12.0	78.4				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	* 37	12.0	* 40	15.0	35.0	8.0	44.0				
Max Q Clear Time (g_c+I1), s	9.8	19.0	11.2	42.0	17.0	19.1	8.2	24.6				
Green Ext Time (p_c), s	0.2	5.4	0.1	0.0	0.0	4.9	0.0	11.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			54.0									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Existing + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	117	1834	187	473	1909	508	267	443	311	389	384	137
Future Volume (veh/h)	117	1834	187	473	1909	508	267	443	311	389	384	137
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	119	1871	191	509	2053	546	287	476	334	409	404	144
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1840	188	382	1895	738	355	1038	463	327	732	258
Arrive On Green	0.05	0.32	0.32	0.12	0.39	0.39	0.11	0.31	0.31	0.10	0.30	0.30
Sat Flow, veh/h	3274	5662	578	3274	4837	1502	3274	3367	1502	3274	2441	860
Grp Volume(v), veh/h	119	1511	551	509	2053	546	287	476	334	409	277	271
Grp Sat Flow(s),veh/h/ln	1637	1524	1668	1637	1612	1502	1637	1683	1502	1637	1683	1617
Q Serve(g_s), s	4.3	39.0	39.0	14.0	47.0	22.9	10.3	13.7	23.7	12.0	16.6	16.9
Cycle Q Clear(g_c), s	4.3	39.0	39.0	14.0	47.0	22.9	10.3	13.7	23.7	12.0	16.6	16.9
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	164	1486	542	382	1895	738	355	1038	463	327	505	485
V/C Ratio(X)	0.73	1.02	1.02	1.33	1.08	0.74	0.81	0.46	0.72	1.25	0.55	0.56
Avail Cap(c_a), veh/h	164	1486	542	382	1895	738	355	1038	463	327	505	485
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)	0.13	0.13	0.13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	40.5	40.5	53.0	36.5	24.4	52.3	33.4	36.9	54.0	35.2	35.3
Incr Delay (d2), s/veh	2.1	13.1	18.4	166.6	47.4	6.6	13.1	1.5	9.4	135.1	4.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	15.7	18.0	14.4	25.6	7.8	4.8	5.7	9.6	11.0	7.2	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	53.6	58.9	219.6	83.9	30.9	65.4	34.9	46.3	189.1	39.4	39.9
LnGrp LOS	E	F	F	F	F	C	E	C	D	F	D	D
Approach Vol, veh/h		2181			3108			1097			957	
Approach Delay, s/veh		55.2			96.8			46.3			103.5	
Approach LOS		E			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	18.0	44.0	17.0	41.0	10.0	52.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	14.0	39.0	13.0	36.0	6.0	47.0				
Max Q Clear Time (g_c+I1), s	14.0	25.7	16.0	41.0	12.3	18.9	6.3	49.0				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.1	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				77.8								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps



























Existing + Project  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (veh/h)	0	1657	2278	0	646	598
Future Volume (veh/h)	0	1657	2278	0	646	598
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1708	2476	0	898	456
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2701	2701	0	1209	538
Arrive On Green	0.00	0.56	0.56	0.00	0.36	0.36
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1708	2476	0	898	456
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	28.9	55.6	0.0	27.9	33.6
Cycle Q Clear(g_c), s	0.0	28.9	55.6	0.0	27.9	33.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2701	2701	0	1209	538
V/C Ratio(X)	0.00	0.63	0.92	0.00	0.74	0.85
Avail Cap(c_a), veh/h	0	2701	2701	0	1209	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.1	24.0	0.0	33.7	35.5
Incr Delay (d2), s/veh	0.0	1.1	6.3	0.0	4.1	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.1	20.4	0.0	12.0	14.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.2	30.3	0.0	37.8	50.7
LnGrp LOS	A	B	C	A	D	D
Approach Vol, veh/h		1708	2476		1354	
Approach Delay, s/veh		19.2	30.3		42.1	
Approach LOS		B	C		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				72.0	48.0	72.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				67.0	43.0	67.0
Max Q Clear Time (g_c+I1), s				30.9	35.6	57.6
Green Ext Time (p_c), s				16.1	3.4	8.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			29.8			
HCM 6th LOS			C			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (veh/h)	160	1754	0	0	1457	25	1052	101	501	0	0	241
Future Volume (veh/h)	160	1754	0	0	1457	25	1052	101	501	0	0	241
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	170	1866	0	0	1637	28	1328	0	391	0	0	287
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	366	2701	0	0	1865	32	1814	0	538	0	0	0
Arrive On Green	0.22	0.56	0.00	0.00	0.30	0.30	0.36	0.00	0.36	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6466	106	5063	0	1502		0	
Grp Volume(v), veh/h	170	1866	0	0	1203	462	1328	0	391		0.0	
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1753	1688	0	1502			
Q Serve(g_s), s	10.5	33.3	0.0	0.0	30.0	30.0	27.4	0.0	27.1			
Cycle Q Clear(g_c), s	10.5	33.3	0.0	0.0	30.0	30.0	27.4	0.0	27.1			
Prop In Lane	1.00		0.00	0.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	366	2701	0	0	1371	526	1814	0	538			
V/C Ratio(X)	0.46	0.69	0.00	0.00	0.88	0.88	0.73	0.00	0.73			
Avail Cap(c_a), veh/h	366	2701	0	0	1371	526	1814	0	538			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.9	19.1	0.0	0.0	39.9	39.9	33.5	0.0	33.4			
Incr Delay (d2), s/veh	0.9	1.5	0.0	0.0	8.2	18.4	2.7	0.0	8.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	11.7	0.0	0.0	11.8	15.1	11.5	0.0	11.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	20.5	0.0	0.0	48.1	58.3	36.1	0.0	41.7			
LnGrp LOS	D	C	A	A	D	E	D	A	D			
Approach Vol, veh/h		2036			1665			1719				
Approach Delay, s/veh		22.3			50.9			37.4				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		48.0		72.0			31.0	41.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		43.0		56.0			16.0	* 36				
Max Q Clear Time (g_c+I1), s		29.4		35.3			12.5	32.0				
Green Ext Time (p_c), s		6.3		13.2			0.1	3.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				35.9								
HCM 6th LOS				D								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	51	886	53	84	1420	146	124	324	122	104	207	91
Future Volume (vph)	51	886	53	84	1420	146	124	324	122	104	207	91
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.986			0.959			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4779	0	1676	4750	0	1676	3215	0	1676	3199	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4779	0	1676	4750	0	1676	3215	0	1676	3199	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			18			42			55	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Adj. Flow (vph)	56	974	58	88	1479	152	157	410	154	137	272	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	1032	0	88	1631	0	157	564	0	137	392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	11.0	50.0		16.0	55.0		21.0	33.0		21.0	33.0	
Total Split (%)	9.2%	41.7%		13.3%	45.8%		17.5%	27.5%		17.5%	27.5%	
Maximum Green (s)	8.0	45.0		13.0	50.0		18.0	28.0		18.0	28.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	7.1	55.7		10.2	60.4		14.8	24.4		13.7	23.3	
Actuated g/C Ratio	0.06	0.46		0.08	0.50		0.12	0.20		0.11	0.19	
v/c Ratio	0.57	0.46		0.62	0.68		0.76	0.82		0.72	0.59	
Control Delay	76.7	24.3		66.2	12.8		70.7	56.5		71.2	40.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.7	24.3		66.2	12.8		70.7	56.5		71.2	40.8	
LOS	E	C		E	B		E	E		E	D	
Approach Delay		27.0			15.5			59.6			48.7	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	43	200		58	330		126	199		104	124	
Queue Length 95th (ft)	88	275		m85	526		172	221		138	136	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	111	2223		181	2398		251	782		251	788	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.46		0.49	0.68		0.63	0.72		0.55	0.50	

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 67 (56%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

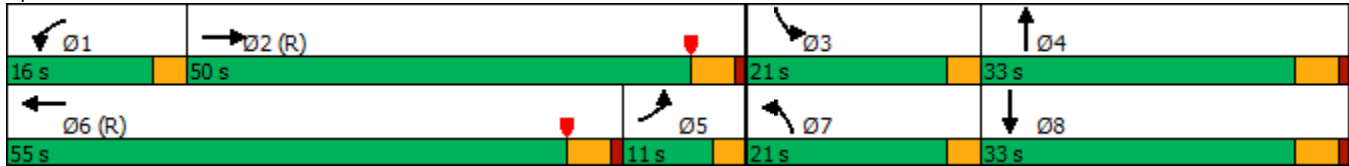
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Existing + Project  
 PM Peak Hour

Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 30.8	Intersection LOS: C
Intersection Capacity Utilization 70.4%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road





Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	33	1029	68	54	1468	113	125	342	117	149	268	57
Future Volume (vph)	33	1029	68	54	1468	113	125	342	117	149	268	57
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991			0.989			0.962			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4774	0	1676	4765	0	1676	3226	0	1676	3266	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4774	0	1676	4765	0	1676	3226	0	1676	3266	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			13			35			20	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	38	1169	77	57	1545	119	133	364	124	171	308	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	1246	0	57	1664	0	133	488	0	171	374	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	8.0	52.4		14.0	58.4		20.0	31.6		22.0	33.6	
Total Split (%)	6.7%	43.7%		11.7%	48.7%		16.7%	26.3%		18.3%	28.0%	
Maximum Green (s)	5.0	45.4		10.0	51.4		17.0	25.3		19.0	27.3	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.6	56.1		8.0	59.3		13.3	21.6		15.7	24.0	
Actuated g/C Ratio	0.05	0.47		0.07	0.49		0.11	0.18		0.13	0.20	
v/c Ratio	0.49	0.56		0.51	0.70		0.72	0.80		0.78	0.56	
Control Delay	88.0	19.6		84.2	14.4		89.2	37.5		73.9	43.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	88.0	19.6		84.2	14.4		89.2	37.5		73.9	43.7	
LOS	F	B		F	B		F	D		E	D	
Approach Delay		21.6			16.7			48.6			53.2	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	23	289		47	123		109	145		129	129	
Queue Length 95th (ft)	m#62	373		m59	m139		177	134		195	168	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	79	2237		139	2361		237	707		265	762	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.56		0.41	0.70		0.56	0.69		0.65	0.49	

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 12.4 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Existing + Project  
 PM Peak Hour
























Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 76.3%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road

↙ Ø1 14 s	→ Ø2 (R) 52.4 s	↘ Ø3 22 s	↑ Ø4 31.6 s
↗ Ø5 8 s	← Ø6 (R) 58.4 s	↙ Ø7 20 s	↓ Ø8 33.6 s

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	1080	368	188	1375	73	404	591	162	57	338	80
Future Volume (vph)	148	1080	368	188	1375	73	404	591	162	57	338	80
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			355		7				165			127
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		3309			3979			1995			706	
Travel Time (s)		50.1			60.3			38.9			13.8	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	164	1200	409	196	1432	76	421	616	169	70	412	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	1200	409	196	1508	0	421	616	169	70	412	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	45.0	45.0	20.0	48.0		21.0	41.0	41.0	14.0	34.0	34.0
Total Split (%)	14.2%	37.5%	37.5%	16.7%	40.0%		17.5%	34.2%	34.2%	11.7%	28.3%	28.3%
Maximum Green (s)	13.0	40.0	40.0	16.0	43.0		17.0	36.0	36.0	10.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.8	44.4	44.4	16.1	46.7		16.8	34.9	34.9	8.5	24.7	24.7
Actuated g/C Ratio	0.12	0.37	0.37	0.13	0.39		0.14	0.29	0.29	0.07	0.21	0.21
v/c Ratio	0.85	0.67	0.53	0.88	0.81		0.93	0.63	0.31	0.59	0.60	0.24
Control Delay	80.0	31.8	11.7	103.3	17.9		69.4	42.1	12.2	74.2	46.3	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.0	31.8	11.7	103.3	17.9		69.4	42.1	12.2	74.2	46.3	4.3
LOS	E	C	B	F	B		E	D	B	E	D	A
Approach Delay		31.6			27.8			47.4			42.6	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	101	319	149	153	358		164	230	30	53	148	0
Queue Length 95th (ft)	m#251	379	254	m#238	94		#263	300	m79	93	177	16
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	194	1782	778	231	1862		460	1010	567	139	810	458
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.67	0.53	0.85	0.81		0.92	0.61	0.30	0.50	0.51	0.21

Intersection Summary

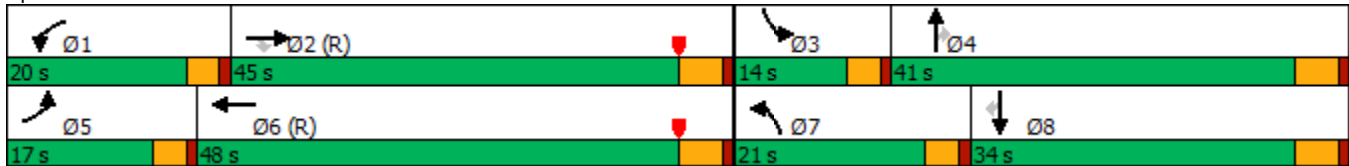
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 82 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Existing + Project  
 PM Peak Hour
























Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 35.2	Intersection LOS: D
Intersection Capacity Utilization 78.1%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1154	201	350	1322	942	280	559	384	531	320	10
Future Volume (vph)	14	1154	201	350	1322	942	280	559	384	531	320	10
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.978				0.850		0.978	0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5937	0	3252	4818	1500	3252	3141	1365	3252	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5937	0	3252	4818	1500	3252	3141	1365	3252	3340	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						55		14	175		3	
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	15	1215	212	365	1377	981	304	608	417	590	356	11
Shared Lane Traffic (%)									25%			
Lane Group Flow (vph)	15	1427	0	365	1377	981	304	712	313	590	367	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3		8
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3		8
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0		10.0
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0		33.0
Total Split (s)	6.0	34.0		17.0	45.0	38.0	20.0	31.0	31.0	38.0		49.0
Total Split (%)	5.0%	28.3%		14.2%	37.5%	31.7%	16.7%	25.8%	25.8%	31.7%		40.8%
Maximum Green (s)	2.0	29.0		13.0	40.0	34.0	16.0	26.0	26.0	34.0		44.0
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0		4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0		5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None		Min
Walk Time (s)		5.0			5.0							5.0
Flash Dont Walk (s)		19.0			15.0							23.0
Pedestrian Calls (#/hr)		2			2							2
Act Effct Green (s)	2.0	29.0		13.0	43.6	82.6	14.5	26.0	26.0	34.0		45.5
Actuated g/C Ratio	0.02	0.24		0.11	0.36	0.69	0.12	0.22	0.22	0.28		0.38
v/c Ratio	0.28	1.00		1.04	0.79	0.94	0.78	1.03	0.72	0.64		0.29
Control Delay	101.1	42.6		106.4	37.5	21.3	65.2	87.1	29.5	41.5		26.9
Queue Delay	0.0	3.7		0.0	1.7	0.1	0.0	0.0	0.4	1.7		0.0
Total Delay	101.1	46.3		106.4	39.2	21.3	65.2	87.1	29.9	43.2		26.9
LOS	F	D		F	D	C	E	F	C	D		C
Approach Delay		46.8			41.8			68.6				36.9
Approach LOS		D			D			E				D
Queue Length 50th (ft)	6	320		~160	281	194	118	~319	109	206		103
Queue Length 95th (ft)	m10	#413		m#248	386	#1009	167	#450	231	269		144
Internal Link Dist (ft)		3899			382			1336				981
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1434		352	1750	1049	433	692	432	921		1269
Starvation Cap Reductn	0	0		0	212	1	0	0	0	0		0
Spillback Cap Reductn	0	21		0	0	0	0	0	11	178		0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0		0
Reduced v/c Ratio	0.28	1.01		1.04	0.90	0.94	0.70	1.03	0.74	0.79		0.29

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 21 (18%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

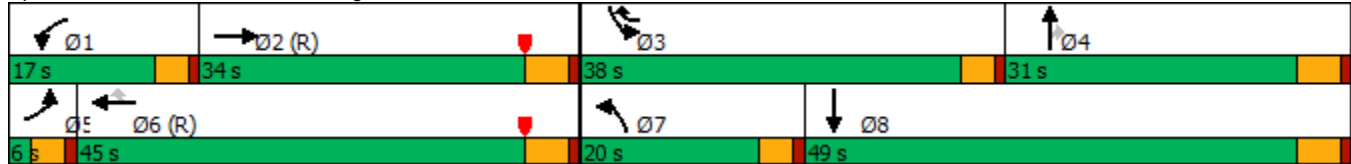


Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Existing + Project  
 PM Peak Hour













Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 47.7	Intersection LOS: D
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1285	785	275	1886	0	0	0	0	564	0	694
Future Volume (vph)	0	1285	785	275	1886	0	0	0	0	564	0	694
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.971	0.850								0.895	0.850
Flt Protected				0.950						0.950	0.985	
Satd. Flow (prot)	0	4421	1290	3252	4818	0	0	0	0	1593	1416	1425
Flt Permitted				0.950						0.950	0.985	
Satd. Flow (perm)	0	4421	1290	3252	4818	0	0	0	0	1593	1416	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52	491								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	1339	818	309	2119	0	0	0	0	620	0	763
Shared Lane Traffic (%)			40%							22%		42%
Lane Group Flow (vph)	0	1666	491	309	2119	0	0	0	0	484	456	443
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		53.4	53.4	19.0	72.4					47.6	47.6	47.6
Total Split (%)		44.5%	44.5%	15.8%	60.3%					39.7%	39.7%	39.7%
Maximum Green (s)		48.9	48.9	14.5	67.9					43.1	43.1	43.1
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		51.0	51.0	14.2	69.6					41.4	41.4	41.4
Actuated g/C Ratio		0.42	0.42	0.12	0.58					0.34	0.34	0.34
v/c Ratio		0.87	0.59	0.81	0.76					0.88	0.87	0.84
Control Delay		20.8	4.7	61.0	9.8					55.6	50.4	46.9
Queue Delay		5.4	1.1	0.0	0.5					0.0	0.1	0.0
Total Delay		26.1	5.8	61.0	10.4					55.6	50.5	46.9
LOS		C	A	E	B					E	D	D
Approach Delay		21.5			16.8						51.1	
Approach LOS		C			B						D	
Queue Length 50th (ft)		443	55	119	311					360	316	288
Queue Length 95th (ft)		m461	m252	m139	336					#556	#519	#472
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1908	830	394	2796					572	543	547
Starvation Cap Reductn		197	149	0	282					0	0	0
Spillback Cap Reductn		0	0	0	105					0	1	1
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.97	0.72	0.78	0.84					0.85	0.84	0.81

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 58.9 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 26.5  
 Intersection Capacity Utilization 82.5%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Existing + Project  
 PM Peak Hour

Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	359	1507	0	0	1189	612	1042	0	508	0	0	0
Future Volume (vph)	359	1507	0	0	1189	612	1042	0	508	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.978	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4453	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4453	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29	421			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	366	1538	0	0	1239	638	1109	0	540	0	0	0
Shared Lane Traffic (%)						34%						
Lane Group Flow (vph)	366	1538	0	0	1456	421	1109	0	540	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	21.0	69.0			48.0	48.0	51.0		51.0			
Total Split (%)	17.5%	57.5%			40.0%	40.0%	42.5%		42.5%			
Maximum Green (s)	16.5	64.5			43.5	43.5	46.5		46.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	16.5	65.8			44.8	44.8	45.2		45.2			
Actuated g/C Ratio	0.14	0.55			0.37	0.37	0.38		0.38			
v/c Ratio	0.82	0.58			0.87	0.57	0.91		0.90			
Control Delay	52.2	13.8			41.1	5.8	46.7		51.4			
Queue Delay	0.0	0.3			0.0	0.0	0.0		0.0			
Total Delay	52.2	14.1			41.1	5.8	46.7		51.4			
LOS	D	B			D	A	D		D			
Approach Delay		21.4			33.2			48.3				
Approach LOS		C			C			D				
Queue Length 50th (ft)	154	152			401	0	406		352			
Queue Length 95th (ft)	m171	168			474	87	#507		#564			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	447	2641			1680	745	1260		614			
Starvation Cap Reductn	0	414			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.82	0.69			0.87	0.57	0.88		0.88			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 50.5 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 33.6 Intersection LOS: C  
 Intersection Capacity Utilization 82.5% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

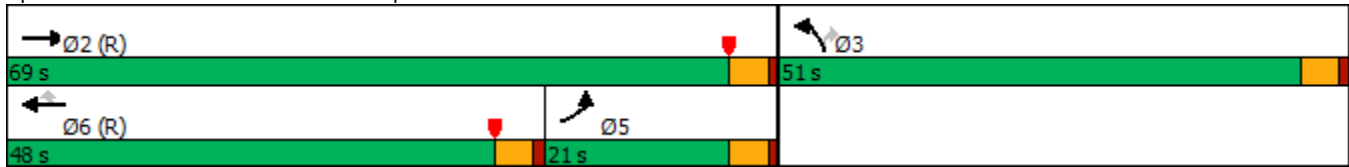
Lanes, Volumes, Timings  
 6: SR-57 NB Ramps & Lambert Road

Existing + Project  
 PM Peak Hour

Queue shown is maximum after two cycles.












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing + Project  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	64	54	489	31	35	435
Future Volume (vph)	64	54	489	31	35	435
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3323	0	1676	3353
Flt Permitted	0.950				0.450	
Satd. Flow (perm)	1676	1500	3323	0	794	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		87	15			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Adj. Flow (vph)	103	87	509	32	44	551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	87	541	0	44	551
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Existing + Project  
PM Peak Hour

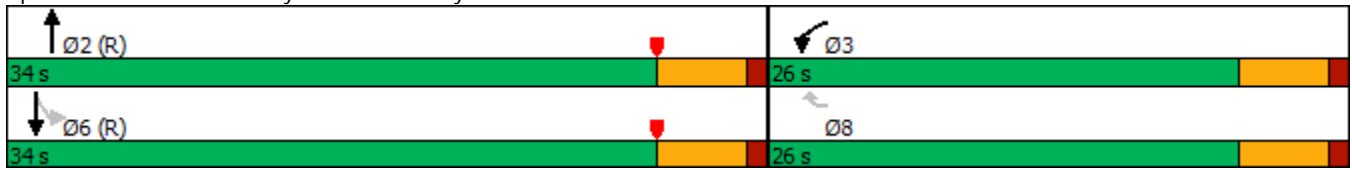


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effect Green (s)	10.0	10.0	43.2		43.2	43.2
Actuated g/C Ratio	0.17	0.17	0.72		0.72	0.72
v/c Ratio	0.37	0.27	0.23		0.08	0.23
Control Delay	24.5	7.4	3.6		3.2	2.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	24.5	7.4	3.6		3.2	2.8
LOS	C	A	A		A	A
Approach Delay	16.7		3.6			2.9
Approach LOS	B		A			A
Queue Length 50th (ft)	34	0	47		2	17
Queue Length 95th (ft)	41	11	m85		m11	46
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	581	2396		571	2414
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.18	0.15	0.23		0.08	0.23

Intersection Summary




























Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 45 (75%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.37  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 37.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		  	  	
Traffic Volume (vph)	75	127	21	355	136	455	70	632	279	328	598	70
Future Volume (vph)	75	127	21	355	136	455	70	632	279	328	598	70
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.979				0.850		0.954			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1728	0	3252	1765	1500	1676	4596	0	3252	4741	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1728	0	3252	1765	1500	1676	4596	0	3252	4741	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				122		91			18	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Adj. Flow (vph)	83	141	23	390	149	500	80	718	317	377	687	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	164	0	390	149	500	80	1035	0	377	767	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	16.0	38.0		22.0	44.0	23.0	16.0	37.0		23.0	44.0	
Total Split (%)	13.3%	31.7%		18.3%	36.7%	19.2%	13.3%	30.8%		19.2%	36.7%	
Maximum Green (s)	12.0	33.0		18.0	39.0	19.0	12.0	32.0		19.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.3	18.4		18.5	28.7	49.5	10.9	46.2		19.0	56.4	
Actuated g/C Ratio	0.09	0.15		0.15	0.24	0.41	0.09	0.38		0.16	0.47	
v/c Ratio	0.58	0.61		0.78	0.35	0.72	0.53	0.57		0.73	0.34	
Control Delay	68.6	53.3		60.4	39.6	21.8	64.2	14.8		51.4	36.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.6	53.3		60.4	39.6	21.8	64.2	14.8		51.4	36.9	
LOS	E	D		E	D	C	E	B		D	D	
Approach Delay		58.5			38.8			18.4			41.7	
Approach LOS		E			D			B			D	
Queue Length 50th (ft)	62	117		149	101	189	63	82		105	203	
Queue Length 95th (ft)	116	160		#222	140	205	m110	96		m157	249	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	167	480		517	573	690	167	1824		514	2236	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.50	0.34		0.75	0.26	0.72	0.48	0.57		0.73	0.34	

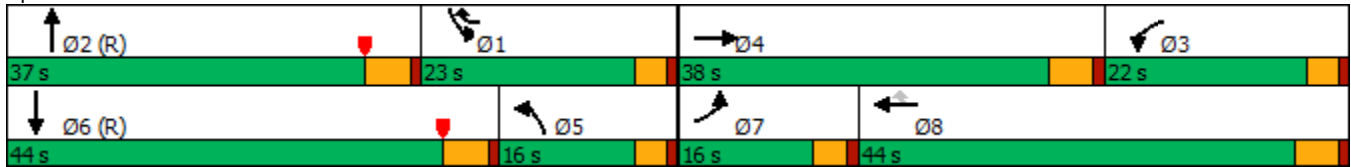
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 31 (26%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 34.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.0%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.
























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

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	1556	34	115	1556	204	30	50	93	140	122	185
Future Volume (vph)	132	1556	34	115	1556	204	30	50	93	140	122	185
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4803	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.667			0.715		
Satd. Flow (perm)	1676	4803	0	1676	4818	1500	1177	1765	1500	1262	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				213			121			203
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		713			2627			1029			2657	
Travel Time (s)		10.8			39.8			17.5			45.3	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Adj. Flow (vph)	145	1710	37	120	1621	213	39	65	121	154	134	203
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	1747	0	120	1621	213	39	65	121	154	134	203
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	23.0	61.0		20.0	58.0	58.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	19.2%	50.8%		16.7%	48.3%	48.3%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	19.0	56.0		16.0	53.0	53.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	15.1	68.7		16.0	69.6	69.6	21.3	21.3	21.3	21.3	21.3	21.3
Actuated g/C Ratio	0.13	0.57		0.13	0.58	0.58	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.69	0.64		0.54	0.58	0.22	0.19	0.21	0.33	0.69	0.23	0.47
Control Delay	66.6	19.8		53.5	15.0	3.9	40.3	40.6	8.6	57.4	38.2	20.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	19.8		53.5	15.0	3.9	40.3	40.6	8.6	57.4	38.2	20.0
LOS	E	B		D	B	A	D	D	A	E	D	B
Approach Delay		23.4			16.2			23.4			36.7	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	108	306		98	324	18	26	44	0	122	52	71
Queue Length 95th (ft)	174	467		m107	m499	m54	43	63	28	182	78	128
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	265	2751		223	2794	959	333	500	511	357	950	570
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.64		0.54	0.58	0.22	0.12	0.13	0.24	0.43	0.14	0.36

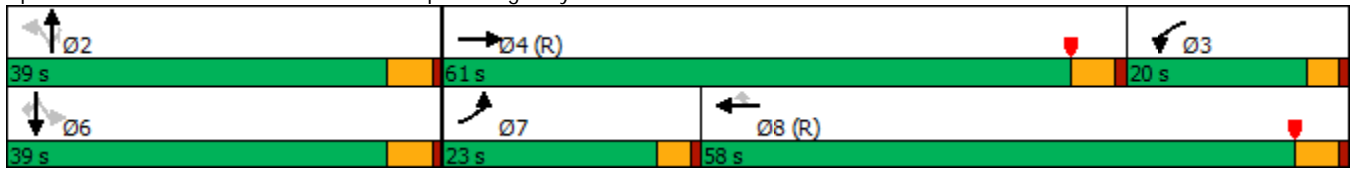
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 51 (43%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 21.7 Intersection LOS: C  
 Intersection Capacity Utilization 68.5% ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Existing + Project  
 PM Peak Hour

Splits and Phases: 9: Puente Street & Imperial Highway





Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing + Project  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	1811	9	57	1766	331	4	7	6	401	29	192
Future Volume (vph)	135	1811	9	57	1766	331	4	7	6	401	29	192
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.976			0.950				0.850
Flt Protected	0.950			0.950				0.988		0.950	0.958	
Satd. Flow (prot)	1676	4813	0	1676	4702	0	0	3147	0	1593	1606	1500
Flt Permitted	0.950			0.950				0.988		0.950	0.958	
Satd. Flow (perm)	1676	4813	0	1676	4702	0	0	3147	0	1593	1606	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			40			8				213
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Adj. Flow (vph)	159	2131	11	63	1941	364	6	10	8	446	32	213
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	159	2142	0	63	2305	0	0	24	0	236	242	213
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		26.0	26.0		11.0	11.0	11.0
Total Split (s)	15.0	62.0		10.0	57.0		26.0	26.0		22.0	22.0	22.0
Total Split (%)	12.5%	51.7%		8.3%	47.5%		21.7%	21.7%		18.3%	18.3%	18.3%
Maximum Green (s)	11.0	57.0		6.0	52.0		21.0	21.0		17.0	17.0	17.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		14.0	14.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	11.0	64.4		7.9	59.1		9.1	9.1		26.2	26.2	26.2
Actuated g/C Ratio	0.09	0.54		0.07	0.49		0.08	0.08		0.22	0.22	0.22
v/c Ratio	1.04	0.83		0.58	0.99		0.10	0.10		0.68	0.69	0.43
Control Delay	143.7	41.9		79.9	33.9		36.8	36.8		64.2	64.8	21.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	143.7	41.9		79.9	33.9		36.8	36.8		64.2	64.8	21.5
LOS	F	D		E	C		D	D		E	E	C
Approach Delay		48.9			35.1		36.8	36.8			51.3	
Approach LOS		D			D		D	D			D	
Queue Length 50th (ft)	~136	616		52	-693		6	6		196	202	46
Queue Length 95th (ft)	#254	629		m64	m#790		13	13		#392	#401	118
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	153	2584		109	2336		557	557		347	350	493
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.04	0.83		0.58	0.99		0.04	0.04		0.68	0.69	0.43

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	43.1
Intersection LOS:	D
Intersection Capacity Utilization:	82.6%
ICU Level of Service:	E
Analysis Period (min):	15

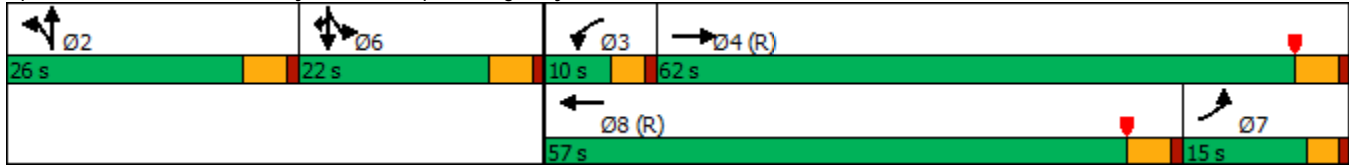
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Existing + Project  
 PM Peak Hour





































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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	  		 	 	
Traffic Volume (vph)	154	1619	390	334	1558	161	421	715	247	198	595	212
Future Volume (vph)	154	1619	390	334	1558	161	421	715	247	198	595	212
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178			136			217			145
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	169	1779	429	337	1574	163	434	737	255	228	684	244
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	1779	429	337	1574	163	434	737	255	228	684	244
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Existing + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	12.0	45.0	45.0	16.0	49.0	49.0	19.0	42.0	42.0	17.0	40.0	40.0
Total Split (%)	10.0%	37.5%	37.5%	13.3%	40.8%	40.8%	15.8%	35.0%	35.0%	14.2%	33.3%	33.3%
Maximum Green (s)	8.0	40.0	40.0	12.0	44.0	44.0	15.0	37.0	37.0	13.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	8.0	40.0	40.0	12.0	44.0	44.0	15.0	37.0	37.0	13.0	35.0	35.0
Actuated g/C Ratio	0.07	0.33	0.33	0.10	0.37	0.37	0.12	0.31	0.31	0.11	0.29	0.29
v/c Ratio	0.78	1.11	0.69	1.04	0.89	0.26	1.07	0.50	0.42	0.65	0.70	0.45
Control Delay	57.0	95.8	30.9	56.3	10.4	0.7	113.9	35.3	8.8	40.1	23.3	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	95.8	30.9	56.3	10.4	0.7	113.9	35.3	8.8	40.1	23.3	8.2
LOS	E	F	C	E	B	A	F	D	A	D	C	A
Approach Delay		81.3			17.1			54.5			23.4	
Approach LOS		F			B			D			C	
Queue Length 50th (ft)	69	~577	233	~145	222	3	~191	170	21	96	288	47
Queue Length 95th (ft)	m84	#681	m328	m#133	m191	m2	#296	212	88	m102	124	m28
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	216	1606	618	325	1766	636	406	1485	612	352	977	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.11	0.69	1.04	0.89	0.26	1.07	0.50	0.42	0.65	0.70	0.45

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	80 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.11
Intersection Signal Delay:	47.4
Intersection LOS:	D
Intersection Capacity Utilization:	88.1%
ICU Level of Service:	E
Analysis Period (min):	15

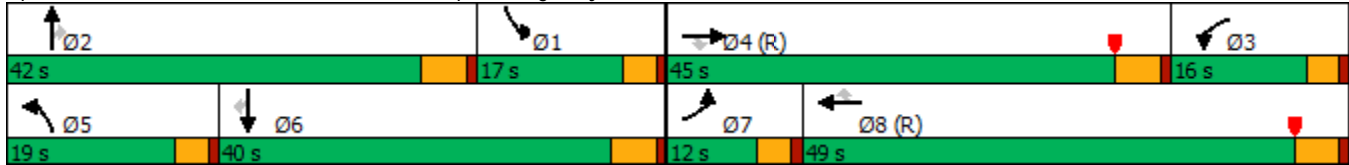
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Existing + Project  
 PM Peak Hour


































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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (vph)	117	1834	187	473	1909	508	267	443	311	389	384	137
Future Volume (vph)	117	1834	187	473	1909	508	267	443	311	389	384	137
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3222	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3222	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				128			165		43	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4135			486			892			1016	
Travel Time (s)		62.7			7.4			15.2			17.3	
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	119	1871	191	509	2053	546	287	476	334	409	404	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	2062	0	509	2053	546	287	476	334	409	548	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	44.0		18.0	52.0	16.0	17.0	42.0	42.0	16.0	41.0	
Total Split (%)	8.3%	36.7%		15.0%	43.3%	13.3%	14.2%	35.0%	35.0%	13.3%	34.2%	
Maximum Green (s)	6.0	39.0		14.0	47.0	12.0	13.0	37.0	37.0	12.0	36.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effect Green (s)	6.0	39.0		14.0	47.0	64.0	13.0	37.0	37.0	12.0	36.0	
Actuated g/C Ratio	0.05	0.32		0.12	0.39	0.53	0.11	0.31	0.31	0.10	0.30	
v/c Ratio	0.73	1.05		1.34	1.09	0.64	0.82	0.46	0.58	1.26	0.55	
Control Delay	52.0	40.2		197.9	77.2	16.7	71.2	35.2	21.6	182.8	34.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.0	40.2		197.9	77.2	16.7	71.2	35.2	21.6	182.8	34.7	
LOS	D	D		F	E	B	E	D	C	F	C	
Approach Delay		40.9			86.3			40.5			98.0	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)	50	-494		-263	-647	175	113	156	108	-204	172	
Queue Length 95th (ft)	m53	m243		m#308	#745	m206	#182	208	207	#306	230	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1959		379	1887	859	352	1033	576	325	996	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	1.05		1.34	1.09	0.64	0.82	0.46	0.58	1.26	0.55	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	24 (20%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.34
Intersection Signal Delay:	67.5
Intersection LOS:	E
Intersection Capacity Utilization:	85.2%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.



Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Existing + Project  
 PM Peak Hour

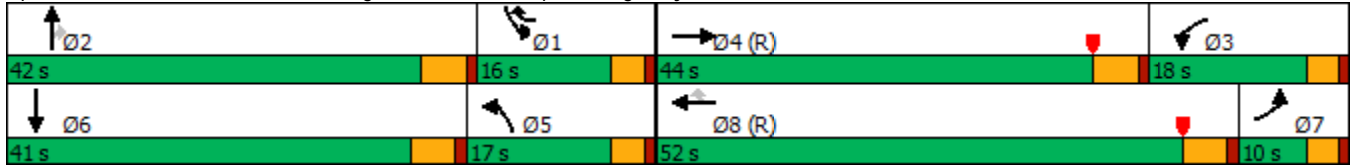
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1657	2278	0	646	598
Future Volume (vph)	0	1657	2278	0	646	598
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.963	0.850
Flt Protected					0.964	
Satd. Flow (prot)	0	4818	4818	0	3178	1365
Flt Permitted					0.964	
Satd. Flow (perm)	0	4818	4818	0	3178	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	2
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Adj. Flow (vph)	0	1708	2476	0	710	657
Shared Lane Traffic (%)						35%
Lane Group Flow (vph)	0	1708	2476	0	940	427
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		72.0	72.0		48.0	48.0
Total Split (%)		60.0%	60.0%		40.0%	40.0%
Maximum Green (s)		67.0	67.0		43.0	43.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		67.0	67.0		43.0	43.0
Actuated g/C Ratio		0.56	0.56		0.36	0.36
v/c Ratio		0.63	0.92		0.82	0.87
Control Delay		4.6	15.2		42.3	55.6
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		4.6	15.2		42.3	55.6
LOS		A	B		D	E
Approach Delay		4.6	15.2		46.4	
Approach LOS		A	B		D	
Queue Length 50th (ft)		60	349		338	335
Queue Length 95th (ft)		m63	388		423	#543
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2690	2690		1140	490
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.63	0.92		0.82	0.87

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 49 (41%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 19.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 129.0%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

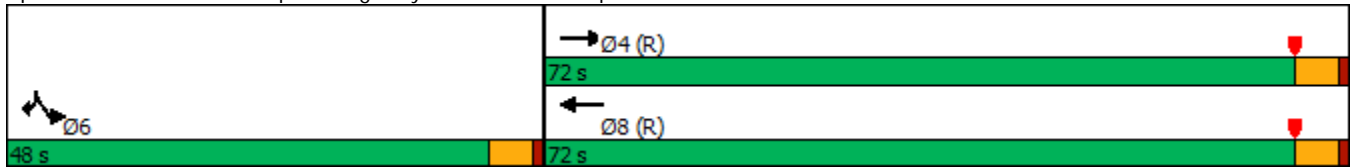
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Existing + Project  
 PM Peak Hour

Queue shown is maximum after two cycles.



























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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (vph)	160	1754	0	0	1457	25	1052	101	501	0	0	241
Future Volume (vph)	160	1754	0	0	1457	25	1052	101	501	0	0	241
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.997			0.959	0.850			0.850
Flt Protected	0.950						0.950	0.976				
Satd. Flow (prot)	1676	4818	0	0	6052	0	3051	1420	1425	0	0	2640
Flt Permitted	0.950						0.950	0.976				
Satd. Flow (perm)	1676	4818	0	0	6052	0	3051	1420	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			17	119			319
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Adj. Flow (vph)	170	1866	0	0	1637	28	1119	107	533	0	0	287
Shared Lane Traffic (%)							20%		23%			
Lane Group Flow (vph)	170	1866	0	0	1665	0	895	454	410	0	0	287
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	20.0	61.0			41.0		48.0	48.0	48.0			11.0
Total Split (%)	16.7%	50.8%			34.2%		40.0%	40.0%	40.0%			9.2%
Maximum Green (s)	16.0	56.0			36.0		43.0	43.0	43.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lag	Lag	Lag			Lead
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	16.0	56.0			36.0		43.0	43.0	43.0			6.0
Actuated g/C Ratio	0.13	0.47			0.30		0.36	0.36	0.36			0.05
v/c Ratio	0.76	0.83			0.92		0.82	0.87	0.70			0.66
Control Delay	53.8	17.2			49.5		42.3	53.9	30.3			11.7
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	53.8	17.2			49.5		42.3	53.9	30.3			11.7
LOS	D	B			D		D	D	C			B
Approach Delay		20.3			49.5			42.5				11.7
Approach LOS		C			D			D				B
Queue Length 50th (ft)	121	296			361		342	367	204			0
Queue Length 95th (ft)	m#210	373			405		433	#593	335			22
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	223	2248			1817		1093	519	586			435
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.76	0.83			0.92		0.82	0.87	0.70			0.66

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 32 (27%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 35.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 70.1%  
 ICU Level of Service C  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

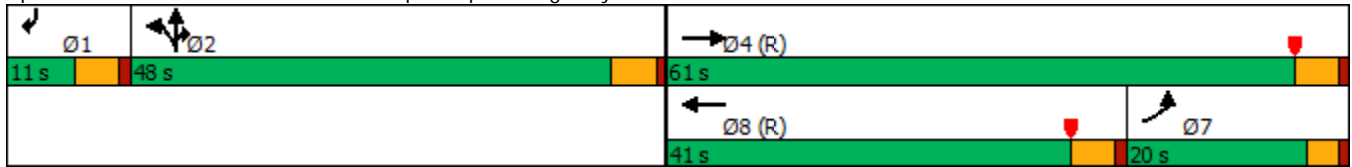
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Existing + Project  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



*APPENDIX D-V*

**EXISTING PLUS PROJECT WITH MITIGATION  
TRAFFIC CONDITIONS – ICU METHODOLOGY**



**THIS PAGE LEFT BLANK INTENTIONALLY**

*APPENDIX D-VI*

**EXISTING PLUS PROJECT WITH MITIGATION  
TRAFFIC CONDITIONS – HCM METHODOLOGY**

**THIS PAGE LEFT BLANK INTENTIONALLY**

*APPENDIX D-VII*

**YEAR 2021 CUMULATIVE TRAFFIC CONDITIONS  
– ICU METHODOLOGY**

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	58	164	68	172	378	63	69	960	89	79	1201	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	164	68	172	378	63	69	960	89	79	1201	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	41	17	43	95	16	17	240	22	20	300	11
Total Analysis Volume [veh/h]	58	164	68	172	378	63	69	960	89	79	1201	44
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.10	0.13	0.13	0.04	0.21	0.21	0.05	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.504											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	44	144	65	177	383	28	26	1013	99	139	1299	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	144	65	177	383	28	26	1013	99	139	1299	102
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	36	16	44	96	7	7	253	25	35	325	26
Total Analysis Volume [veh/h]	44	144	65	177	383	28	26	1013	99	139	1299	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.06	0.06	0.10	0.12	0.12	0.02	0.22	0.22	0.08	0.27	0.27
Intersection LOS	A											
Intersection V/C	0.515											



**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.688

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	220	334	158	129	746	255	116	1084	263	231	1305	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	334	158	129	746	255	116	1084	263	231	1305	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	84	40	32	187	64	29	271	66	58	326	38
Total Analysis Volume [veh/h]	220	334	158	129	746	255	116	1084	263	231	1305	151
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.10	0.09	0.08	0.22	0.15	0.07	0.21	0.15	0.14	0.29	0.29
Intersection LOS	B											
Intersection V/C	0.688											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	179	147	214	817	736	4	7	1078	257	544	1661	492
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	179	147	214	817	736	4	7	1078	257	544	1661	492
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	37	54	204	184	1	2	270	64	136	415	123
Total Analysis Volume [veh/h]	179	147	214	817	736	4	7	1078	257	544	1661	492
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.07	0.07	0.24	0.22	0.22	0.00	0.20	0.20	0.16	0.33	0.05
Intersection LOS	C											
Intersection V/C	0.717											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	957	0	825	0	1503	550	206	1876	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	957	0	825	0	1503	550	206	1876	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	239	0	206	0	376	138	52	469	0
Total Analysis Volume [veh/h]	0	0	0	957	0	825	0	1503	550	206	1876	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.28	0.00	0.35	0.00	0.30	0.30	0.06	0.37	0.00
Intersection LOS	C											
Intersection V/C	0.767											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T						T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	890	0	443	0	0	0	411	2059	0	0	1172	471
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	890	0	443	0	0	0	411	2059	0	0	1172	471
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	223	0	111	0	0	0	103	515	0	0	293	118
Total Analysis Volume [veh/h]	890	0	443	0	0	0	411	2059	0	0	1172	471
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.00	0.26	0.00	0.00	0.00	0.12	0.40	0.00	0.00	0.24	0.24
Intersection LOS	C											
Intersection V/C	0.715											



**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.217

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	315	50	60	544	7	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	315	50	60	544	7	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	13	15	136	2	3
Total Analysis Volume [veh/h]	315	50	60	544	7	12
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.11	0.04	0.16	0.00	0.01
Intersection LOS	A					
Intersection V/C	0.217					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	40	502	224	282	932	57	32	53	34	318	79	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	502	224	282	932	57	32	53	34	318	79	230
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	126	56	71	233	14	8	13	9	80	20	58
Total Analysis Volume [veh/h]	40	502	224	282	932	57	32	53	34	318	79	230
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.14	0.14	0.08	0.19	0.19	0.02	0.05	0.05	0.09	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.420											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.631

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	52	124	176	115	82	117	187	1541	64	77	1527	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	124	176	115	82	117	187	1541	64	77	1527	155
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	31	44	29	21	29	47	385	16	19	382	39
Total Analysis Volume [veh/h]	52	124	176	115	82	117	187	1541	64	77	1527	155
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.10	0.07	0.02	0.07	0.11	0.31	0.31	0.05	0.30	0.09
Intersection LOS	B											
Intersection V/C	0.631											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	2	27	30	305	15	175	160	1783	4	58	1952	286
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	27	30	305	15	175	160	1783	4	58	1952	286
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	8	76	4	44	40	446	1	15	488	72
Total Analysis Volume [veh/h]	2	27	30	305	15	175	160	1783	4	58	1952	286
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.09	0.09	0.10	0.09	0.35	0.35	0.03	0.44	0.44
Intersection LOS	C											
Intersection V/C	0.703											



**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	434	476	164	165	910	200	176	1591	360	177	1619	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	434	476	164	165	910	200	176	1591	360	177	1619	86
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	119	41	41	228	50	44	398	90	44	405	22
Total Analysis Volume [veh/h]	434	476	164	165	910	200	176	1591	360	177	1619	86
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.09	0.10	0.05	0.27	0.12	0.05	0.31	0.21	0.05	0.32	0.05
Intersection LOS	D											
Intersection V/C	0.815											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	161	178	415	186	544	38	57	1634	238	484	1802	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	161	178	415	186	544	38	57	1634	238	484	1802	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	45	104	47	136	10	14	409	60	121	451	51
Total Analysis Volume [veh/h]	161	178	415	186	544	38	57	1634	238	484	1802	203
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.05	0.24	0.05	0.17	0.17	0.02	0.28	0.28	0.14	0.35	0.06
Intersection LOS	C											
Intersection V/C	0.766											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	609	0	563	0	1493	714	0	1958	214
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	609	0	563	0	1493	714	0	1958	214
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	152	0	141	0	373	179	0	490	54
Total Analysis Volume [veh/h]	0	0	0	609	0	563	0	1493	714	0	1958	214
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.18	0.00	0.23	0.00	0.29	0.00	0.00	0.38	0.00
Intersection LOS	B											
Intersection V/C	0.664											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.640

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1079	157	817	0	0	57	130	1385	563	0	1024	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1079	157	817	0	0	57	130	1385	563	0	1024	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	270	39	204	0	0	14	33	346	141	0	256	2
Total Analysis Volume [veh/h]	1079	157	817	0	0	57	130	1385	563	0	1024	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.21	0.30	0.30	0.00	0.00	0.02	0.08	0.27	0.00	0.00	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.640											



**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↵			↵ ↵			↵ ↵ ↵			↵ ↵ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	129	334	126	115	213	94	53	1207	56	87	1541	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	334	126	115	213	94	53	1207	56	87	1541	157
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	84	32	29	53	24	13	302	14	22	385	39
Total Analysis Volume [veh/h]	129	334	126	115	213	94	53	1207	56	87	1541	157
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.14	0.14	0.07	0.09	0.09	0.03	0.25	0.25	0.05	0.33	0.33
Intersection LOS	B											
Intersection V/C	0.617											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	127	352	115	162	276	59	34	1366	67	47	1600	125
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	352	115	162	276	59	34	1366	67	47	1600	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	88	29	41	69	15	9	342	17	12	400	31
Total Analysis Volume [veh/h]	127	352	115	162	276	59	34	1366	67	47	1600	125
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.14	0.14	0.10	0.10	0.10	0.02	0.28	0.28	0.03	0.34	0.34
Intersection LOS	B											
Intersection V/C	0.641											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.687

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	443	622	182	71	350	83	153	1413	387	215	1476	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	443	622	182	71	350	83	153	1413	387	215	1476	75
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	111	156	46	18	88	21	38	353	97	54	369	19
Total Analysis Volume [veh/h]	443	622	182	71	350	83	153	1413	387	215	1476	75
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.18	0.11	0.04	0.10	0.05	0.09	0.28	0.23	0.13	0.30	0.30
Intersection LOS	B											
Intersection V/C	0.687											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.826

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	309	576	449	547	330	10	14	1451	241	442	1421	970
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	309	576	449	547	330	10	14	1451	241	442	1421	970
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	144	112	137	83	3	4	363	60	111	355	243
Total Analysis Volume [veh/h]	309	576	449	547	330	10	14	1451	241	442	1421	970
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.20	0.20	0.16	0.10	0.10	0.00	0.25	0.25	0.13	0.28	0.41
Intersection LOS	D											
Intersection V/C	0.826											



**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.769

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	581	0	826	0	1562	886	283	1974	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	581	0	826	0	1562	886	283	1974	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	145	0	207	0	391	222	71	494	0
Total Analysis Volume [veh/h]	0	0	0	581	0	826	0	1562	886	283	1974	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.28	0.00	0.36	0.36	0.08	0.39	0.00
Intersection LOS	C											
Intersection V/C	0.769											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐						⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	1073	0	523	0	0	0	560	1602	0	0	1256	630
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1073	0	523	0	0	0	560	1602	0	0	1256	630
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	268	0	131	0	0	0	140	401	0	0	314	158
Total Analysis Volume [veh/h]	1073	0	523	0	0	0	560	1602	0	0	1256	630
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.32	0.00	0.31	0.00	0.00	0.00	0.16	0.31	0.00	0.00	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.808											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.246

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	504	10	25	448	52	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	504	10	25	448	52	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	126	3	6	112	13	12
Total Analysis Volume [veh/h]	504	10	25	448	52	48
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.15	0.15	0.01	0.13	0.03	0.03
Intersection LOS	A					
Intersection V/C	0.246					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	82	732	351	350	676	72	77	131	22	407	140	472
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	732	351	350	676	72	77	131	22	407	140	472
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	183	88	88	169	18	19	33	6	102	35	118
Total Analysis Volume [veh/h]	82	732	351	350	676	72	77	131	22	407	140	472
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.21	0.21	0.10	0.15	0.15	0.05	0.09	0.09	0.12	0.08	0.17
Intersection LOS	A											
Intersection V/C	0.585											



**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.614

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	31	53	104	144	127	191	136	1722	35	125	1692	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	53	104	144	127	191	136	1722	35	125	1692	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	26	36	32	48	34	431	9	31	423	53
Total Analysis Volume [veh/h]	31	53	104	144	127	191	136	1722	35	125	1692	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.06	0.08	0.04	0.11	0.08	0.34	0.34	0.07	0.33	0.12
Intersection LOS	B											
Intersection V/C	0.614											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	4	7	6	402	30	195	134	1997	9	59	1919	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	6	402	30	195	134	1997	9	59	1919	324
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	2	101	8	49	34	499	2	15	480	81
Total Analysis Volume [veh/h]	4	7	6	402	30	195	134	1997	9	59	1919	324
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.12	0.13	0.11	0.08	0.39	0.39	0.03	0.44	0.44
Intersection LOS	C											
Intersection V/C	0.701											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	432	792	254	246	652	249	215	1733	401	350	1658	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	432	792	254	246	652	249	215	1733	401	350	1658	189
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	198	64	62	163	62	54	433	100	88	415	47
Total Analysis Volume [veh/h]	432	792	254	246	652	249	215	1733	401	350	1658	189
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.16	0.15	0.07	0.19	0.15	0.06	0.34	0.24	0.10	0.33	0.11
Intersection LOS	D											
Intersection V/C	0.812											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.839

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	285	489	320	465	417	141	121	1980	201	487	2041	621
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	285	489	320	465	417	141	121	1980	201	487	2041	621
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	122	80	116	104	35	30	495	50	122	510	155
Total Analysis Volume [veh/h]	285	489	320	465	417	141	121	1980	201	487	2041	621
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.14	0.19	0.14	0.16	0.16	0.04	0.32	0.32	0.14	0.40	0.23
Intersection LOS	D											
Intersection V/C	0.839											



**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.795

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	665	0	625	0	1741	1040	0	2510	483
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	665	0	625	0	1741	1040	0	2510	483
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	166	0	156	0	435	260	0	628	121
Total Analysis Volume [veh/h]	0	0	0	665	0	625	0	1741	1040	0	2510	483
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.20	0.00	0.25	0.00	0.34	0.00	0.00	0.49	0.00
Intersection LOS	C											
Intersection V/C	0.795											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1238	104	516	0	0	248	165	1838	411	0	1512	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1238	104	516	0	0	248	165	1838	411	0	1512	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	310	26	129	0	0	62	41	460	103	0	378	7
Total Analysis Volume [veh/h]	1238	104	516	0	0	248	165	1838	411	0	1512	26
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.24	0.27	0.27	0.00	0.00	0.07	0.10	0.36	0.00	0.00	0.23	0.23
Intersection LOS	C											
Intersection V/C	0.757											

*APPENDIX D-VIII*

**YEAR 2021 CUMULATIVE TRAFFIC CONDITIONS  
– HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2021  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	69	960	89	79	1201	44	58	164	68	172	378	63
Future Volume (veh/h)	69	960	89	79	1201	44	58	164	68	172	378	63
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	78	1079	100	87	1320	48	65	184	76	191	420	70
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2526	234	109	1612	59	82	265	105	217	557	92
Arrive On Green	0.27	0.56	0.56	0.04	0.23	0.23	0.02	0.04	0.04	0.13	0.19	0.19
Sat Flow, veh/h	1688	4505	417	1688	4791	174	1688	2351	936	1688	2891	478
Grp Volume(v), veh/h	78	772	407	87	888	480	65	130	130	191	243	247
Grp Sat Flow(s),veh/h/ln	1688	1612	1697	1688	1612	1741	1688	1683	1604	1688	1683	1686
Q Serve(g_s), s	4.2	16.6	16.6	6.1	31.4	31.4	4.6	9.1	9.6	13.3	16.4	16.6
Cycle Q Clear(g_c), s	4.2	16.6	16.6	6.1	31.4	31.4	4.6	9.1	9.6	13.3	16.4	16.6
Prop In Lane	1.00		0.25	1.00		0.10	1.00		0.58	1.00		0.28
Lane Grp Cap(c), veh/h	459	1809	952	109	1085	586	82	190	181	217	324	325
V/C Ratio(X)	0.17	0.43	0.43	0.80	0.82	0.82	0.79	0.68	0.72	0.88	0.75	0.76
Avail Cap(c_a), veh/h	459	1809	952	183	1156	624	141	393	374	309	561	562
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	15.2	15.2	56.7	43.0	43.0	58.4	55.7	55.9	51.3	45.7	45.8
Incr Delay (d2), s/veh	0.1	0.7	1.4	4.0	5.5	9.7	5.5	1.5	1.8	14.1	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.8	6.3	2.7	13.6	15.4	2.1	4.1	4.2	6.4	6.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	16.0	16.6	60.7	48.5	52.7	63.9	57.1	57.7	65.4	47.0	47.2
LnGrp LOS	C	B	B	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1257			1455			325			681	
Approach Delay, s/veh		17.3			50.6			58.7			52.3	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	72.3	18.5	18.5	37.6	45.4	8.9	28.1				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	13.0	41.0	22.0	28.0	11.0	* 43	10.0	40.0				
Max Q Clear Time (g_c+I1), s	8.1	18.6	15.3	11.6	6.2	33.4	6.6	18.6				
Green Ext Time (p_c), s	0.0	11.3	0.1	1.9	0.0	7.0	0.0	4.3				

Intersection Summary

HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
2: Berry Street & Lambert Road































Year 2021  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	26	1013	99	139	1299	102	44	144	65	177	383	28
Future Volume (veh/h)	26	1013	99	139	1299	102	44	144	65	177	383	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	28	1101	108	148	1382	109	59	195	88	239	518	38
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	2032	199	173	2489	196	75	269	117	265	733	54
Arrive On Green	0.01	0.15	0.15	0.10	0.54	0.54	0.04	0.12	0.12	0.16	0.23	0.23
Sat Flow, veh/h	1688	4479	439	1688	4571	361	1688	2284	992	1688	3181	233
Grp Volume(v), veh/h	28	792	417	148	975	516	59	142	141	239	274	282
Grp Sat Flow(s),veh/h/ln	1688	1612	1693	1688	1612	1707	1688	1683	1593	1688	1683	1730
Q Serve(g_s), s	2.0	27.3	27.3	10.4	23.7	23.7	4.2	9.7	10.3	16.7	17.9	18.0
Cycle Q Clear(g_c), s	2.0	27.3	27.3	10.4	23.7	23.7	4.2	9.7	10.3	16.7	17.9	18.0
Prop In Lane	1.00		0.26	1.00		0.21	1.00		0.62	1.00		0.13
Lane Grp Cap(c), veh/h	34	1463	768	173	1756	929	75	198	188	265	388	399
V/C Ratio(X)	0.82	0.54	0.54	0.86	0.56	0.56	0.79	0.72	0.75	0.90	0.71	0.71
Avail Cap(c_a), veh/h	56	1463	768	211	1756	929	141	352	333	323	534	549
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.41	0.41	0.41	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	39.5	39.5	53.0	17.8	17.8	56.8	51.0	51.3	49.7	42.4	42.5
Incr Delay (d2), s/veh	13.9	1.2	2.3	9.9	0.5	1.0	6.8	1.8	2.3	21.9	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	12.0	12.8	4.7	8.3	8.8	1.9	4.1	4.2	8.5	7.4	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	40.7	41.8	62.8	18.4	18.8	63.5	52.8	53.5	71.6	43.6	43.6
LnGrp LOS	E	D	D	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		1237			1639			342			795	
Approach Delay, s/veh		41.8			22.5			55.0			52.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.3	61.4	21.8	20.4	5.4	72.3	8.3	33.9				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	15.0	36.6	23.0	25.1	4.0	48.6	10.0	38.1				
Max Q Clear Time (g_c+I1), s	12.4	29.3	18.7	12.3	4.0	25.7	6.2	20.0				
Green Ext Time (p_c), s	0.0	5.1	0.1	1.8	0.0	14.6	0.0	4.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				37.1								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Year 2021  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	116	1084	263	231	1305	151	220	334	158	129	746	255
Future Volume (veh/h)	116	1084	263	231	1305	151	220	334	158	129	746	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	133	1246	302	269	1517	176	286	434	205	134	777	266
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	1585	492	267	1770	205	337	945	421	141	879	392
Arrive On Green	0.08	0.33	0.33	0.16	0.40	0.40	0.10	0.28	0.28	0.08	0.26	0.26
Sat Flow, veh/h	1688	4837	1502	1688	4396	509	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	133	1246	302	269	1113	580	286	434	205	134	777	266
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1680	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	9.4	28.0	20.3	19.0	37.8	37.8	10.3	12.8	13.6	9.5	26.6	19.1
Cycle Q Clear(g_c), s	9.4	28.0	20.3	19.0	37.8	37.8	10.3	12.8	13.6	9.5	26.6	19.1
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1585	492	267	1299	677	337	945	421	141	879	392
V/C Ratio(X)	0.95	0.79	0.61	1.01	0.86	0.86	0.85	0.46	0.49	0.95	0.88	0.68
Avail Cap(c_a), veh/h	141	1585	492	267	1299	677	355	982	438	141	898	400
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)	0.72	0.72	0.72	0.47	0.47	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	36.5	34.0	50.5	32.7	32.7	52.9	35.6	36.0	54.8	42.6	39.8
Incr Delay (d2), s/veh	48.5	2.9	4.1	39.4	3.7	6.8	15.7	0.5	1.2	61.0	10.6	5.0
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	5.8	11.0	7.8	10.7	14.5	15.8	4.9	5.3	5.1	6.4	12.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.2	39.5	38.0	89.9	36.4	39.5	68.6	36.1	37.2	115.7	53.1	44.8
LnGrp LOS	F	D	D	F	D	D	E	D	D	F	D	D
Approach Vol, veh/h		1681			1962			925			1177	
Approach Delay, s/veh		44.2			44.6			46.4			58.4	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	44.3	14.0	38.7	14.0	53.3	16.4	36.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	38.0	10.0	35.0	10.0	47.0	13.0	32.0				
Max Q Clear Time (g_c+I1), s	21.0	30.0	11.5	15.6	11.4	39.8	12.3	28.6				
Green Ext Time (p_c), s	0.0	7.1	0.0	7.3	0.0	6.8	0.0	2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			47.6									
HCM 6th LOS			D									



# HCM 6th Signalized Intersection Summary

## 4: State College Boulevard & Lambert Road

Year 2021  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (veh/h)	7	1078	257	544	1661	492	179	147	214	817	736	4
Future Volume (veh/h)	7	1078	257	544	1661	492	179	147	214	817	736	4
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	8	1253	299	633	1931	572	239	196	285	961	866	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	15	1321	314	655	2236	1145	292	148	250	982	1019	6
Arrive On Green	0.00	0.27	0.27	0.40	0.92	0.92	0.09	0.08	0.08	0.30	0.30	0.30
Sat Flow, veh/h	3274	4955	1177	3274	4837	1502	3375	1772	3003	3274	3432	20
Grp Volume(v), veh/h	8	1156	396	633	1931	572	239	196	285	961	425	446
Grp Sat Flow(s),veh/h/ln	1637	1524	1560	1637	1612	1502	1688	1772	1502	1637	1683	1768
Q Serve(g_s), s	0.3	29.8	30.0	22.7	18.0	6.4	8.4	10.0	10.0	34.9	28.5	28.5
Cycle Q Clear(g_c), s	0.3	29.8	30.0	22.7	18.0	6.4	8.4	10.0	10.0	34.9	28.5	28.5
Prop In Lane	1.00		0.75	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	15	1219	416	655	2236	1145	292	148	250	982	500	525
V/C Ratio(X)	0.55	0.95	0.95	0.97	0.86	0.50	0.82	1.33	1.14	0.98	0.85	0.85
Avail Cap(c_a), veh/h	55	1219	416	655	2236	1145	309	148	250	982	500	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.23	0.23	0.23	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	43.2	43.3	35.6	3.1	0.6	53.9	55.0	55.0	41.6	39.7	39.7
Incr Delay (d2), s/veh	6.3	10.3	23.0	10.2	1.2	0.4	13.8	186.4	99.5	23.4	12.5	12.0
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	11.9	13.8	7.6	1.6	0.5	4.0	12.0	7.2	16.8	13.1	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	53.5	66.3	45.9	4.3	0.9	67.7	241.4	154.5	65.0	52.2	51.7
LnGrp LOS	E	D	E	D	A	A	E	F	F	E	D	D
Approach Vol, veh/h		1560			3136			720			1832	
Approach Delay, s/veh		56.8			12.1			149.3			58.8	
Approach LOS		E			B			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	37.0	40.0	15.0	4.5	60.5	14.4	40.6				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	24.0	32.0	36.0	10.0	2.0	54.0	11.0	35.0				
Max Q Clear Time (g_c+I1), s	24.7	32.0	36.9	12.0	2.3	20.0	10.4	30.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	26.7	0.0	2.7				

### Intersection Summary

HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1503	550	206	1876	0	0	0	0	957	0	825
Future Volume (veh/h)	0	1503	550	206	1876	0	0	0	0	957	0	825
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1712	564	240	2181	0				1411	0	639
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2033	574	248	2399	0				1448	0	644
Arrive On Green	0.00	0.77	0.77	0.15	0.99	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1712	564	240	2181	0				1411	0	639
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	25.5	42.6	8.7	4.6	0.0				49.2	0.0	50.7
Cycle Q Clear(g_c), s	0.0	25.5	42.6	8.7	4.6	0.0				49.2	0.0	50.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2033	574	248	2399	0				1448	0	644
V/C Ratio(X)	0.00	0.84	0.98	0.97	0.91	0.00				0.97	0.00	0.99
Avail Cap(c_a), veh/h	0	2033	574	248	2399	0				1448	0	644
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.18	0.18	0.35	0.35	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.7	13.7	50.7	0.3	0.0				33.6	0.0	34.0
Incr Delay (d2), s/veh	0.0	0.8	12.2	25.7	2.5	0.0				17.8	0.0	33.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	6.2	4.1	0.7	0.0				23.1	0.0	23.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.5	25.9	76.5	2.8	0.0				51.4	0.0	67.3
LnGrp LOS	A	B	C	E	A	A				D	A	E
Approach Vol, veh/h		2276			2421						2050	
Approach Delay, s/veh		15.9			10.1						56.3	
Approach LOS		B			B						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.6	50.4		56.0		64.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.1	45.9		51.5		59.5						
Max Q Clear Time (g_c+I1), s	10.7	44.6		52.7		6.6						
Green Ext Time (p_c), s	0.0	1.2		0.0		28.2						

Intersection Summary

























HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	411	2059	0	0	1172	471	890	0	443	0	0	0
Future Volume (veh/h)	411	2059	0	0	1172	471	890	0	443	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	462	2313	0	0	1485	483	1011	0	503			
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	506	2778	0	0	2032	574	1148	0	527			
Arrive On Green	0.31	1.00	0.00	0.00	0.38	0.38	0.35	0.00	0.35			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	462	2313	0	0	1485	483	1011	0	503			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	16.3	0.0	0.0	0.0	28.7	35.1	34.8	0.0	39.2			
Cycle Q Clear(g_c), s	16.3	0.0	0.0	0.0	28.7	35.1	34.8	0.0	39.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	506	2778	0	0	2032	574	1148	0	527			
V/C Ratio(X)	0.91	0.83	0.00	0.00	0.73	0.84	0.88	0.00	0.96			
Avail Cap(c_a), veh/h	532	2778	0	0	2032	574	1159	0	532			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.7	0.0	0.0	0.0	31.8	33.8	36.6	0.0	38.0			
Incr Delay (d2), s/veh	2.5	0.3	0.0	0.0	2.4	13.9	8.0	0.0	27.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.4	0.1	0.0	0.0	12.2	14.3	15.0	0.0	18.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.3	0.0	0.0	34.1	47.7	44.6	0.0	65.9			
LnGrp LOS	D	A	A	A	C	D	D	A	E			
Approach Vol, veh/h		2775			1968			1514				
Approach Delay, s/veh		7.4			37.5			51.7				
Approach LOS		A			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		73.4			23.0	50.4		46.6				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		68.5			19.5	44.5		42.5				
Max Q Clear Time (g_c+I1), s		2.0			18.3	37.1		41.2				
Green Ext Time (p_c), s		35.0			0.2	5.6		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					27.6							
HCM 6th LOS					C							
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
7: Berry Street & Mercury Lane

Year 2021  
AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	12	315	50	60	544
Future Volume (veh/h)	7	12	315	50	60	544
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	12	20	394	62	71	648
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	70	62	2311	361	830	2666
Arrive On Green	0.04	0.04	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1688	1502	3006	456	935	3455
Grp Volume(v), veh/h	12	20	226	230	71	648
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1690	935	1683
Q Serve(g_s), s	0.4	0.8	1.9	2.0	1.2	3.0
Cycle Q Clear(g_c), s	0.4	0.8	1.9	2.0	3.2	3.0
Prop In Lane	1.00	1.00		0.27	1.00	
Lane Grp Cap(c), veh/h	70	62	1333	1338	830	2666
V/C Ratio(X)	0.17	0.32	0.17	0.17	0.09	0.24
Avail Cap(c_a), veh/h	591	526	1333	1338	830	2666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.64	0.64	0.63	0.63
Uniform Delay (d), s/veh	27.8	27.9	1.5	1.5	1.9	1.6
Incr Delay (d2), s/veh	1.2	3.0	0.2	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.1	0.1	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.9	30.9	1.7	1.7	2.0	1.7
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	32		456			719
Approach Delay, s/veh	30.2		1.7			1.8
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		52.5			52.5	7.5
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		4.0			5.2	2.8
Green Ext Time (p_c), s		2.6			4.7	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			2.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2021  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	32	53	34	318	79	230	40	502	224	282	932	57
Future Volume (veh/h)	32	53	34	318	79	230	40	502	224	282	932	57
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	39	65	41	430	107	311	48	605	270	297	981	60
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	85	54	497	367	846	67	797	348	1166	2640	161
Arrive On Green	0.04	0.08	0.08	0.15	0.21	0.21	0.05	0.32	0.32	0.36	0.57	0.57
Sat Flow, veh/h	1688	1016	641	3274	1772	1502	1688	3299	1439	3274	4661	285
Grp Volume(v), veh/h	39	0	106	430	107	311	48	591	284	297	678	363
Grp Sat Flow(s),veh/h/ln	1688	0	1657	1637	1772	1502	1688	1612	1513	1637	1612	1721
Q Serve(g_s), s	2.7	0.0	7.5	15.4	6.1	2.2	3.4	19.7	20.4	7.7	13.9	13.9
Cycle Q Clear(g_c), s	2.7	0.0	7.5	15.4	6.1	2.2	3.4	19.7	20.4	7.7	13.9	13.9
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.95	1.00		0.17
Lane Grp Cap(c), veh/h	61	0	139	497	367	846	67	779	366	1166	1826	975
V/C Ratio(X)	0.64	0.00	0.76	0.87	0.29	0.37	0.71	0.76	0.78	0.25	0.37	0.37
Avail Cap(c_a), veh/h	98	0	456	627	724	1148	127	779	366	1166	1826	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	53.8	49.7	40.1	6.4	56.1	37.6	37.8	27.3	14.3	14.3
Incr Delay (d2), s/veh	10.4	0.0	8.5	10.1	0.4	0.3	11.7	6.1	13.4	0.1	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	3.5	7.0	2.7	2.6	1.6	7.9	8.4	3.0	5.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	0.0	62.3	59.8	40.6	6.7	67.8	43.7	51.2	27.5	14.9	15.4
LnGrp LOS	E	A	E	E	D	A	E	D	D	C	B	B
Approach Vol, veh/h		145			848			923			1338	
Approach Delay, s/veh		63.7			37.9			47.3			17.8	
Approach LOS		E			D			D			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	47.8	34.0	23.2	15.0	8.8	73.0	8.4	29.9				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	* 29	23.0	* 33	9.0	37.0	7.0	49.0				
Max Q Clear Time (g_c+I1), s	9.7	22.4	17.4	9.5	5.4	15.9	4.7	8.1				
Green Ext Time (p_c), s	0.6	3.0	0.8	0.5	0.0	7.0	0.0	1.8				

Intersection Summary




























HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary  
 9: Puente Street & Imperial Highway

Year 2021  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 	 	
Traffic Volume (veh/h)	187	1541	64	77	1527	155	52	124	176	115	82	117
Future Volume (veh/h)	187	1541	64	77	1527	155	52	124	176	115	82	117
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	215	1771	74	83	1642	167	61	146	207	140	100	143
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	2829	118	104	1975	613	292	403	341	222	765	341
Arrive On Green	0.24	0.59	0.59	0.02	0.13	0.13	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1688	4762	199	1688	4837	1502	1137	1772	1502	1028	3367	1502
Grp Volume(v), veh/h	215	1199	646	83	1642	167	61	146	207	140	100	143
Grp Sat Flow(s),veh/h/ln	1688	1612	1736	1688	1612	1502	1137	1772	1502	1028	1683	1502
Q Serve(g_s), s	13.3	28.8	28.9	5.9	39.7	12.0	5.4	8.3	14.8	15.9	2.8	9.8
Cycle Q Clear(g_c), s	13.3	28.8	28.9	5.9	39.7	12.0	8.3	8.3	14.8	24.3	2.8	9.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	1916	1031	104	1975	613	292	403	341	222	765	341
V/C Ratio(X)	0.53	0.63	0.63	0.79	0.83	0.27	0.21	0.36	0.61	0.63	0.13	0.42
Avail Cap(c_a), veh/h	404	1916	1031	169	1975	613	355	502	425	280	954	425
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	39.8	15.7	15.7	58.0	47.9	35.9	40.2	39.0	41.5	49.2	36.9	39.6
Incr Delay (d2), s/veh	1.3	1.6	2.9	1.3	0.4	0.1	0.4	0.5	1.7	2.1	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	9.9	11.1	2.6	17.1	4.7	1.5	3.6	5.5	4.1	1.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	17.3	18.6	59.3	48.3	36.0	40.6	39.6	43.3	51.3	37.0	40.2
LnGrp LOS	D	B	B	E	D	D	D	D	D	D	D	D
Approach Vol, veh/h		2060			1892			414			383	
Approach Delay, s/veh		20.2			47.7			41.6			43.4	
Approach LOS		C			D			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.3	11.4	76.3		32.3	33.7	54.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	12.0	60.0		34.0	23.0	* 49				
Max Q Clear Time (g_c+I1), s		16.8	7.9	30.9		26.3	15.3	41.7				
Green Ext Time (p_c), s		1.5	0.1	15.2		1.0	0.3	5.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			34.9									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2021  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	160	1783	4	58	1952	286	2	27	30	305	15	175
Future Volume (veh/h)	160	1783	4	58	1952	286	2	27	30	305	15	175
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	167	1857	4	68	2296	336	4	47	53	415	0	230
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	2326	5	374	2589	368	7	87	80	309	0	138
Arrive On Green	0.12	0.62	0.62	0.22	0.60	0.60	0.05	0.05	0.05	0.09	0.00	0.09
Sat Flow, veh/h	1688	4984	11	1688	4280	608	138	1627	1502	3375	0	1502
Grp Volume(v), veh/h	167	1202	659	68	1713	919	51	0	53	415	0	230
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1663	1765	0	1502	1688	0	1502
Q Serve(g_s), s	11.0	33.6	33.6	3.9	53.7	58.7	3.4	0.0	4.2	11.0	0.0	11.0
Cycle Q Clear(g_c), s	11.0	33.6	33.6	3.9	53.7	58.7	3.4	0.0	4.2	11.0	0.0	11.0
Prop In Lane	1.00		0.01	1.00		0.37	0.08		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	1505	826	374	1951	1006	94	0	80	309	0	138
V/C Ratio(X)	1.08	0.80	0.80	0.18	0.88	0.91	0.54	0.00	0.66	1.34	0.00	1.67
Avail Cap(c_a), veh/h	155	1505	826	374	1951	1006	412	0	350	309	0	138
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.09	0.09	0.09	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	52.7	18.5	18.5	37.9	20.0	20.9	55.4	0.0	55.7	54.5	0.0	54.5
Incr Delay (d2), s/veh	85.8	3.5	6.1	0.0	0.6	1.6	4.8	0.0	9.0	173.5	0.0	331.0
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	8.1	10.1	11.7	1.6	17.7	20.3	1.6	0.0	1.7	12.0	0.0	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.5	22.0	24.7	37.9	20.6	22.6	60.1	0.0	64.7	228.0	0.0	385.5
LnGrp LOS	F	C	C	D	C	C	E	A	E	F	A	F
Approach Vol, veh/h		2028			2700			104			645	
Approach Delay, s/veh		32.5			21.7			62.5			284.1	
Approach LOS		C			C			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.4	31.6	61.0		16.0	15.0	77.6				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		28.0	6.0	* 56		11.0	11.0	51.0				
Max Q Clear Time (g_c+I1), s		6.2	5.9	35.6		13.0	13.0	60.7				
Green Ext Time (p_c), s		0.5	0.0	12.4		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2021  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	176	1591	360	177	1619	86	434	476	164	165	910	200
Future Volume (veh/h)	176	1591	360	177	1619	86	434	476	164	165	910	200
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	183	1657	375	195	1779	95	556	610	210	174	958	211
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1653	513	191	1653	513	518	1733	538	300	982	438
Arrive On Green	0.08	0.45	0.45	0.06	0.34	0.34	0.16	0.36	0.36	0.06	0.20	0.20
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	183	1657	375	195	1779	95	556	610	210	174	958	211
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	6.7	41.0	24.5	7.0	41.0	5.3	19.0	11.1	12.5	6.2	33.9	15.0
Cycle Q Clear(g_c), s	6.7	41.0	24.5	7.0	41.0	5.3	19.0	11.1	12.5	6.2	33.9	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1653	513	191	1653	513	518	1733	538	300	982	438
V/C Ratio(X)	0.96	1.00	0.73	1.02	1.08	0.19	1.07	0.35	0.39	0.58	0.98	0.48
Avail Cap(c_a), veh/h	191	1653	513	191	1653	513	518	1733	538	300	982	438
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.52	0.52	0.52	0.31	0.31	0.31	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	55.2	32.7	28.2	56.5	39.5	27.8	50.5	28.3	28.7	54.1	47.9	40.2
Incr Delay (d2), s/veh	36.0	16.6	4.8	41.7	38.6	0.2	60.4	0.6	2.1	2.3	20.9	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	16.1	8.2	3.9	21.3	1.9	12.0	4.3	4.7	2.7	17.5	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.2	49.3	33.0	98.2	78.1	28.0	110.9	28.8	30.8	56.4	68.8	43.3
LnGrp LOS	F	F	C	F	F	C	F	C	C	E	E	D
Approach Vol, veh/h		2215			2069			1376			1343	
Approach Delay, s/veh		50.0			77.7			62.3			63.2	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	48.0	11.0	46.0	23.0	40.0	11.0	46.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	43.0	7.0	41.0	19.0	35.0	7.0	41.0				
Max Q Clear Time (g_c+I1), s	8.2	14.5	9.0	43.0	21.0	35.9	8.7	43.0				
Green Ext Time (p_c), s	0.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			63.1									
HCM 6th LOS			E									



HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2021  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↑		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔↔
Traffic Volume (veh/h)	57	1634	238	484	1802	203	161	178	415	186	544	38
Future Volume (veh/h)	57	1634	238	484	1802	203	161	178	415	186	544	38
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	66	1878	274	526	1959	221	199	220	512	209	611	43
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1759	256	491	2056	738	273	1038	463	218	931	65
Arrive On Green	0.05	0.32	0.32	0.15	0.43	0.43	0.08	0.31	0.31	0.07	0.29	0.29
Sat Flow, veh/h	3274	5412	789	3274	4837	1502	3274	3367	1502	3274	3191	224
Grp Volume(v), veh/h	66	1586	566	526	1959	221	199	220	512	209	322	332
Grp Sat Flow(s),veh/h/ln	1637	1524	1630	1637	1612	1502	1637	1683	1502	1637	1683	1732
Q Serve(g_s), s	2.3	39.0	39.0	18.0	47.0	2.5	7.1	5.8	37.0	7.6	20.1	20.2
Cycle Q Clear(g_c), s	2.3	39.0	39.0	18.0	47.0	2.5	7.1	5.8	37.0	7.6	20.1	20.2
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	164	1486	530	491	2056	738	273	1038	463	218	491	505
V/C Ratio(X)	0.40	1.07	1.07	1.07	0.95	0.30	0.73	0.21	1.11	0.96	0.66	0.66
Avail Cap(c_a), veh/h	164	1486	530	491	2056	738	273	1038	463	218	491	505
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)	0.31	0.31	0.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	40.5	40.5	51.0	33.3	18.2	53.7	30.7	41.5	55.8	37.2	37.2
Incr Delay (d2), s/veh	0.5	35.5	42.7	61.0	11.5	1.0	9.5	0.5	73.8	48.8	6.7	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	18.8	21.1	11.3	19.3	3.7	3.2	2.4	22.5	4.6	9.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	76.0	83.2	112.0	44.8	19.2	63.2	31.2	115.3	104.7	43.9	43.8
LnGrp LOS	E	F	F	F	D	B	E	C	F	F	D	D
Approach Vol, veh/h		2218			2706			931			863	
Approach Delay, s/veh		77.2			55.8			84.3			58.6	
Approach LOS		E			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	42.0	22.0	44.0	14.0	40.0	10.0	56.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	8.0	37.0	18.0	39.0	10.0	35.0	6.0	51.0				
Max Q Clear Time (g_c+I1), s	9.6	39.0	20.0	41.0	9.1	22.2	4.3	49.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	3.1	0.0	1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				67.2								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (veh/h)	0	1493	1958	0	609	563
Future Volume (veh/h)	0	1493	1958	0	609	563
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1623	2176	0	837	425
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2580	2580	0	1294	576
Arrive On Green	0.00	0.53	0.53	0.00	0.38	0.38
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1623	2176	0	837	425
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	28.3	45.8	0.0	24.4	29.2
Cycle Q Clear(g_c), s	0.0	28.3	45.8	0.0	24.4	29.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2580	2580	0	1294	576
V/C Ratio(X)	0.00	0.63	0.84	0.00	0.65	0.74
Avail Cap(c_a), veh/h	0	2580	2580	0	1294	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	23.8	0.0	30.3	31.8
Incr Delay (d2), s/veh	0.0	1.2	3.6	0.0	2.5	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.0	16.7	0.0	10.3	11.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	20.8	27.3	0.0	32.9	40.1
LnGrp LOS	A	C	C	A	C	D
Approach Vol, veh/h		1623	2176		1262	
Approach Delay, s/veh		20.8	27.3		35.3	
Approach LOS		C	C		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				69.0	51.0	69.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				64.0	46.0	64.0
Max Q Clear Time (g_c+I1), s				30.3	31.2	47.8
Green Ext Time (p_c), s				14.5	4.6	12.6

Intersection Summary

HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↔	↗			↗↗
Traffic Volume (veh/h)	130	1385	0	0	1024	6	1079	157	817	0	0	57
Future Volume (veh/h)	130	1385	0	0	1024	6	1079	157	817	0	0	57
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	140	1489	0	0	1177	7	1103	637	765	0	0	86
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	164	2096	0	0	1906	11	1631	856	726	0	0	0
Arrive On Green	0.10	0.43	0.00	0.00	0.30	0.30	0.48	0.48	0.48	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6547	37	3375	1772	1502			0
Grp Volume(v), veh/h	140	1489	0	0	854	330	1103	637	765			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1765	1688	1772	1502			
Q Serve(g_s), s	9.8	30.2	0.0	0.0	19.2	19.2	30.1	34.8	58.0			
Cycle Q Clear(g_c), s	9.8	30.2	0.0	0.0	19.2	19.2	30.1	34.8	58.0			
Prop In Lane	1.00		0.00	0.00		0.02	1.00		1.00			
Lane Grp Cap(c), veh/h	164	2096	0	0	1383	534	1631	856	726			
V/C Ratio(X)	0.85	0.71	0.00	0.00	0.62	0.62	0.68	0.74	1.05			
Avail Cap(c_a), veh/h	169	2096	0	0	1383	534	1631	856	726			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	53.3	27.8	0.0	0.0	35.9	35.9	23.8	25.0	31.0			
Incr Delay (d2), s/veh	31.3	2.1	0.0	0.0	2.1	5.3	2.3	5.8	48.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	11.4	0.0	0.0	7.2	8.8	12.2	15.6	29.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	29.9	0.0	0.0	38.0	41.2	26.1	30.8	79.5			
LnGrp LOS	F	C	A	A	D	D	C	C	F			
Approach Vol, veh/h		1629			1184			2505				
Approach Delay, s/veh		34.6			38.9			43.6				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		63.0		57.0			15.7	41.3				
Change Period (Y+Rc), s		5.0		5.0			4.0	5.0				
Max Green Setting (Gmax), s		58.0		41.0			12.0	25.0				
Max Q Clear Time (g_c+I1), s		60.0		32.2			11.8	21.2				
Green Ext Time (p_c), s		0.0		5.8			0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	69	960	89	79	1201	44	58	164	68	172	378	63
Future Volume (vph)	69	960	89	79	1201	44	58	164	68	172	378	63
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.987			0.995			0.956			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4755	0	1676	4794	0	1676	3205	0	1676	3283	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4755	0	1676	4794	0	1676	3205	0	1676	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			49			17	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	78	1079	100	87	1320	48	65	184	76	191	420	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1179	0	87	1368	0	65	260	0	191	490	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	14.0	46.0		16.0	48.0		13.0	33.0		25.0	45.0	
Total Split (%)	11.7%	38.3%		13.3%	40.0%		10.8%	27.5%		20.8%	37.5%	
Maximum Green (s)	11.0	41.0		13.0	43.0		10.0	28.0		22.0	40.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	9.1	60.5		10.2	63.2		8.3	16.0		17.4	26.7	
Actuated g/C Ratio	0.08	0.50		0.08	0.53		0.07	0.13		0.14	0.22	
v/c Ratio	0.61	0.49		0.62	0.54		0.57	0.56		0.79	0.66	
Control Delay	73.6	22.5		59.5	10.4		73.7	31.2		71.1	44.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	73.6	22.5		59.5	10.4		73.7	31.2		71.1	44.9	
LOS	E	C		E	B		E	C		E	D	
Approach Delay		25.7			13.3			39.7			52.2	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	59	206		50	274		42	70		144	184	
Queue Length 95th (ft)	110	336		m95	447		m79	97		218	200	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	153	2402		181	2527		139	785		307	1105	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.49		0.48	0.54		0.47	0.33		0.62	0.44	

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 93 (78%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

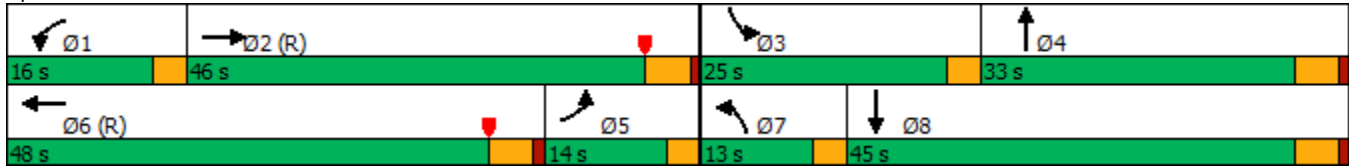
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2021  
 AM Peak Hour

Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 26.9 Intersection LOS: C  
 Intersection Capacity Utilization 63.0% ICU Level of Service B  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	26	1013	99	139	1299	102	44	144	65	177	383	28
Future Volume (vph)	26	1013	99	139	1299	102	44	144	65	177	383	28
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.987			0.989			0.953			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4755	0	1676	4765	0	1676	3195	0	1676	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4755	0	1676	4765	0	1676	3195	0	1676	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			13			55			7	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	28	1101	108	148	1382	109	59	195	88	239	518	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1209	0	148	1491	0	59	283	0	239	556	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	7.0	43.6		19.0	55.6		13.0	31.4		26.0	44.4	
Total Split (%)	5.8%	36.3%		15.8%	46.3%		10.8%	26.2%		21.7%	37.0%	
Maximum Green (s)	4.0	36.6		15.0	48.6		10.0	25.1		23.0	38.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.7	50.6		14.0	63.1		8.1	15.0		20.1	28.6	
Actuated g/C Ratio	0.05	0.42		0.12	0.53		0.07	0.12		0.17	0.24	
v/c Ratio	0.35	0.60		0.76	0.59		0.52	0.63		0.85	0.70	
Control Delay	83.0	23.1		74.4	9.7		57.7	44.3		74.5	46.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	83.0	23.1		74.4	9.7		57.7	44.3		74.5	46.0	
LOS	F	C		E	A		E	D		E	D	
Approach Delay		24.5			15.5			46.6			54.6	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	16	287		94	167		43	100		178	211	
Queue Length 95th (ft)	m46	402		m121	m426		54	115		212	187	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	79	2011		218	2512		139	711		321	1058	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.35	0.60		0.68	0.59		0.42	0.40		0.74	0.53	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 35.6 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated



Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2021  
 AM Peak Hour
























Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road



Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	1084	263	231	1305	151	220	334	158	129	746	255
Future Volume (vph)	116	1084	263	231	1305	151	220	334	158	129	746	255
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.984				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233		20				205			181
Link Speed (mph)		45		45			35		35		35	
Link Distance (ft)		3309		3979			1995		706		706	
Travel Time (s)		50.1		60.3			38.9		13.8		13.8	
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Adj. Flow (vph)	133	1246	302	269	1517	176	286	434	205	134	777	266
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	1246	302	269	1693	0	286	434	205	134	777	266
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24		24		24	
Link Offset(ft)		0		0			0		0		0	
Crosswalk Width(ft)		16		16			16		16		16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117			117		117		117	
Detector 2 Size(ft)		6		6			6		6		6	
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0		0.0		0.0	
Detector 3 Position(ft)		234		234			234		234		234	
Detector 3 Size(ft)		6		6			6		6		6	
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex		Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3		8
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	14.0	43.0	43.0	23.0	52.0		17.0	40.0	40.0	14.0	37.0	37.0
Total Split (%)	11.7%	35.8%	35.8%	19.2%	43.3%		14.2%	33.3%	33.3%	11.7%	30.8%	30.8%
Maximum Green (s)	10.0	38.0	38.0	19.0	47.0		13.0	35.0	35.0	10.0	32.0	32.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	10.2	38.0	38.0	19.2	47.0		12.6	34.8	34.8	10.0	32.2	32.2
Actuated g/C Ratio	0.08	0.32	0.32	0.16	0.39		0.10	0.29	0.29	0.08	0.27	0.27
v/c Ratio	0.94	0.82	0.48	1.00	0.91		0.84	0.45	0.35	0.96	0.86	0.50
Control Delay	122.6	32.0	5.8	99.1	20.8		65.3	26.9	5.0	122.6	53.1	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.6	32.0	5.8	99.1	20.8		65.3	26.9	5.0	122.6	53.1	15.7
LOS	F	C	A	F	C		E	C	A	F	D	B
Approach Delay		34.5			31.5			33.9			52.5	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	110	346	33	~194	399		86	157	45	105	303	51
Queue Length 95th (ft)	m#218	187	17	m#312	278		129	104	0	#232	#405	135
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	142	1525	634	268	1869		352	977	582	139	900	534
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.82	0.48	1.00	0.91		0.81	0.44	0.35	0.96	0.86	0.50

Intersection Summary

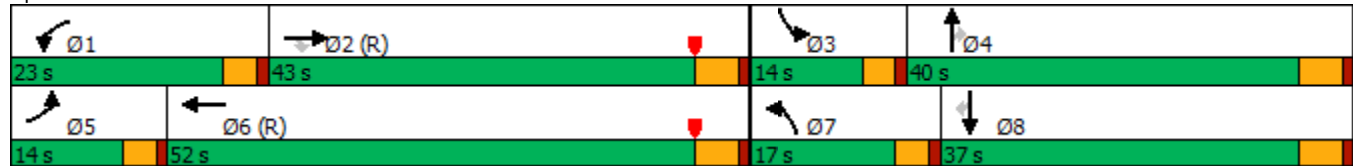
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2021  
 AM Peak Hour

Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 37.1	Intersection LOS: D
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1078	257	544	1661	492	179	147	214	817	736	4
Future Volume (vph)	7	1078	257	544	1661	492	179	147	214	817	736	4
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.971				0.850		0.939	0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5895	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5895	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						137		93	164			
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Adj. Flow (vph)	8	1253	299	633	1931	572	239	196	285	961	866	5
Shared Lane Traffic (%)									47%			
Lane Group Flow (vph)	8	1552	0	633	1931	572	239	330	151	961	871	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	37.0		28.0	59.0	40.0	15.0	15.0	15.0	40.0	40.0	
Total Split (%)	5.0%	30.8%		23.3%	49.2%	33.3%	12.5%	12.5%	12.5%	33.3%	33.3%	
Maximum Green (s)	2.0	32.0		24.0	54.0	36.0	11.0	10.0	10.0	36.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	32.0		24.0	58.8	99.8	10.7	10.0	10.0	36.0	35.3	
Actuated g/C Ratio	0.02	0.27		0.20	0.49	0.83	0.09	0.08	0.08	0.30	0.29	
v/c Ratio	0.15	0.99		0.97	0.82	0.45	0.82	0.98	0.57	0.99	0.88	
Control Delay	78.7	36.7		74.6	24.6	1.5	76.4	84.5	15.4	67.6	52.4	
Queue Delay	0.0	39.2		0.0	4.8	0.8	0.0	1.3	0.2	0.0	0.0	
Total Delay	78.7	75.9		74.6	29.5	2.2	76.4	85.8	15.6	67.6	52.4	
LOS	E	E		E	C	A	E	F	B	E	D	
Approach Delay		76.0			33.6			68.0			60.4	
Approach LOS		E			C			E			E	
Queue Length 50th (ft)	3	340		264	326	27	94	103	0	380	340	
Queue Length 95th (ft)	m5	m#383		m#292	m408	m44	114	#141	26	#470	392	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1572		650	2361	1270	298	336	264	975	985	
Starvation Cap Reductn	0	0		0	366	386	0	0	0	0	0	
Spillback Cap Reductn	0	227		0	0	0	0	2	5	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	1.15		0.97	0.97	0.65	0.80	0.99	0.58	0.99	0.88	

Intersection Summary

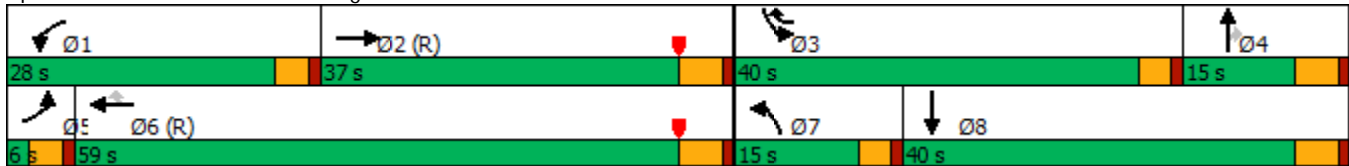
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 24 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Year 2021  
 AM Peak Hour

Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 52.9 Intersection LOS: D  
 Intersection Capacity Utilization 85.3% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1503	550	206	1876	0	0	0	0	957	0	825
Future Volume (vph)	0	1503	550	206	1876	0	0	0	0	957	0	825
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.991	0.850								0.936	0.850
Flt Protected				0.950						0.950	0.972	
Satd. Flow (prot)	0	4512	1290	3252	4818	0	0	0	0	1593	1461	1425
Flt Permitted				0.950						0.950	0.972	
Satd. Flow (perm)	0	4512	1290	3252	4818	0	0	0	0	1593	1461	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9	464								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95	0.86	0.86	0.86
Adj. Flow (vph)	0	1652	604	240	2181	0	0	0	0	1113	0	959
Shared Lane Traffic (%)			17%							36%		31%
Lane Group Flow (vph)	0	1755	501	240	2181	0	0	0	0	712	698	662
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		50.4	50.4	13.6	64.0					56.0	56.0	56.0
Total Split (%)		42.0%	42.0%	11.3%	53.3%					46.7%	46.7%	46.7%
Maximum Green (s)		45.9	45.9	9.1	59.5					51.5	51.5	51.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		45.9	45.9	9.1	59.5					51.5	51.5	51.5
Actuated g/C Ratio		0.38	0.38	0.08	0.50					0.43	0.43	0.43
v/c Ratio		1.01	0.64	0.98	0.91					1.04	1.06	1.03
Control Delay		47.0	6.3	85.5	27.1					80.2	83.8	75.5
Queue Delay		19.5	1.0	0.0	5.2					0.0	0.6	0.5
Total Delay		66.4	7.3	85.5	32.4					80.2	84.4	76.0
LOS		E	A	F	C					F	F	E
Approach Delay		53.3			37.6						80.3	
Approach LOS		D			D						F	
Queue Length 50th (ft)		~383	65	95	298					~628	~625	~550
Queue Length 95th (ft)		m#558	m66	m#125	383					#809	#818	#735
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1731	779	246	2388					683	658	642
Starvation Cap Reductn		87	100	0	134					0	0	0
Spillback Cap Reductn		11	0	0	173					0	1	1
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.07	0.74	0.98	0.98					1.04	1.06	1.03

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	28.9 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.06
Intersection Signal Delay:	56.0
Intersection LOS:	E
Intersection Capacity Utilization:	89.3%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Year 2021  
 AM Peak Hour

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road

→ Ø2 (R)	↙ Ø1	↕ Ø4
50.4 s	13.6 s	56 s
← Ø5 (R)		
64 s		

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	411	2059	0	0	1172	471	890	0	443	0	0	0
Future Volume (vph)	411	2059	0	0	1172	471	890	0	443	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.988	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13	432			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88	0.95	0.95	0.95
Adj. Flow (vph)	462	2313	0	0	1379	554	1011	0	503	0	0	0
Shared Lane Traffic (%)						22%						
Lane Group Flow (vph)	462	2313	0	0	1501	432	1011	0	503	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	24.0	73.0			49.0	49.0	47.0		47.0			
Total Split (%)	20.0%	60.8%			40.8%	40.8%	39.2%		39.2%			
Maximum Green (s)	19.5	68.5			44.5	44.5	42.5		42.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lead				Lag			Lag				
Lead-Lag Optimize?	Yes				Yes			Yes				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	19.3	69.8			46.0	46.0	41.2		41.2			
Actuated g/C Ratio	0.16	0.58			0.38	0.38	0.34		0.34			
v/c Ratio	0.88	0.83			0.87	0.57	0.91		0.91			
Control Delay	58.7	8.4			40.7	5.7	49.9		56.1			
Queue Delay	0.0	1.0			1.3	0.0	0.0		0.0			
Total Delay	58.7	9.4			42.0	5.7	49.9		56.1			
LOS	E	A			D	A	D		E			
Approach Delay		17.6			33.9			51.9				
Approach LOS		B			C			D				
Queue Length 50th (ft)	185	274			417	0	375		331			
Queue Length 95th (ft)	m179	m262			448	56	450		#514			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	533	2803			1732	761	1151		566			
Starvation Cap Reductn	0	250			0	0	0		0			
Spillback Cap Reductn	0	0			91	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.87	0.91			0.91	0.57	0.88		0.89			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 37.5 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 31.0 Intersection LOS: C  
 Intersection Capacity Utilization 89.3% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.













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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	12	315	50	60	544
Future Volume (vph)	7	12	315	50	60	544
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.979			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3283	0	1676	3353
Flt Permitted	0.950				0.489	
Satd. Flow (perm)	1676	1500	3283	0	863	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20	41			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Adj. Flow (vph)	12	20	394	63	71	648
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	20	457	0	71	648
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021  
AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	8.3	8.2	51.4		51.4	51.4
Actuated g/C Ratio	0.14	0.14	0.86		0.86	0.86
v/c Ratio	0.05	0.09	0.16		0.10	0.23
Control Delay	20.1	10.0	2.0		2.1	1.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	20.1	10.0	2.0		2.1	1.6
LOS	C	A	A		A	A
Approach Delay	13.8		2.0			1.7
Approach LOS	B		A			A
Queue Length 50th (ft)	4	0	0		0	0
Queue Length 95th (ft)	9	7	m50		m13	47
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	538	2817		739	2871
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.02	0.04	0.16		0.10	0.23

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	47 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.23
Intersection Signal Delay:	2.1
Intersection LOS:	A
Intersection Capacity Utilization:	33.4%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 7: Berry Street & Mercury Lane





Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	53	34	318	79	230	40	502	224	282	932	57
Future Volume (vph)	32	53	34	318	79	230	40	502	224	282	932	57
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.942				0.850		0.954			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1662	0	3252	1765	1500	1676	4596	0	3252	4774	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1662	0	3252	1765	1500	1676	4596	0	3252	4774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26				129		88			8	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Adj. Flow (vph)	39	65	41	430	107	311	48	605	270	297	981	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	106	0	430	107	311	48	875	0	297	1041	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021  
AM Peak Hour

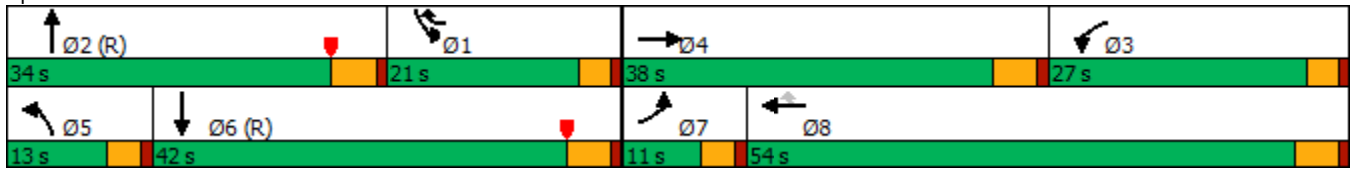


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	11.0	38.0		27.0	54.0	21.0	13.0	34.0		21.0	42.0	
Total Split (%)	9.2%	31.7%		22.5%	45.0%	17.5%	10.8%	28.3%		17.5%	35.0%	
Maximum Green (s)	7.0	33.0		23.0	49.0	17.0	9.0	29.0		17.0	37.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effect Green (s)	6.8	14.5		20.3	32.3	51.9	8.3	50.1		17.0	60.9	
Actuated g/C Ratio	0.06	0.12		0.17	0.27	0.43	0.07	0.42		0.14	0.51	
v/c Ratio	0.41	0.47		0.78	0.23	0.43	0.42	0.44		0.65	0.43	
Control Delay	68.1	41.2		58.0	33.7	11.1	66.3	7.0		39.8	10.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.1	41.2		58.0	33.7	11.1	66.3	7.0		39.8	10.9	
LOS	E	D		E	C	B	E	A		D	B	
Approach Delay		48.4			37.8			10.1			17.3	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	30	60		164	70	82	34	16		111	50	
Queue Length 95th (ft)	61	84		173	73	57	m48	m242		m136	m287	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	97	475		624	720	721	128	1971		460	2425	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.40	0.22		0.69	0.15	0.43	0.38	0.44		0.65	0.43	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	22.0
Intersection LOS:	C
Intersection Capacity Utilization:	53.3%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	187	1541	64	77	1527	155	52	124	176	115	82	117
Future Volume (vph)	187	1541	64	77	1527	155	52	124	176	115	82	117
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4789	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.689			0.552		
Satd. Flow (perm)	1676	4789	0	1676	4818	1500	1216	1765	1500	974	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				167			202			143
Link Speed (mph)		45			45			40				40
Link Distance (ft)		713			2627			1029				2657
Travel Time (s)		10.8			39.8			17.5				45.3
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Adj. Flow (vph)	215	1771	74	83	1642	167	61	146	207	140	100	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	215	1845	0	83	1642	167	61	146	207	140	100	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021  
AM Peak Hour

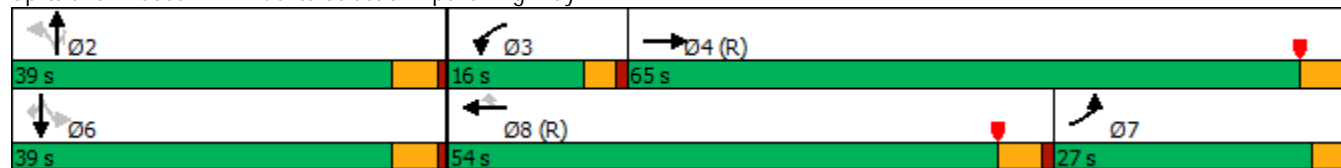


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	27.0	65.0		16.0	54.0	54.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	22.5%	54.2%		13.3%	45.0%	45.0%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	23.0	60.0		12.0	49.0	49.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	23.0	76.0		10.5	61.3	61.3	21.7	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.19	0.63		0.09	0.51	0.51	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.67	0.61		0.57	0.67	0.20	0.28	0.46	0.47	0.80	0.17	0.37
Control Delay	56.4	16.5		73.6	3.5	0.1	42.6	46.7	9.1	69.0	33.4	18.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	16.5		73.6	3.5	0.1	42.6	46.7	9.1	69.0	33.4	18.9
LOS	E	B		E	A	A	D	D	A	E	C	B
Approach Delay		20.7			6.3			27.3			41.0	
Approach LOS		C			A			C			D	
Queue Length 50th (ft)	156	305		65	34	0	42	103	3	112	38	62
Queue Length 95th (ft)	233	447		m44	m58	m0	68	138	49	158	53	79
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	321	3035		170	2462	848	344	500	569	275	950	527
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.61		0.49	0.67	0.20	0.18	0.29	0.36	0.51	0.11	0.27

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 56 (47%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 17.2 Intersection LOS: B  
 Intersection Capacity Utilization 71.5% ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗		↕	↗	↖	↕	↗
Traffic Volume (vph)	160	1783	4	58	1952	286	2	27	30	305	15	175
Future Volume (vph)	160	1783	4	58	1952	286	2	27	30	305	15	175
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.981			0.924				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.957	
Satd. Flow (prot)	1676	4818	0	1676	4726	0	0	3092	0	1593	1604	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.957	
Satd. Flow (perm)	1676	4818	0	1676	4726	0	0	3092	0	1593	1604	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					28			53				230
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2627			2079			349			889	
Travel Time (s)		39.8			31.5			5.9			15.2	
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Adj. Flow (vph)	167	1857	4	68	2296	336	4	47	53	401	20	230
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	167	1861	0	68	2632	0	0	104	0	209	212	230
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	15.0	61.0		10.0	56.0		33.0	33.0		16.0	16.0	16.0
Total Split (%)	12.5%	50.8%		8.3%	46.7%		27.5%	27.5%		13.3%	13.3%	13.3%
Maximum Green (s)	11.0	56.0		6.0	51.0		28.0	28.0		11.0	11.0	11.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		21.0	21.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	12.6	57.6		6.0	51.0			11.2		26.2	26.2	26.2
Actuated g/C Ratio	0.10	0.48		0.05	0.42			0.09		0.22	0.22	0.22
v/c Ratio	0.95	0.81		0.82	1.30			0.31		0.60	0.61	0.45
Control Delay	102.6	20.0		81.2	168.2			26.8		53.6	53.7	24.6
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	102.6	20.0		81.2	168.2			26.8		53.6	53.7	24.6
LOS	F	C		F	F			C		D	D	C
Approach Delay		26.8			166.0			26.8			43.4	
Approach LOS		C			F			C			D	
Queue Length 50th (ft)	112	438		49	-931			20		167	170	94
Queue Length 95th (ft)	#283	345		m51	m#830			18		#322	#326	104
Internal Link Dist (ft)		2547			1999			269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	175	2311		83	2024			762		347	350	507
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	0.95	0.81		0.82	1.30			0.14		0.60	0.61	0.45

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	3 (3%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	97.3
Intersection LOS:	F
Intersection Capacity Utilization:	83.6%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

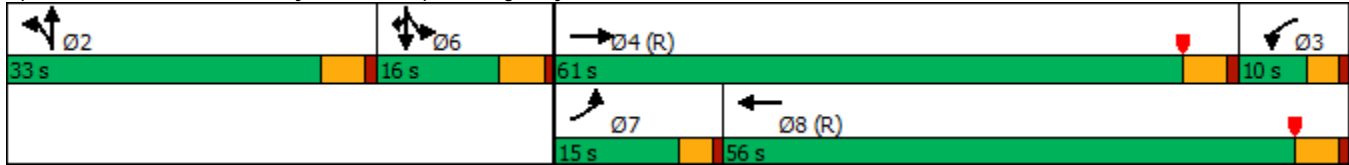


Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2021  
 AM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (vph)	176	1591	360	177	1619	86	434	476	164	165	910	200
Future Volume (vph)	176	1591	360	177	1619	86	434	476	164	165	910	200
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			136			147			136
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Adj. Flow (vph)	183	1657	375	195	1779	95	556	610	210	174	958	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	1657	375	195	1779	95	556	610	210	174	958	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	23.0	48.0	48.0	15.0	40.0	40.0
Total Split (%)	9.2%	38.3%	38.3%	9.2%	38.3%	38.3%	19.2%	40.0%	40.0%	12.5%	33.3%	33.3%
Maximum Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Actuated g/C Ratio	0.06	0.34	0.34	0.06	0.34	0.34	0.16	0.36	0.36	0.09	0.29	0.29
v/c Ratio	0.97	1.01	0.60	1.03	1.08	0.16	1.08	0.35	0.33	0.58	0.98	0.40
Control Delay	85.4	46.8	13.1	84.1	66.5	2.3	111.0	29.0	10.6	53.4	69.1	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.4	46.8	13.1	84.1	66.5	2.3	111.0	29.0	10.6	53.4	69.1	21.6
LOS	F	D	B	F	E	A	F	C	B	D	E	C
Approach Delay		44.3			65.2			59.3			59.6	
Approach LOS		D			E			E			E	
Queue Length 50th (ft)	75	~342	38	~76	~545	4	~247	126	32	67	323	39
Queue Length 95th (ft)	m#116	#577	m121	m#100	m#637	m7	#284	135	64	m89	#547	m140
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	189	1646	623	189	1646	602	514	1726	631	298	977	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.01	0.60	1.03	1.08	0.16	1.08	0.35	0.33	0.58	0.98	0.40

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 9 (8%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.08  
 Intersection Signal Delay: 56.4  
 Intersection Capacity Utilization 92.9%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

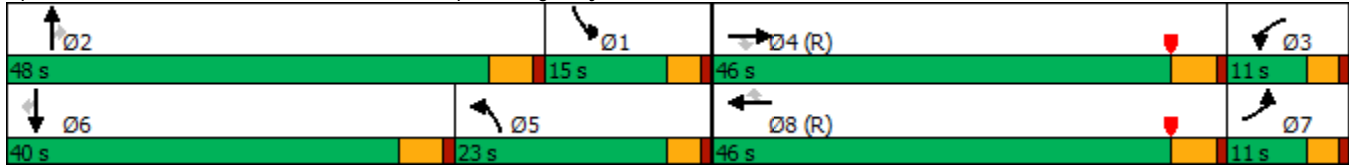
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2021  
 AM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	1634	238	484	1802	203	161	178	415	186	544	38
Future Volume (vph)	57	1634	238	484	1802	203	161	178	415	186	544	38
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.981				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				218			239			6
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Adj. Flow (vph)	66	1878	274	526	1959	221	199	220	512	209	611	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	2152	0	526	1959	221	199	220	512	209	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2021  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	44.0		22.0	56.0	12.0	14.0	42.0	42.0	12.0	40.0	
Total Split (%)	8.3%	36.7%		18.3%	46.7%	10.0%	11.7%	35.0%	35.0%	10.0%	33.3%	
Maximum Green (s)	6.0	39.0		18.0	51.0	8.0	10.0	37.0	37.0	8.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effect Green (s)	6.0	39.0		18.0	53.0	66.0	10.0	37.0	37.0	8.0	35.0	
Actuated g/C Ratio	0.05	0.32		0.15	0.44	0.55	0.08	0.31	0.31	0.07	0.29	
v/c Ratio	0.41	1.10		1.08	0.92	0.24	0.73	0.21	0.82	0.97	0.67	
Control Delay	48.1	65.1		93.0	24.4	0.7	70.3	31.4	31.8	109.5	41.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.1	65.1		93.0	24.4	0.7	70.3	31.4	31.8	109.5	41.2	
LOS	D	E		F	C	A	E	C	C	F	D	
Approach Delay		64.6			35.8			40.0			57.7	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	27	~523		~238	413	0	78	66	207	84	232	
Queue Length 95th (ft)	m32	m#529		m#322	#638	m7	107	88	281	#160	295	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1956		487	2127	922	271	1033	627	216	972	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	1.10		1.08	0.92	0.24	0.73	0.21	0.82	0.97	0.67	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	71 (59%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay:	48.7
Intersection LOS:	D
Intersection Capacity Utilization:	80.9%
ICU Level of Service:	D
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021  
 AM Peak Hour

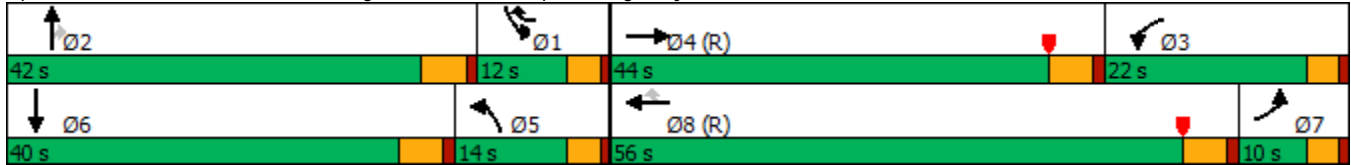
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1493	1958	0	609	563
Future Volume (vph)	0	1493	1958	0	609	563
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.964	0.850
Flt Protected					0.963	
Satd. Flow (prot)	0	4818	4818	0	3178	1365
Flt Permitted					0.963	
Satd. Flow (perm)	0	4818	4818	0	3178	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					4	4
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Adj. Flow (vph)	0	1623	2176	0	662	612
Shared Lane Traffic (%)						34%
Lane Group Flow (vph)	0	1623	2176	0	870	404
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		69.0	69.0		51.0	51.0
Total Split (%)		57.5%	57.5%		42.5%	42.5%
Maximum Green (s)		64.0	64.0		46.0	46.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		64.0	64.0		46.0	46.0
Actuated g/C Ratio		0.53	0.53		0.38	0.38
v/c Ratio		0.63	0.85		0.71	0.77
Control Delay		3.5	21.6		35.2	43.5
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		3.5	21.6		35.2	43.5
LOS		A	C		D	D
Approach Delay		3.5	21.6		37.8	
Approach LOS		A	C		D	
Queue Length 50th (ft)		72	500		290	294
Queue Length 95th (ft)		m63	m551		365	#443
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2569	2569		1220	525
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.63	0.85		0.71	0.77

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 83 (69%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 19.9  
 Intersection Capacity Utilization 111.6%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

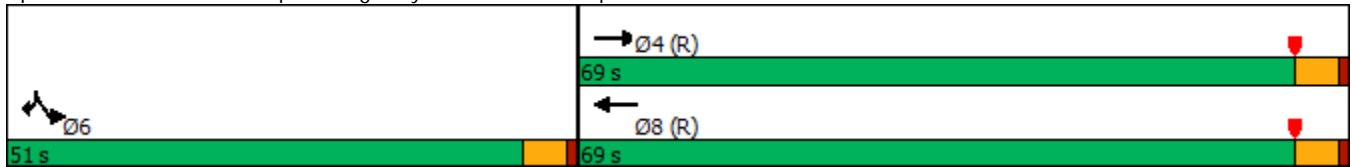
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↔	↗			↗↗
Traffic Volume (vph)	130	1385	0	0	1024	6	1079	157	817	0	0	57
Future Volume (vph)	130	1385	0	0	1024	6	1079	157	817	0	0	57
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.999			0.921	0.850			0.850
Flt Protected	0.950						0.950	0.990				
Satd. Flow (prot)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Flt Permitted	0.950						0.950	0.990				
Satd. Flow (perm)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			64	154			275
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Adj. Flow (vph)	140	1489	0	0	1177	7	1285	187	973	0	0	86
Shared Lane Traffic (%)							10%		36%			
Lane Group Flow (vph)	140	1489	0	0	1184	0	1156	666	623	0	0	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	16.0	46.0			30.0		63.0	63.0	63.0			11.0
Total Split (%)	13.3%	38.3%			25.0%		52.5%	52.5%	52.5%			9.2%
Maximum Green (s)	12.0	41.0			25.0		58.0	58.0	58.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lead				Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	11.8	43.2			27.4		58.0	58.0	58.0			6.0
Actuated g/C Ratio	0.10	0.36			0.23		0.48	0.48	0.48			0.05
v/c Ratio	0.85	0.86			0.85		0.78	0.95	0.81			0.22
Control Delay	77.8	34.4			52.1		30.5	51.2	29.4			1.3
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	77.8	34.4			52.1		30.5	51.2	29.4			1.3
LOS	E	C			D		C	D	C			A
Approach Delay		38.2			52.1			35.9				1.3
Approach LOS		D			D			D				A
Queue Length 50th (ft)	106	395			264		398	518	329			0
Queue Length 95th (ft)	m#213	#479			#313		439	#726	444			0
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	167	1734			1386		1474	702	768			393
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.84	0.86			0.85		0.78	0.95	0.81			0.22

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 11 (9%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 39.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 72.2%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

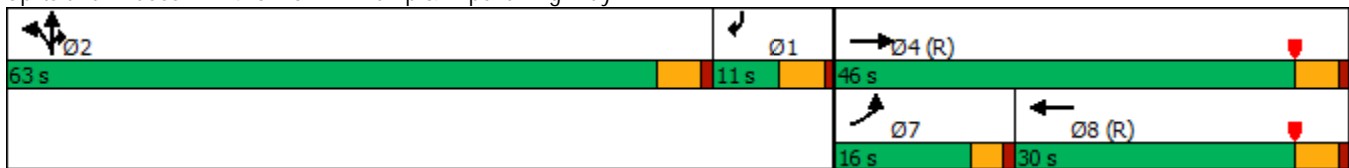
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (veh/h)	53	1207	56	87	1541	157	129	334	126	115	213	94
Future Volume (veh/h)	53	1207	56	87	1541	157	129	334	126	115	213	94
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	58	1326	62	91	1605	164	163	423	159	151	280	124
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	2288	107	113	1844	188	238	510	190	176	364	157
Arrive On Green	0.12	0.48	0.48	0.07	0.41	0.41	0.05	0.07	0.07	0.10	0.16	0.16
Sat Flow, veh/h	1688	4736	221	1688	4460	455	1688	2401	893	1688	2289	988
Grp Volume(v), veh/h	58	903	485	91	1160	609	163	295	287	151	204	200
Grp Sat Flow(s),veh/h/ln	1688	1612	1732	1688	1612	1690	1688	1683	1611	1688	1683	1594
Q Serve(g_s), s	3.8	24.1	24.1	6.4	39.5	39.7	11.4	20.8	21.1	10.6	13.9	14.5
Cycle Q Clear(g_c), s	3.8	24.1	24.1	6.4	39.5	39.7	11.4	20.8	21.1	10.6	13.9	14.5
Prop In Lane	1.00		0.13	1.00		0.27	1.00		0.55	1.00		0.62
Lane Grp Cap(c), veh/h	202	1558	837	113	1333	699	238	357	342	176	267	253
V/C Ratio(X)	0.29	0.58	0.58	0.81	0.87	0.87	0.68	0.83	0.84	0.86	0.76	0.79
Avail Cap(c_a), veh/h	202	1558	837	183	1371	718	239	407	389	225	393	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	22.3	22.3	55.2	32.2	32.3	54.6	53.6	53.8	52.8	48.3	48.5
Incr Delay (d2), s/veh	0.3	1.6	2.9	2.8	4.5	8.3	6.0	9.8	11.3	18.6	2.4	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.9	9.9	2.7	15.3	16.8	5.5	10.3	10.2	5.3	5.9	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	23.9	25.2	58.0	36.8	40.6	60.6	63.4	65.1	71.5	50.7	52.4
LnGrp LOS	D	C	C	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1446			1860			745			555	
Approach Delay, s/veh		25.3			39.0			63.4			57.0	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	63.0	15.5	30.5	19.4	54.6	22.0	24.1				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	13.0	46.0	16.0	29.0	8.0	* 51	17.0	* 28				
Max Q Clear Time (g_c+I1), s	8.4	26.1	12.6	23.1	5.8	41.7	13.4	16.5				
Green Ext Time (p_c), s	0.0	12.3	0.1	2.4	0.0	7.9	0.1	2.6				

Intersection Summary

HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
2: Berry Street & Lambert Road































Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	34	1366	67	47	1600	125	127	352	115	162	276	59
Future Volume (veh/h)	34	1366	67	47	1600	125	127	352	115	162	276	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	39	1552	76	49	1684	132	135	374	122	186	317	68
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	2333	114	62	2332	183	158	438	141	212	572	121
Arrive On Green	0.02	0.33	0.33	0.04	0.51	0.51	0.19	0.35	0.35	0.13	0.21	0.21
Sat Flow, veh/h	1688	4724	231	1688	4574	358	1688	2504	806	1688	2765	585
Grp Volume(v), veh/h	39	1059	569	49	1186	630	135	250	246	186	191	194
Grp Sat Flow(s),veh/h/ln	1688	1612	1730	1688	1612	1707	1688	1683	1627	1688	1683	1667
Q Serve(g_s), s	2.8	33.8	33.8	3.5	34.2	34.4	9.3	16.5	16.9	13.0	12.2	12.5
Cycle Q Clear(g_c), s	2.8	33.8	33.8	3.5	34.2	34.4	9.3	16.5	16.9	13.0	12.2	12.5
Prop In Lane	1.00		0.13	1.00		0.21	1.00		0.50	1.00		0.35
Lane Grp Cap(c), veh/h	49	1592	854	62	1644	871	158	295	285	212	348	345
V/C Ratio(X)	0.80	0.67	0.67	0.79	0.72	0.72	0.86	0.85	0.86	0.88	0.55	0.56
Avail Cap(c_a), veh/h	70	1592	854	98	1644	871	225	352	340	253	380	376
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.34	0.34	0.34	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	31.6	31.6	57.4	22.8	22.8	48.0	37.5	37.7	51.6	42.6	42.7
Incr Delay (d2), s/veh	16.1	1.6	2.9	2.9	1.0	1.8	14.3	13.0	15.5	22.5	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	13.9	15.2	1.5	12.2	13.2	4.1	6.4	6.5	6.7	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	33.2	34.6	60.3	23.8	24.6	62.3	50.5	53.2	74.0	43.1	43.4
LnGrp LOS	E	C	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1667			1865			631			571	
Approach Delay, s/veh		34.6			25.0			54.1			53.3	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	66.3	18.0	27.3	6.5	68.2	14.2	31.1				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	7.0	49.6	18.0	25.1	5.0	52.6	16.0	27.1				
Max Q Clear Time (g_c+I1), s	5.5	35.8	15.0	18.9	4.8	36.4	11.3	14.5				
Green Ext Time (p_c), s	0.0	10.6	0.1	2.1	0.0	13.1	0.1	2.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				35.7								
HCM 6th LOS				D								

HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Year 2021  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	153	1413	387	215	1476	75	443	622	182	71	350	83
Future Volume (veh/h)	153	1413	387	215	1476	75	443	622	182	71	350	83
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	170	1570	430	224	1538	78	461	648	190	87	427	101
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1898	589	225	1967	100	464	877	391	108	615	274
Arrive On Green	0.11	0.39	0.39	0.13	0.42	0.42	0.14	0.26	0.26	0.06	0.18	0.18
Sat Flow, veh/h	1688	4837	1502	1688	4715	239	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	170	1570	430	224	1052	564	461	648	190	87	427	101
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1729	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	12.0	35.0	29.3	15.9	33.9	33.9	16.9	21.2	12.9	6.1	14.2	7.1
Cycle Q Clear(g_c), s	12.0	35.0	29.3	15.9	33.9	33.9	16.9	21.2	12.9	6.1	14.2	7.1
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1898	589	225	1346	721	464	877	391	108	615	274
V/C Ratio(X)	0.93	0.83	0.73	1.00	0.78	0.78	0.99	0.74	0.49	0.81	0.69	0.37
Avail Cap(c_a), veh/h	183	1898	589	225	1346	721	464	1038	463	127	814	363
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)	0.61	0.61	0.61	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	32.8	31.1	52.0	30.2	30.2	51.4	40.6	37.6	55.4	45.9	43.0
Incr Delay (d2), s/veh	33.6	2.7	4.8	47.1	3.0	5.5	40.1	2.7	1.3	23.4	2.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	13.4	11.1	9.5	13.0	14.4	9.4	9.0	4.8	3.3	6.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	35.5	35.9	99.0	33.3	35.7	91.5	43.4	38.9	78.8	48.1	44.1
LnGrp LOS	F	D	D	F	C	D	F	D	D	E	D	D
Approach Vol, veh/h		2170			1840			1299			615	
Approach Delay, s/veh		39.6			42.0			59.8			51.8	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	52.1	11.7	36.3	17.0	55.1	21.0	26.9				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0	9.0	37.0	13.0	43.0	17.0	29.0				
Max Q Clear Time (g_c+I1), s	17.9	37.0	8.1	23.2	14.0	35.9	18.9	16.2				
Green Ext Time (p_c), s	0.0	2.9	0.0	8.1	0.0	6.7	0.0	5.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			46.0									
HCM 6th LOS			D									



HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (veh/h)	14	1451	241	442	1421	970	309	576	449	547	330	10
Future Volume (veh/h)	14	1451	241	442	1421	970	309	576	449	547	330	10
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	15	1527	254	460	1480	1010	336	801	371	608	367	11
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1676	279	409	2093	951	395	738	313	657	975	29
Arrive On Green	0.01	0.32	0.32	0.25	0.87	0.87	0.12	0.21	0.21	0.20	0.29	0.29
Sat Flow, veh/h	3274	5303	882	3274	4837	1502	3375	3544	1502	3274	3337	100
Grp Volume(v), veh/h	15	1316	465	460	1480	1010	336	801	371	608	185	193
Grp Sat Flow(s),veh/h/ln	1637	1524	1613	1637	1612	1502	1688	1772	1502	1637	1683	1754
Q Serve(g_s), s	0.5	33.2	33.2	15.0	12.7	51.9	11.7	25.0	25.0	21.9	10.5	10.5
Cycle Q Clear(g_c), s	0.5	33.2	33.2	15.0	12.7	51.9	11.7	25.0	25.0	21.9	10.5	10.5
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	27	1445	510	409	2093	951	395	738	313	657	492	512
V/C Ratio(X)	0.55	0.91	0.91	1.12	0.71	1.06	0.85	1.08	1.19	0.93	0.38	0.38
Avail Cap(c_a), veh/h	55	1445	510	409	2093	951	534	738	313	682	492	512
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	0.47	0.47	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	39.4	39.4	45.0	5.4	14.4	52.0	47.5	47.5	47.1	33.8	33.8
Incr Delay (d2), s/veh	2.3	4.3	10.6	70.6	1.0	38.9	7.4	58.5	111.3	17.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.4	14.1	9.0	2.1	27.7	5.3	16.7	18.8	10.3	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	43.7	50.1	115.6	6.4	53.3	59.4	106.0	158.8	64.9	34.0	34.0
LnGrp LOS	E	D	D	F	A	F	E	F	F	E	C	C
Approach Vol, veh/h		1796			2950			1508			986	
Approach Delay, s/veh		45.5			39.5			108.6			53.0	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	42.9	28.1	30.0	5.0	56.9	18.0	40.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	37.0	25.0	25.0	2.0	50.0	19.0	31.0				
Max Q Clear Time (g_c+I1), s	17.0	35.2	23.9	27.0	2.5	53.9	13.7	12.5				
Green Ext Time (p_c), s	0.0	1.6	0.2	0.0	0.0	0.0	0.3	3.0				

Intersection Summary

HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 5: SR-57 SB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1562	886	283	1974	0	0	0	0	581	0	826
Future Volume (veh/h)	0	1562	886	283	1974	0	0	0	0	581	0	826
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	2055	638	318	2218	0				962	0	560
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2370	669	336	2834	0				1145	0	509
Arrive On Green	0.00	0.89	0.89	0.21	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	2055	638	318	2218	0				962	0	560
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	22.2	36.8	11.5	0.0	0.0				31.6	0.0	40.7
Cycle Q Clear(g_c), s	0.0	22.2	36.8	11.5	0.0	0.0				31.6	0.0	40.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2370	669	336	2834	0				1145	0	509
V/C Ratio(X)	0.00	0.87	0.95	0.95	0.78	0.00				0.84	0.00	1.10
Avail Cap(c_a), veh/h	0	2370	669	336	2834	0				1145	0	509
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.24	0.24	0.16	0.16	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.8	5.6	47.4	0.0	0.0				36.6	0.0	39.7
Incr Delay (d2), s/veh	0.0	1.2	9.1	10.0	0.4	0.0				5.7	0.0	69.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	3.7	4.5	0.1	0.0				13.8	0.0	24.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.0	14.7	57.4	0.4	0.0				42.4	0.0	109.5
LnGrp LOS	A	A	B	E	A	A				D	A	F
Approach Vol, veh/h		2693			2536						1522	
Approach Delay, s/veh		8.0			7.5						67.1	
Approach LOS		A			A						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.8	58.0		45.2		74.8						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	12.3	53.5		40.7		70.3						
Max Q Clear Time (g_c+I1), s	13.5	38.8		42.7		2.0						
Green Ext Time (p_c), s	0.0	12.4		0.0		32.6						

### Intersection Summary

HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 6: SR-57 NB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↑↑↑			↑↑↑	↗	↗↘		↗			
Traffic Volume (veh/h)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Future Volume (veh/h)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	571	1635	0	0	1556	491	1141	0	556			
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	587	2761	0	0	1883	532	1159	0	532			
Arrive On Green	0.36	1.00	0.00	0.00	0.35	0.35	0.35	0.00	0.35			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	571	1635	0	0	1556	491	1141	0	556			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	20.6	0.0	0.0	0.0	32.1	37.7	41.5	0.0	42.5			
Cycle Q Clear(g_c), s	20.6	0.0	0.0	0.0	32.1	37.7	41.5	0.0	42.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	587	2761	0	0	1883	532	1159	0	532			
V/C Ratio(X)	0.97	0.59	0.00	0.00	0.83	0.92	0.98	0.00	1.05			
Avail Cap(c_a), veh/h	587	2761	0	0	1883	532	1159	0	532			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.11	0.11	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	38.2	0.0	0.0	0.0	35.4	37.2	38.4	0.0	38.8			
Incr Delay (d2), s/veh	7.3	0.1	0.0	0.0	4.3	24.0	22.6	0.0	51.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	0.0	13.9	16.6	19.9	0.0	22.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.1	0.0	0.0	39.7	61.2	61.0	0.0	90.2			
LnGrp LOS	D	A	A	A	D	E	E	A	F			
Approach Vol, veh/h		2206			2047			1697				
Approach Delay, s/veh		11.9			44.9			70.5				
Approach LOS		B			D			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		73.0			26.0	47.0		47.0				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		68.5			21.5	42.5		42.5				
Max Q Clear Time (g_c+I1), s		2.0			22.6	39.7		44.5				
Green Ext Time (p_c), s		17.8			0.0	2.4		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane

Year 2021  
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	52	48	504	10	25	448
Future Volume (veh/h)	52	48	504	10	25	448
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	84	77	525	10	32	567
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	157	140	2501	48	722	2492
Arrive On Green	0.09	0.09	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1688	1502	3468	64	870	3455
Grp Volume(v), veh/h	84	77	261	274	32	567
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1760	870	1683
Q Serve(g_s), s	2.9	2.9	2.9	2.9	0.7	3.2
Cycle Q Clear(g_c), s	2.9	2.9	2.9	2.9	3.6	3.2
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	157	140	1246	1303	722	2492
V/C Ratio(X)	0.53	0.55	0.21	0.21	0.04	0.23
Avail Cap(c_a), veh/h	591	526	1246	1303	722	2492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.81	0.81
Uniform Delay (d), s/veh	26.0	26.0	2.4	2.4	2.9	2.4
Incr Delay (d2), s/veh	2.8	3.3	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	0.3	0.3	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.8	29.4	2.4	2.4	3.0	2.6
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	161		535			599
Approach Delay, s/veh	29.0		2.4			2.6
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		49.4			49.4	10.6
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		4.9			5.6	4.9
Green Ext Time (p_c), s		3.0			3.8	0.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	77	131	22	407	140	472	82	732	351	350	676	72
Future Volume (veh/h)	77	131	22	407	140	472	82	732	351	350	676	72
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	86	146	24	447	154	519	93	832	399	402	777	83
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	178	29	491	380	743	431	941	438	918	1406	149
Arrive On Green	0.06	0.12	0.12	0.15	0.21	0.21	0.51	0.58	0.58	0.28	0.32	0.32
Sat Flow, veh/h	1688	1484	244	3274	1772	1502	1688	3225	1502	3274	4440	472
Grp Volume(v), veh/h	86	0	170	447	154	519	93	832	399	402	563	297
Grp Sat Flow(s),veh/h/ln	1688	0	1728	1637	1772	1502	1688	1612	1502	1637	1612	1687
Q Serve(g_s), s	6.0	0.0	11.5	16.1	9.0	6.1	3.6	26.7	28.4	12.1	17.3	17.5
Cycle Q Clear(g_c), s	6.0	0.0	11.5	16.1	9.0	6.1	3.6	26.7	28.4	12.1	17.3	17.5
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	107	0	207	491	380	743	431	941	438	918	1021	534
V/C Ratio(X)	0.80	0.00	0.82	0.91	0.41	0.70	0.22	0.88	0.91	0.44	0.55	0.56
Avail Cap(c_a), veh/h	183	0	475	491	561	896	431	941	438	918	1021	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	51.6	50.2	40.6	11.1	22.8	23.3	23.6	35.4	33.9	34.0
Incr Delay (d2), s/veh	12.7	0.0	7.9	21.0	0.7	1.9	0.2	9.6	21.4	0.3	2.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.4	8.0	4.0	6.9	1.4	7.8	9.1	4.8	7.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	0.0	59.4	71.2	41.2	12.9	23.0	32.9	45.0	35.8	36.1	38.1
LnGrp LOS	E	A	E	E	D	B	C	C	D	D	D	D
Approach Vol, veh/h		256			1120			1324			1262	
Approach Delay, s/veh		62.4			40.1			35.9			36.5	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.6	40.0	23.0	19.4	34.6	43.0	11.6	30.7				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	35.0	18.0	* 33	13.0	38.0	13.0	38.0				
Max Q Clear Time (g_c+I1), s	14.1	30.4	18.1	13.5	5.6	19.5	8.0	11.0				
Green Ext Time (p_c), s	0.3	3.0	0.0	0.8	0.1	5.3	0.1	3.0				

Intersection Summary

HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

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

# HCM 6th Signalized Intersection Summary

## 9: Puente Street & Imperial Highway

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖	↑	↖	↖	↑↑	↖
Traffic Volume (veh/h)	136	1722	35	125	1692	210	31	53	104	144	127	191
Future Volume (veh/h)	136	1722	35	125	1692	210	31	53	104	144	127	191
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	149	1892	38	130	1762	219	40	69	135	158	140	210
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	2923	59	153	2257	701	224	343	291	250	652	291
Arrive On Green	0.21	0.60	0.60	0.18	0.93	0.93	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1688	4881	98	1688	4837	1502	1031	1772	1502	1178	3367	1502
Grp Volume(v), veh/h	149	1250	680	130	1762	219	40	69	135	158	140	210
Grp Sat Flow(s),veh/h/ln	1688	1612	1754	1688	1612	1502	1031	1772	1502	1178	1683	1502
Q Serve(g_s), s	9.1	30.5	30.5	8.9	10.7	1.6	4.1	3.9	9.6	15.6	4.2	15.7
Cycle Q Clear(g_c), s	9.1	30.5	30.5	8.9	10.7	1.6	8.3	3.9	9.6	19.5	4.2	15.7
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	1931	1051	153	2257	701	224	343	291	250	652	291
V/C Ratio(X)	0.41	0.65	0.65	0.85	0.78	0.31	0.18	0.20	0.46	0.63	0.21	0.72
Avail Cap(c_a), veh/h	362	1931	1051	211	2257	701	316	502	425	355	954	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.63	0.63	0.63
Uniform Delay (d), s/veh	40.6	15.8	15.8	48.3	2.5	2.2	44.2	40.6	42.9	48.8	40.7	45.4
Incr Delay (d2), s/veh	0.7	1.7	3.1	2.3	0.3	0.1	0.4	0.3	1.2	1.7	0.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.4	11.8	3.5	1.1	0.4	1.1	1.7	3.5	4.6	1.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	17.5	18.9	50.6	2.7	2.3	44.6	40.9	44.0	50.5	40.8	47.5
LnGrp LOS	D	B	B	D	A	A	D	D	D	D	D	D
Approach Vol, veh/h		2079			2111			244			508	
Approach Delay, s/veh		19.6			5.6			43.2			46.6	
Approach LOS		B			A			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.2	14.9	76.9		28.2	30.8	61.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	15.0	57.0		34.0	16.0	* 56				
Max Q Clear Time (g_c+I1), s		11.6	10.9	32.5		21.5	11.1	12.7				
Green Ext Time (p_c), s		0.9	0.1	14.6		1.7	0.1	19.8				

### Intersection Summary

HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

### Notes

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

HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	134	1997	9	59	1919	324	4	7	6	402	30	195
Future Volume (veh/h)	134	1997	9	59	1919	324	4	7	6	402	30	195
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	158	2349	11	65	2109	356	6	10	8	471	0	217
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	460	3265	15	82	1778	293	23	38	30	366	0	163
Arrive On Green	0.09	0.22	0.22	0.02	0.14	0.14	0.03	0.03	0.03	0.11	0.00	0.11
Sat Flow, veh/h	1688	4969	23	1688	4185	688	824	1376	1104	3375	0	1502
Grp Volume(v), veh/h	158	1524	836	65	1613	852	13	0	11	471	0	217
Grp Sat Flow(s),veh/h/ln	1688	1612	1768	1688	1612	1648	1731	0	1573	1688	0	1502
Q Serve(g_s), s	10.6	52.6	52.7	4.6	51.0	51.0	0.9	0.0	0.9	13.0	0.0	13.0
Cycle Q Clear(g_c), s	10.6	52.6	52.7	4.6	51.0	51.0	0.9	0.0	0.9	13.0	0.0	13.0
Prop In Lane	1.00		0.01	1.00		0.42	0.48		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	460	2119	1161	82	1371	700	48	0	43	366	0	163
V/C Ratio(X)	0.34	0.72	0.72	0.79	1.18	1.22	0.26	0.00	0.26	1.29	0.00	1.33
Avail Cap(c_a), veh/h	460	2119	1161	84	1371	700	404	0	367	366	0	163
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	0.23	0.23	0.23	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	44.5	36.7	36.7	58.4	51.6	51.6	57.2	0.0	57.2	53.5	0.0	53.5
Incr Delay (d2), s/veh	0.3	1.5	2.7	10.9	81.4	100.9	2.9	0.0	3.2	148.5	0.0	185.4
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	4.7	23.0	25.6	2.2	37.4	42.0	0.4	0.0	0.4	12.9	0.0	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	38.2	39.5	69.3	133.0	152.4	60.1	0.0	60.3	202.0	0.0	238.9
LnGrp LOS	D	D	D	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2518			2530			24			688	
Approach Delay, s/veh		39.1			137.9			60.2			213.6	
Approach LOS		D			F			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	9.8	83.8		18.0	37.7	56.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		28.0	6.0	54.0		13.0	9.0	* 51				
Max Q Clear Time (g_c+I1), s		2.9	6.6	54.7		15.0	12.6	53.0				
Green Ext Time (p_c), s		0.1	0.0	0.0		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	103.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	215	1733	401	350	1658	189	432	792	254	246	652	249
Future Volume (veh/h)	215	1733	401	350	1658	189	432	792	254	246	652	249
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	236	1904	441	354	1675	191	445	816	262	283	749	286
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	1774	551	1864	4205	1305	355	1492	463	300	1010	450
Arrive On Green	0.10	0.49	0.49	0.57	0.87	0.87	0.11	0.31	0.31	0.18	0.60	0.60
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	236	1904	441	354	1675	191	445	816	262	283	749	286
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	8.6	44.0	44.0	6.3	8.3	8.0	13.0	16.8	17.5	10.2	19.2	14.8
Cycle Q Clear(g_c), s	8.6	44.0	44.0	6.3	8.3	8.0	13.0	16.8	17.5	10.2	19.2	14.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	246	1774	551	1864	4205	1305	355	1492	463	300	1010	450
V/C Ratio(X)	0.96	1.07	0.80	0.19	0.40	0.15	1.25	0.55	0.57	0.94	0.74	0.63
Avail Cap(c_a), veh/h	246	1774	551	1864	4205	1305	355	1492	463	300	1010	450
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	53.8	30.7	63.1	12.5	1.6	14.4	53.5	34.5	34.8	48.7	20.6	19.8
Incr Delay (d2), s/veh	9.8	34.3	1.2	0.0	0.0	0.0	135.7	1.4	4.9	32.4	4.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	19.9	15.6	2.1	0.7	0.5	11.9	6.7	6.8	5.1	5.5	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	65.1	64.3	12.5	1.6	14.5	189.2	36.0	39.7	81.1	24.7	25.2
LnGrp LOS	E	F	E	B	A	B	F	D	D	F	C	C
Approach Vol, veh/h		2581			2220			1523			1318	
Approach Delay, s/veh		64.8			4.4			81.4			36.9	
Approach LOS		E			A			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	74.3	49.0	17.0	41.0	13.0	110.3				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	* 37	10.0	* 44	13.0	35.0	9.0	45.0				
Max Q Clear Time (g_c+I1), s	12.2	19.5	8.3	46.0	15.0	21.2	10.6	10.3				
Green Ext Time (p_c), s	0.0	5.9	0.2	0.0	0.0	5.1	0.0	16.5				

Intersection Summary

HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

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



HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (veh/h)	121	1980	201	487	2041	621	285	489	320	465	417	141
Future Volume (veh/h)	121	1980	201	487	2041	621	285	489	320	465	417	141
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	123	2020	205	524	2195	668	306	526	344	489	439	148
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1889	191	355	1895	738	382	1038	463	327	723	241
Arrive On Green	0.05	0.33	0.33	0.11	0.39	0.39	0.12	0.31	0.31	0.10	0.29	0.29
Sat Flow, veh/h	3274	5666	574	3274	4837	1502	3274	3367	1502	3274	2478	828
Grp Volume(v), veh/h	123	1630	595	524	2195	668	306	526	344	489	297	290
Grp Sat Flow(s),veh/h/ln	1637	1524	1669	1637	1612	1502	1637	1683	1502	1637	1683	1623
Q Serve(g_s), s	4.5	40.0	40.0	13.0	47.0	36.9	10.9	15.4	24.7	12.0	18.2	18.5
Cycle Q Clear(g_c), s	4.5	40.0	40.0	13.0	47.0	36.9	10.9	15.4	24.7	12.0	18.2	18.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	164	1524	556	355	1895	738	382	1038	463	327	491	473
V/C Ratio(X)	0.75	1.07	1.07	1.48	1.16	0.90	0.80	0.51	0.74	1.49	0.60	0.61
Avail Cap(c_a), veh/h	164	1524	556	355	1895	738	382	1038	463	327	491	473
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)	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	40.0	40.0	53.5	36.5	27.9	51.6	34.0	37.2	54.0	36.6	36.7
Incr Delay (d2), s/veh	2.0	32.9	36.1	229.6	77.7	16.7	11.6	1.8	10.3	237.7	5.4	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	18.9	21.2	16.5	31.0	14.5	5.0	6.4	10.0	15.7	8.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	72.9	76.1	283.1	114.2	44.6	63.2	35.8	47.6	291.7	42.0	42.5
LnGrp LOS	E	F	F	F	F	D	E	D	D	F	D	D
Approach Vol, veh/h		2348			3387			1176			1076	
Approach Delay, s/veh		73.0			126.6			46.4			155.6	
Approach LOS		E			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	17.0	45.0	18.0	40.0	10.0	52.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	13.0	40.0	14.0	35.0	6.0	47.0				
Max Q Clear Time (g_c+I1), s	14.0	26.7	15.0	42.0	12.9	20.5	6.5	49.0				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.0	0.1	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				102.9								
HCM 6th LOS				F								

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (veh/h)	0	1741	2510	0	665	625
Future Volume (veh/h)	0	1741	2510	0	665	625
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1795	2728	0	931	473
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2862	2862	0	1097	488
Arrive On Green	0.00	0.59	0.59	0.00	0.32	0.32
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1795	2728	0	931	473
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	28.9	63.4	0.0	30.9	37.2
Cycle Q Clear(g_c), s	0.0	28.9	63.4	0.0	30.9	37.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2862	2862	0	1097	488
V/C Ratio(X)	0.00	0.63	0.95	0.00	0.85	0.97
Avail Cap(c_a), veh/h	0	2862	2862	0	1097	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.9	22.9	0.0	37.8	39.9
Incr Delay (d2), s/veh	0.0	1.1	9.0	0.0	8.2	33.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.8	23.3	0.0	13.8	18.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	17.0	31.9	0.0	46.0	73.7
LnGrp LOS	A	B	C	A	D	E
Approach Vol, veh/h		1795	2728		1404	
Approach Delay, s/veh		17.0	31.9		55.3	
Approach LOS		B	C		E	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				76.0	44.0	76.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				71.0	39.0	71.0
Max Q Clear Time (g_c+I1), s				30.9	39.2	65.4
Green Ext Time (p_c), s				18.1	0.0	5.3

Intersection Summary

HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↕	↗			↗↗
Traffic Volume (veh/h)	165	1838	0	0	1512	26	1238	104	516	0	0	248
Future Volume (veh/h)	165	1838	0	0	1512	26	1238	104	516	0	0	248
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	176	1955	0	0	1699	29	1533	0	403	0	0	295
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	338	2661	0	0	1917	33	1856	0	551	0	0	0
Arrive On Green	0.20	0.55	0.00	0.00	0.31	0.31	0.37	0.00	0.37	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6466	106	5063	0	1502		0	
Grp Volume(v), veh/h	176	1955	0	0	1249	479	1533	0	403		0.0	
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1753	1688	0	1502			
Q Serve(g_s), s	11.2	36.6	0.0	0.0	31.2	31.2	33.0	0.0	27.9			
Cycle Q Clear(g_c), s	11.2	36.6	0.0	0.0	31.2	31.2	33.0	0.0	27.9			
Prop In Lane	1.00		0.00	0.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	338	2661	0	0	1410	540	1856	0	551			
V/C Ratio(X)	0.52	0.73	0.00	0.00	0.89	0.89	0.83	0.00	0.73			
Avail Cap(c_a), veh/h	338	2661	0	0	1410	540	1856	0	551			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.9	20.4	0.0	0.0	39.5	39.5	34.5	0.0	32.9			
Incr Delay (d2), s/veh	1.4	1.8	0.0	0.0	8.5	18.9	4.4	0.0	8.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.7	13.0	0.0	0.0	12.3	15.7	14.1	0.0	11.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	22.2	0.0	0.0	48.0	58.4	38.9	0.0	41.2			
LnGrp LOS	D	C	A	A	D	E	D	A	D			
Approach Vol, veh/h		2131			1728			1936				
Approach Delay, s/veh		24.1			50.9			39.4				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		49.0		71.0			29.0	42.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		44.0		55.0			14.0	* 37				
Max Q Clear Time (g_c+I1), s		35.0		38.6			13.2	33.2				
Green Ext Time (p_c), s		5.5		11.7			0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶↶		↶	↶↶	
Traffic Volume (vph)	53	1207	56	87	1541	157	129	334	126	115	213	94
Future Volume (vph)	53	1207	56	87	1541	157	129	334	126	115	213	94
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.986			0.959			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4750	0	1676	3215	0	1676	3199	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4750	0	1676	3215	0	1676	3199	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			18			43			55	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Adj. Flow (vph)	58	1326	62	91	1605	164	163	423	159	151	280	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	1388	0	91	1769	0	163	582	0	151	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	11.0	51.0		16.0	56.0		20.0	34.0		19.0	33.0	
Total Split (%)	9.2%	42.5%		13.3%	46.7%		16.7%	28.3%		15.8%	27.5%	
Maximum Green (s)	8.0	46.0		13.0	51.0		17.0	29.0		16.0	28.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	7.2	54.5		10.4	59.2		20.3	25.3		13.9	18.9	
Actuated g/C Ratio	0.06	0.45		0.09	0.49		0.17	0.21		0.12	0.16	
v/c Ratio	0.59	0.64		0.63	0.75		0.58	0.82		0.78	0.74	
Control Delay	77.7	28.3		67.1	14.4		54.7	51.7		77.5	49.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.7	28.3		67.1	14.4		54.7	51.7		77.5	49.2	
LOS	E	C		E	B		D	D		E	D	
Approach Delay		30.3			17.0			52.3			56.9	
Approach LOS		C			B			D			E	
Queue Length 50th (ft)	44	309		58	435		113	210		114	138	
Queue Length 95th (ft)	#92	395		m80	574		170	224		154	141	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	111	2175		181	2354		285	809		223	788	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.64		0.50	0.75		0.57	0.72		0.68	0.51	

Intersection Summary

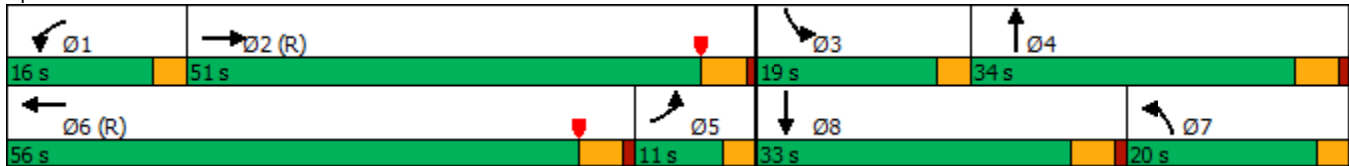
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 69 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 31.7 Intersection LOS: C  
 Intersection Capacity Utilization 74.2% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	34	1366	67	47	1600	125	127	352	115	162	276	59
Future Volume (vph)	34	1366	67	47	1600	125	127	352	115	162	276	59
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.989			0.963			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4765	0	1676	3229	0	1676	3266	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4765	0	1676	3229	0	1676	3266	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			13			33			20	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	39	1552	76	49	1684	132	135	374	122	186	317	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	1628	0	49	1816	0	135	496	0	186	385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	8.0	56.6		11.0	59.6		19.0	31.4		21.0	33.4	
Total Split (%)	6.7%	47.2%		9.2%	49.7%		15.8%	26.2%		17.5%	27.8%	
Maximum Green (s)	5.0	49.6		7.0	52.6		16.0	25.1		18.0	27.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.7	56.9		6.6	58.7		13.2	21.8		16.2	24.8	
Actuated g/C Ratio	0.05	0.47		0.06	0.49		0.11	0.18		0.14	0.21	
v/c Ratio	0.50	0.72		0.54	0.78		0.74	0.81		0.83	0.56	
Control Delay	88.1	19.8		84.3	9.3		80.9	60.1		78.4	43.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	88.1	19.8		84.3	9.3		80.9	60.1		78.4	43.4	
LOS	F	B		F	A		F	E		E	D	
Approach Delay		21.4			11.3			64.5			54.8	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	24	429		34	420		110	171		140	132	
Queue Length 95th (ft)	m44	499		m39	m460		178	225		#231	174	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	79	2272		100	2335		223	701		251	753	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.72		0.49	0.78		0.61	0.71		0.74	0.51	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 16.6 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated



Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2021  
 PM Peak Hour































Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 27.2	Intersection LOS: C
Intersection Capacity Utilization 79.3%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road

Ø1 11 s	Ø2 (R) 56.6 s	Ø3 21 s	Ø4 31.4 s
Ø5 8 s	Ø6 (R) 59.6 s	Ø7 19 s	Ø8 33.4 s

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (vph)	153	1413	387	215	1476	75	443	622	182	71	350	83
Future Volume (vph)	153	1413	387	215	1476	75	443	622	182	71	350	83
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4784	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4784	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			330		7				179			127
Link Speed (mph)		45		45				35			35	
Link Distance (ft)		3309		3979				1995			706	
Travel Time (s)		50.1		60.3				38.9			13.8	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	170	1570	430	224	1538	78	461	648	190	87	427	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	1570	430	224	1616	0	461	648	190	87	427	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24				24			24	
Link Offset(ft)		0		0				0			0	
Crosswalk Width(ft)		16		16				16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117				117			117	
Detector 2 Size(ft)		6		6				6			6	
Detector 2 Type		Cl+Ex		Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0				0.0			0.0	
Detector 3 Position(ft)		234		234				234			234	
Detector 3 Size(ft)		6		6				6			6	
Detector 3 Type		Cl+Ex		Cl+Ex				Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	45.0	45.0	20.0	48.0		21.0	42.0	42.0	13.0	34.0	34.0
Total Split (%)	14.2%	37.5%	37.5%	16.7%	40.0%		17.5%	35.0%	35.0%	10.8%	28.3%	28.3%
Maximum Green (s)	13.0	40.0	40.0	16.0	43.0		17.0	37.0	37.0	9.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.9	41.4	41.4	17.8	45.4		17.0	34.2	34.2	8.5	25.7	25.7
Actuated g/C Ratio	0.12	0.34	0.34	0.15	0.38		0.14	0.28	0.28	0.07	0.21	0.21
v/c Ratio	0.88	0.94	0.59	0.90	0.89		1.00	0.68	0.34	0.74	0.59	0.24
Control Delay	101.3	36.0	5.2	95.8	28.3		78.6	36.1	5.3	88.4	45.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.3	36.0	5.2	95.8	28.3		78.6	36.1	5.3	88.4	45.5	4.7
LOS	F	D	A	F	C		E	D	A	F	D	A
Approach Delay		35.0			36.5			46.7			44.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	134	446	28	~151	458		~189	241	43	67	152	0
Queue Length 95th (ft)	m#246	#539	20	#332	#541		#292	310	m36	#124	184	18
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	194	1664	734	249	1812		460	1033	586	125	810	458
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.94	0.59	0.90	0.89		1.00	0.63	0.32	0.70	0.53	0.22

Intersection Summary

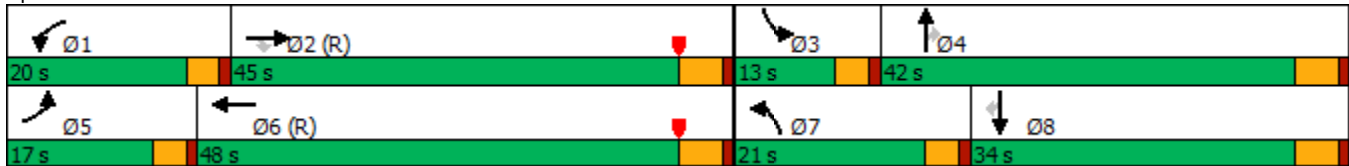
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 65 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 39.1	Intersection LOS: D
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	1451	241	442	1421	970	309	576	449	547	330	10
Future Volume (vph)	14	1451	241	442	1421	970	309	576	449	547	330	10
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.979				0.850		0.972	0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5943	0	3252	4818	1500	3252	3122	1365	3252	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5943	0	3252	4818	1500	3252	3122	1365	3252	3340	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						55		20	181		2	
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	15	1527	254	460	1480	1010	336	626	488	608	367	11
Shared Lane Traffic (%)									30%			
Lane Group Flow (vph)	15	1781	0	460	1480	1010	336	772	342	608	378	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	42.0		19.0	55.0	29.0	23.0	30.0	30.0	29.0	36.0	
Total Split (%)	5.0%	35.0%		15.8%	45.8%	24.2%	19.2%	25.0%	25.0%	24.2%	30.0%	
Maximum Green (s)	2.0	37.0		15.0	50.0	25.0	19.0	25.0	25.0	25.0	31.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	37.0		15.0	53.6	83.6	16.2	25.0	25.0	25.0	33.8	
Actuated g/C Ratio	0.02	0.31		0.12	0.45	0.70	0.14	0.21	0.21	0.21	0.28	
v/c Ratio	0.28	0.97		1.13	0.69	0.95	0.77	1.16	0.80	0.90	0.40	
Control Delay	87.9	23.2		130.1	25.4	23.2	61.8	129.1	36.1	63.7	36.9	
Queue Delay	0.0	22.9		0.0	1.2	0.1	0.0	0.0	0.3	0.0	0.0	
Total Delay	87.9	46.1		130.1	26.7	23.3	61.8	129.1	36.4	63.7	36.9	
LOS	F	D		F	C	C	E	F	D	E	D	
Approach Delay		46.4			41.6			91.6			53.4	
Approach LOS		D			D			F			D	
Queue Length 50th (ft)	6	127		~220	251	518	130	~382	135	238	125	
Queue Length 95th (ft)	m8	m#273		m#297	m327	m#982	177	#516	#302	#339	176	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1832		406	2152	1061	514	666	427	677	941	
Starvation Cap Reductn	0	0		0	420	1	0	0	0	0	0	
Spillback Cap Reductn	0	143		0	0	0	0	0	4	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	1.05		1.13	0.85	0.95	0.65	1.16	0.81	0.90	0.40	

Intersection Summary

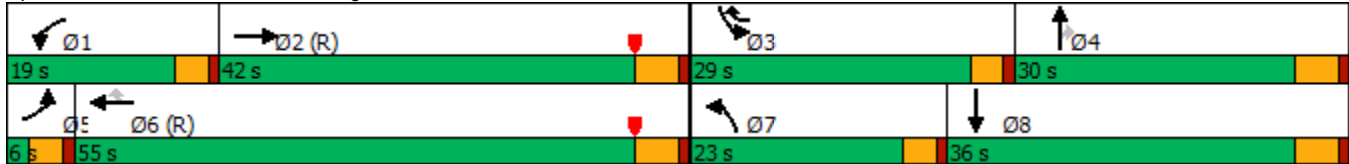
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 54.6	Intersection LOS: D
Intersection Capacity Utilization 99.4%	ICU Level of Service F
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1562	886	283	1974	0	0	0	0	581	0	826
Future Volume (vph)	0	1562	886	283	1974	0	0	0	0	581	0	826
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.973	0.850								0.880	0.850
Flt Protected				0.950						0.950	0.990	
Satd. Flow (prot)	0	4430	1290	3252	4818	0	0	0	0	1593	1399	1425
Flt Permitted				0.950						0.950	0.990	
Satd. Flow (perm)	0	4430	1290	3252	4818	0	0	0	0	1593	1399	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46	572								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	1627	923	318	2218	0	0	0	0	638	0	908
Shared Lane Traffic (%)			38%							16%		45%
Lane Group Flow (vph)	0	1978	572	318	2218	0	0	0	0	536	511	499
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		58.0	58.0	16.8	74.8					45.2	45.2	45.2
Total Split (%)		48.3%	48.3%	14.0%	62.3%					37.7%	37.7%	37.7%
Maximum Green (s)		53.5	53.5	12.3	70.3					40.7	40.7	40.7
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		53.5	53.5	12.3	70.3					40.7	40.7	40.7
Actuated g/C Ratio		0.45	0.45	0.10	0.59					0.34	0.34	0.34
v/c Ratio		0.99	0.64	0.95	0.79					0.99	1.00	0.96
Control Delay		30.8	3.5	60.3	7.5					77.0	76.3	66.3
Queue Delay		8.6	0.8	0.0	0.8					0.0	0.0	0.0
Total Delay		39.4	4.3	60.3	8.4					77.0	76.3	66.3
LOS		D	A	E	A					E	E	E
Approach Delay		31.6			14.9						73.3	
Approach LOS		C			B						E	
Queue Length 50th (ft)		245	26	123	240					433	~398	363
Queue Length 95th (ft)		m#345	m24	m129	m296					#680	#659	#598
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		2000	892	333	2822					540	510	519
Starvation Cap Reductn		65	111	0	301					0	0	0
Spillback Cap Reductn		10	0	0	127					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.02	0.73	0.95	0.88					0.99	1.00	0.96

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	11.5 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	34.9
Intersection LOS:	C
Intersection Capacity Utilization:	91.0%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Year 2021  
 PM Peak Hour

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road

→ Ø2 (R)	↙ Ø1	↕ Ø4
58 s	16.8 s	45.2 s
← Ø5 (R)		
74.8 s		

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Future Volume (vph)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4457	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4457	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					27	440			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	571	1635	0	0	1308	656	1141	0	556	0	0	0
Shared Lane Traffic (%)						33%						
Lane Group Flow (vph)	571	1635	0	0	1524	440	1141	0	556	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	26.0	73.0			47.0	47.0	47.0		47.0			
Total Split (%)	21.7%	60.8%			39.2%	39.2%	39.2%		39.2%			
Maximum Green (s)	21.5	68.5			42.5	42.5	42.5		42.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	21.5	68.5			42.5	42.5	42.5		42.5			
Actuated g/C Ratio	0.18	0.57			0.35	0.35	0.35		0.35			
v/c Ratio	0.98	0.59			0.96	0.59	0.99		0.98			
Control Delay	67.7	18.0			51.6	6.2	63.4		69.0			
Queue Delay	0.0	1.6			0.0	0.0	0.0		0.0			
Total Delay	67.7	19.6			51.6	6.2	63.4		69.0			
LOS	E	B			D	A	E		E			
Approach Delay		32.0			41.5			65.2				
Approach LOS		C			D			E				
Queue Length 50th (ft)	234	367			437	0	450		392			
Queue Length 95th (ft)	m236	m371			#551	91	#602		#631			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	582	2750			1595	741	1151		566			
Starvation Cap Reductn	0	870			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.98	0.87			0.96	0.59	0.99		0.98			

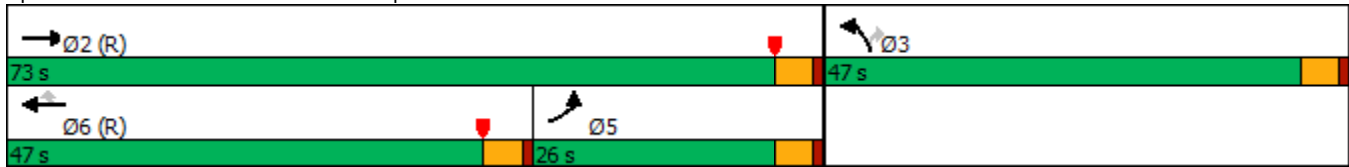
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 22.5 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 44.8  
 Intersection Capacity Utilization 91.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	48	504	10	25	448
Future Volume (vph)	52	48	504	10	25	448
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3343	0	1676	3353
Flt Permitted	0.950				0.453	
Satd. Flow (perm)	1676	1500	3343	0	799	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		77	4			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Adj. Flow (vph)	84	77	525	10	32	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	77	535	0	32	567
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021  
PM Peak Hour

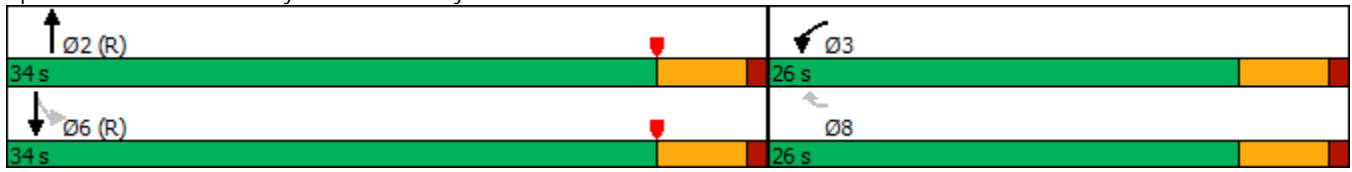


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	9.6	9.6	43.6		43.6	43.6
Actuated g/C Ratio	0.16	0.16	0.73		0.73	0.73
v/c Ratio	0.31	0.25	0.22		0.06	0.23
Control Delay	23.8	7.6	3.6		2.5	2.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	23.8	7.6	3.6		2.5	2.5
LOS	C	A	A		A	A
Approach Delay	16.0		3.6			2.5
Approach LOS	B		A			A
Queue Length 50th (ft)	28	0	45		2	15
Queue Length 95th (ft)	35	11	m87		m6	37
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	575	2430		580	2436
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.13	0.22		0.06	0.23

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	52 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.31
Intersection Signal Delay:	4.6
Intersection LOS:	A
Intersection Capacity Utilization:	35.3%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 7: Berry Street & Mercury Lane





Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶↷	↶	↷	↶	↶↷↶		↶↷	↶↷↶	
Traffic Volume (vph)	77	131	22	407	140	472	82	732	351	350	676	72
Future Volume (vph)	77	131	22	407	140	472	82	732	351	350	676	72
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.979				0.850		0.951			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1728	0	3252	1765	1500	1676	4582	0	3252	4750	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1728	0	3252	1765	1500	1676	4582	0	3252	4750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				122		102			16	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Adj. Flow (vph)	86	146	24	447	154	519	93	832	399	402	777	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	170	0	447	154	519	93	1231	0	402	860	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	17.0	38.0		22.0	43.0	20.0	17.0	40.0		20.0	43.0	
Total Split (%)	14.2%	31.7%		18.3%	35.8%	16.7%	14.2%	33.3%		16.7%	35.8%	
Maximum Green (s)	13.0	33.0		18.0	38.0	16.0	13.0	35.0		16.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.8	18.7		20.9	30.9	48.7	13.0	46.5		16.0	49.5	
Actuated g/C Ratio	0.09	0.16		0.17	0.26	0.41	0.11	0.39		0.13	0.41	
v/c Ratio	0.57	0.62		0.79	0.34	0.76	0.51	0.67		0.93	0.44	
Control Delay	66.9	53.7		58.6	38.0	25.7	62.5	18.1		71.5	25.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	66.9	53.7		58.6	38.0	25.7	62.5	18.1		71.5	25.7	
LOS	E	D		E	D	C	E	B		E	C	
Approach Delay		58.1			40.5			21.2			40.3	
Approach LOS		E			D			C			D	
Queue Length 50th (ft)	65	122		168	101	200	75	115		152	141	
Queue Length 95th (ft)	118	166		#273	146	239	m120	m127		m#229	m171	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	181	480		565	558	681	181	1836		433	1967	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.48	0.35		0.79	0.28	0.76	0.51	0.67		0.93	0.44	

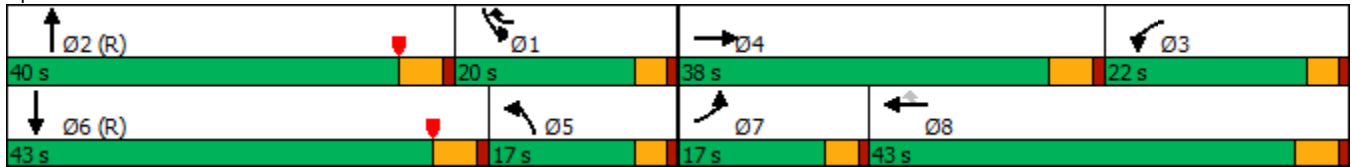
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 49 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 35.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 69.9%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.
























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

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	1722	35	125	1692	210	31	53	104	144	127	191
Future Volume (vph)	136	1722	35	125	1692	210	31	53	104	144	127	191
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4803	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.663			0.712		
Satd. Flow (perm)	1676	4803	0	1676	4818	1500	1170	1765	1500	1256	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				219			135			210
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		713			2627			1029			2657	
Travel Time (s)		10.8			39.8			17.5			45.3	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Adj. Flow (vph)	149	1892	38	130	1763	219	40	69	135	158	140	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	1930	0	130	1763	219	40	69	135	158	140	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	20.0	62.0		19.0	61.0	61.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	16.7%	51.7%		15.8%	50.8%	50.8%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	16.0	57.0		15.0	56.0	56.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effect Green (s)	16.0	70.8		13.5	68.4	68.4	21.6	21.6	21.6	21.6	21.6	21.6
Actuated g/C Ratio	0.13	0.59		0.11	0.57	0.57	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.67	0.68		0.69	0.64	0.23	0.19	0.22	0.35	0.70	0.23	0.48
Control Delay	65.0	20.2		61.6	5.0	0.3	40.2	40.6	8.5	48.2	28.9	7.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	20.2		61.6	5.0	0.3	40.2	40.6	8.5	48.2	28.9	7.7
LOS	E	C		E	A	A	D	D	A	D	C	A
Approach Delay		23.5			8.0			22.7			26.1	
Approach LOS		C			A			C			C	
Queue Length 50th (ft)	111	353		84	33	0	27	47	0	109	29	0
Queue Length 95th (ft)	#196	536		m78	m228	m6	45	66	29	189	m44	21
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	223	2836		214	2744	948	331	500	521	355	950	575
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.68		0.61	0.64	0.23	0.12	0.14	0.26	0.45	0.15	0.37

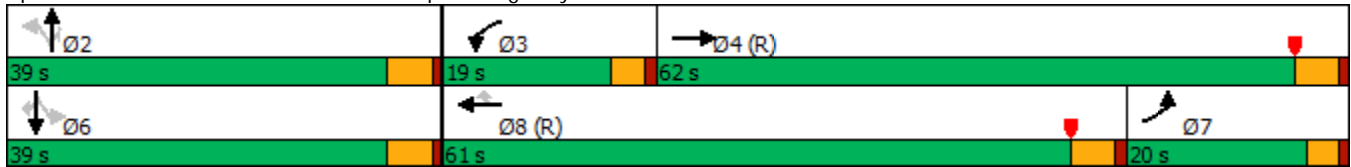
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 108 (90%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.70  
 Intersection Signal Delay: 17.1 Intersection LOS: B  
 Intersection Capacity Utilization 72.5% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↖		↗	↖	↗
Traffic Volume (vph)	134	1997	9	59	1919	324	4	7	6	402	30	195
Future Volume (vph)	134	1997	9	59	1919	324	4	7	6	402	30	195
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.978			0.950				0.850
Flt Protected	0.950			0.950				0.988		0.950	0.959	
Satd. Flow (prot)	1676	4813	0	1676	4712	0	0	3147	0	1593	1608	1500
Flt Permitted	0.950			0.950				0.988		0.950	0.959	
Satd. Flow (perm)	1676	4813	0	1676	4712	0	0	3147	0	1593	1608	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			34			8				217
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Adj. Flow (vph)	158	2349	11	65	2109	356	6	10	8	447	33	217
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	158	2360	0	65	2465	0	0	24	0	241	239	217
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	13.0	59.0		10.0	56.0		33.0	33.0		18.0	18.0	18.0
Total Split (%)	10.8%	49.2%		8.3%	46.7%		27.5%	27.5%		15.0%	15.0%	15.0%
Maximum Green (s)	9.0	54.0		6.0	51.0		28.0	28.0		13.0	13.0	13.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		21.0	21.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	9.0	55.9		8.5	55.4		10.5	10.5		30.5	30.5	30.5
Actuated g/C Ratio	0.08	0.47		0.07	0.46		0.09	0.09		0.25	0.25	0.25
v/c Ratio	1.26	1.05		0.55	1.12		0.09	0.09		0.60	0.59	0.40
Control Delay	205.3	63.4		62.7	80.5		34.4	34.4		39.0	38.7	5.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	205.3	63.4		62.7	80.5		34.4	34.4		39.0	38.7	5.2
LOS	F	E		E	F		C	C		D	D	A
Approach Delay		72.3			80.0		34.4	34.4			28.4	
Approach LOS		E			E		C	C			C	
Queue Length 50th (ft)	~155	~763		43	~817		6	6		113	109	0
Queue Length 95th (ft)	#274	#778		m56	m#894		12	12		#447	#440	75
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	125	2243		118	2192		740	740		404	408	543
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.26	1.05		0.55	1.12		0.03	0.03		0.60	0.59	0.40

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	54 (45%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.26
Intersection Signal Delay:	70.2
Intersection LOS:	E
Intersection Capacity Utilization:	85.5%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

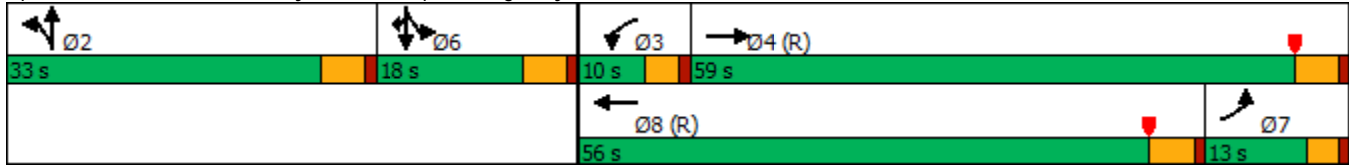


Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2021  
 PM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	215	1733	401	350	1658	189	432	792	254	246	652	249
Future Volume (vph)	215	1733	401	350	1658	189	432	792	254	246	652	249
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			136			170			160
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	236	1904	441	354	1675	191	445	816	262	283	749	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	236	1904	441	354	1675	191	445	816	262	283	749	286
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	13.0	49.0	49.0	14.0	50.0	50.0	17.0	42.0	42.0	15.0	40.0	40.0
Total Split (%)	10.8%	40.8%	40.8%	11.7%	41.7%	41.7%	14.2%	35.0%	35.0%	12.5%	33.3%	33.3%
Maximum Green (s)	9.0	44.0	44.0	10.0	45.0	45.0	13.0	37.0	37.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	9.0	44.0	44.0	10.0	45.0	45.0	13.0	37.0	37.0	11.0	35.0	35.0
Actuated g/C Ratio	0.08	0.37	0.37	0.08	0.38	0.38	0.11	0.31	0.31	0.09	0.29	0.29
v/c Ratio	0.97	1.08	0.66	1.31	0.93	0.30	1.26	0.55	0.45	0.95	0.77	0.52
Control Delay	83.9	59.5	7.0	168.5	10.9	0.8	183.1	36.3	14.5	72.9	23.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.9	59.5	7.0	168.5	10.9	0.8	183.1	36.3	14.5	72.9	23.7	8.4
LOS	F	E	A	F	B	A	F	D	B	E	C	A
Approach Delay		52.8			35.2			75.4			31.0	
Approach LOS		D			D			E			C	
Queue Length 50th (ft)	90	~602	44	~183	239	4	~223	192	52	111	258	60
Queue Length 95th (ft)	m93	m#571	m94	m#162	m169	m2	#328	236	130	m#180	182	m45
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	243	1766	664	271	1806	647	352	1485	580	298	977	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.08	0.66	1.31	0.93	0.30	1.26	0.55	0.45	0.95	0.77	0.52

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	100 (83%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.31
Intersection Signal Delay:	48.4
Intersection LOS:	D
Intersection Capacity Utilization:	92.9%
ICU Level of Service:	F
Analysis Period (min):	15

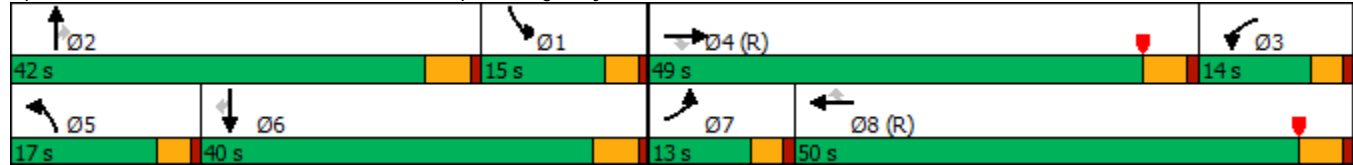
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1980	201	487	2041	621	285	489	320	465	417	141
Future Volume (vph)	121	1980	201	487	2041	621	285	489	320	465	417	141
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				103			146			39
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	123	2020	205	524	2195	668	306	526	344	489	439	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	2225	0	524	2195	668	306	526	344	489	587	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	45.0		17.0	52.0	16.0	18.0	42.0	42.0	16.0	40.0	
Total Split (%)	8.3%	37.5%		14.2%	43.3%	13.3%	15.0%	35.0%	35.0%	13.3%	33.3%	
Maximum Green (s)	6.0	40.0		13.0	47.0	12.0	14.0	37.0	37.0	12.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	40.0		13.0	47.0	64.0	14.0	37.0	37.0	12.0	35.0	
Actuated g/C Ratio	0.05	0.33		0.11	0.39	0.53	0.12	0.31	0.31	0.10	0.29	
v/c Ratio	0.76	1.11		1.49	1.16	0.79	0.81	0.51	0.61	1.50	0.61	
Control Delay	53.4	65.0		258.9	108.3	21.0	68.8	36.1	25.0	279.7	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.4	65.0		258.9	108.3	21.1	68.8	36.1	25.0	279.7	37.1	
LOS	D	E		F	F	C	E	D	C	F	D	
Approach Delay		64.4			114.4			41.4			147.4	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	52	~553		~289	~734	249	121	175	130	~271	192	
Queue Length 95th (ft)	m54	m#508		m#305	m#786	m271	#189	231	234	#379	254	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2009		352	1887	848	379	1033	563	325	968	
Starvation Cap Reductn	0	0		0	0	4	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.76	1.11		1.49	1.16	0.79	0.81	0.51	0.61	1.50	0.61	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 43 (36%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.50  
 Intersection Signal Delay: 93.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 91.8%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour

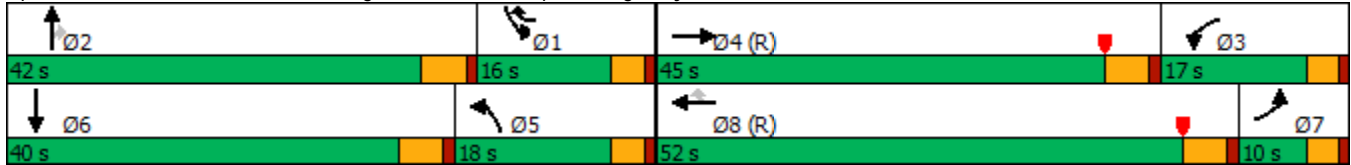
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1741	2510	0	665	625
Future Volume (vph)	0	1741	2510	0	665	625
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.963	0.850
Flt Protected					0.964	
Satd. Flow (prot)	0	4818	4818	0	3178	1365
Flt Permitted					0.964	
Satd. Flow (perm)	0	4818	4818	0	3178	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	2
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Adj. Flow (vph)	0	1795	2728	0	731	687
Shared Lane Traffic (%)						35%
Lane Group Flow (vph)	0	1795	2728	0	971	447
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		76.0	76.0		44.0	44.0
Total Split (%)		63.3%	63.3%		36.7%	36.7%
Maximum Green (s)		71.0	71.0		39.0	39.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		71.0	71.0		39.0	39.0
Actuated g/C Ratio		0.59	0.59		0.32	0.32
v/c Ratio		0.63	0.96		0.94	1.01
Control Delay		3.8	17.1		56.4	85.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		3.8	17.1		56.4	85.1
LOS		A	B		E	F
Approach Delay		3.8	17.1		65.4	
Approach LOS		A	B		E	
Queue Length 50th (ft)		60	408		374	~381
Queue Length 95th (ft)		m57	m#462		#507	#623
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2850	2850		1034	444
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.63	0.96		0.94	1.01

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	69 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	24.6
Intersection LOS:	C
Intersection Capacity Utilization:	137.0%
ICU Level of Service:	H
Analysis Period (min):	15

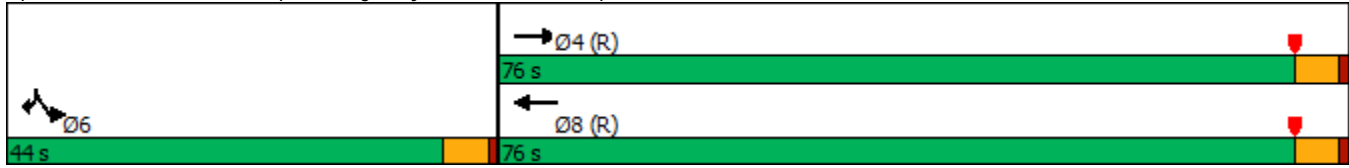
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	1838	0	0	1512	26	1238	104	516	0	0	248
Future Volume (vph)	165	1838	0	0	1512	26	1238	104	516	0	0	248
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.997			0.972	0.850			0.850
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1676	4818	0	0	6052	0	3051	1432	1425	0	0	2640
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1676	4818	0	0	6052	0	3051	1432	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			11	119			272
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Adj. Flow (vph)	176	1955	0	0	1699	29	1317	111	549	0	0	295
Shared Lane Traffic (%)							23%		17%			
Lane Group Flow (vph)	176	1955	0	0	1728	0	1014	507	456	0	0	295
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	18.0	60.0			42.0		49.0	49.0	49.0			11.0
Total Split (%)	15.0%	50.0%			35.0%		40.8%	40.8%	40.8%			9.2%
Maximum Green (s)	14.0	55.0			37.0		44.0	44.0	44.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lag	Lag	Lag			Lead
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	14.0	55.0			37.0		44.0	44.0	44.0			6.0
Actuated g/C Ratio	0.12	0.46			0.31		0.37	0.37	0.37			0.05
v/c Ratio	0.90	0.89			0.93		0.91	0.95	0.76			0.76
Control Delay	74.7	20.6			49.6		48.7	66.0	34.0			22.0
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	74.7	20.6			49.6		48.7	66.0	34.0			22.0
LOS	E	C			D		D	E	C			C
Approach Delay		25.1			49.6			49.8				22.0
Approach LOS		C			D			D				C
Queue Length 50th (ft)	131	373			375		406	433	246			9
Queue Length 95th (ft)	m#234	m457			#422		#541	#695	392			47
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	195	2208			1868		1118	532	597			390
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.90	0.89			0.93		0.91	0.95	0.76			0.76

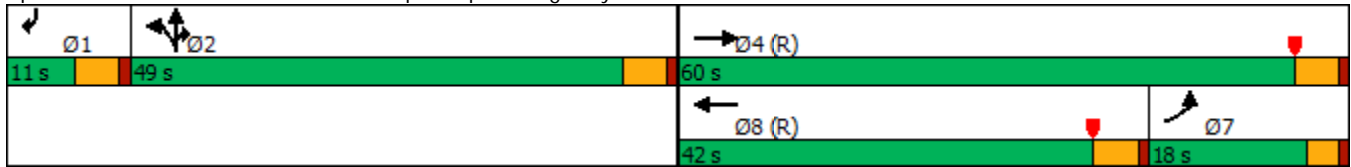
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 53 (44%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 39.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.6%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



*APPENDIX D-IX*

**YEAR 2021 CUMULATIVE PLUS PROJECT  
TRAFFIC CONDITIONS – ICU METHODOLOGY**

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	58	164	68	172	378	63	69	961	89	79	1204	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	164	68	172	378	63	69	961	89	79	1204	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	41	17	43	95	16	17	240	22	20	301	11
Total Analysis Volume [veh/h]	58	164	68	172	378	63	69	961	89	79	1204	44
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.10	0.13	0.13	0.04	0.21	0.21	0.05	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.505											



**Intersection Level Of Service Report  
Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	47	144	73	177	383	28	26	1013	100	142	1299	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	144	73	177	383	28	26	1013	100	142	1299	102
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	36	18	44	96	7	7	253	25	36	325	26
Total Analysis Volume [veh/h]	47	144	73	177	383	28	26	1013	100	142	1299	102
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.06	0.06	0.10	0.12	0.12	0.02	0.22	0.22	0.08	0.27	0.27
Intersection LOS	A											
Intersection V/C	0.520											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.688

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	220	334	158	129	746	255	116	1092	263	231	1308	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	334	158	129	746	255	116	1092	263	231	1308	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	84	40	32	187	64	29	273	66	58	327	38
Total Analysis Volume [veh/h]	220	334	158	129	746	255	116	1092	263	231	1308	151
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.10	0.09	0.08	0.22	0.15	0.07	0.21	0.15	0.14	0.29	0.29
Intersection LOS	B											
Intersection V/C	0.688											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.719

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	179	147	214	817	736	4	7	1086	257	544	1664	492
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	179	147	214	817	736	4	7	1086	257	544	1664	492
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	37	54	204	184	1	2	272	64	136	416	123
Total Analysis Volume [veh/h]	179	147	214	817	736	4	7	1086	257	544	1664	492
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.07	0.07	0.24	0.22	0.22	0.00	0.20	0.20	0.16	0.33	0.05
Intersection LOS	C											
Intersection V/C	0.719											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.768

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	957	0	827	0	1511	550	206	1877	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	957	0	827	0	1511	550	206	1877	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	239	0	207	0	378	138	52	469	0
Total Analysis Volume [veh/h]	0	0	0	957	0	827	0	1511	550	206	1877	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.28	0.00	0.35	0.00	0.30	0.30	0.06	0.37	0.00
Intersection LOS	C											
Intersection V/C	0.768											



**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐						⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	890	0	443	0	0	0	417	2061	0	0	1173	471
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	890	0	443	0	0	0	417	2061	0	0	1173	471
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	223	0	111	0	0	0	104	515	0	0	293	118
Total Analysis Volume [veh/h]	890	0	443	0	0	0	417	2061	0	0	1173	471
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.26	0.00	0.26	0.00	0.00	0.00	0.12	0.40	0.00	0.00	0.24	0.24
Intersection LOS	C											
Intersection V/C	0.716											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.226

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		←		← ↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	315	57	64	544	28	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	315	57	64	544	28	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	14	16	136	7	6
Total Analysis Volume [veh/h]	315	57	64	544	28	23
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.11	0.04	0.16	0.02	0.01
Intersection LOS	A					
Intersection V/C	0.226					

**Intersection Level Of Service Report  
Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	40	502	226	282	932	57	32	53	34	319	79	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	502	226	282	932	57	32	53	34	319	79	230
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	126	57	71	233	14	8	13	9	80	20	58
Total Analysis Volume [veh/h]	40	502	226	282	932	57	32	53	34	319	79	230
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.14	0.14	0.08	0.19	0.19	0.02	0.05	0.05	0.09	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.421											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.632

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	52	124	176	115	82	117	187	1543	64	77	1532	155
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	124	176	115	82	117	187	1543	64	77	1532	155
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	31	44	29	21	29	47	386	16	19	383	39
Total Analysis Volume [veh/h]	52	124	176	115	82	117	187	1543	64	77	1532	155
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.10	0.07	0.02	0.07	0.11	0.32	0.32	0.05	0.30	0.09
Intersection LOS	B											
Intersection V/C	0.632											



**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.709

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	2	27	30	321	15	180	162	1783	4	58	1952	292
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	27	30	321	15	180	162	1783	4	58	1952	292
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	8	80	4	45	41	446	1	15	488	73
Total Analysis Volume [veh/h]	2	27	30	321	15	180	162	1783	4	58	1952	292
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.09	0.10	0.11	0.10	0.35	0.35	0.03	0.44	0.44
Intersection LOS	C											
Intersection V/C	0.709											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	435	476	164	165	910	201	178	1602	363	177	1623	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	435	476	164	165	910	201	178	1602	363	177	1623	86
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	119	41	41	228	50	45	401	91	44	406	22
Total Analysis Volume [veh/h]	435	476	164	165	910	201	178	1602	363	177	1623	86
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.09	0.10	0.05	0.27	0.12	0.05	0.31	0.21	0.05	0.32	0.05
Intersection LOS	D											
Intersection V/C	0.816											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.768

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	162	178	415	186	544	38	57	1644	240	484	1805	203
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	178	415	186	544	38	57	1644	240	484	1805	203
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	45	104	47	136	10	14	411	60	121	451	51
Total Analysis Volume [veh/h]	162	178	415	186	544	38	57	1644	240	484	1805	203
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.05	0.24	0.05	0.17	0.17	0.02	0.28	0.28	0.14	0.35	0.06
Intersection LOS	C											
Intersection V/C	0.768											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	609	0	563	0	1496	720	0	1961	214
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	609	0	563	0	1496	720	0	1961	214
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	152	0	141	0	374	180	0	490	54
Total Analysis Volume [veh/h]	0	0	0	609	0	563	0	1496	720	0	1961	214
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.18	0.00	0.23	0.00	0.29	0.00	0.00	0.38	0.00
Intersection LOS	B											
Intersection V/C	0.664											



**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1081	157	817	0	0	57	130	1388	563	0	1025	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1081	157	817	0	0	57	130	1388	563	0	1025	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	270	39	204	0	0	14	33	347	141	0	256	2
Total Analysis Volume [veh/h]	1081	157	817	0	0	57	130	1388	563	0	1025	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.21	0.30	0.30	0.00	0.00	0.02	0.08	0.27	0.00	0.00	0.15	0.15
Intersection LOS	B											
Intersection V/C	0.641											

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	129	334	126	115	213	94	53	1210	56	87	1543	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	334	126	115	213	94	53	1210	56	87	1543	157
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	84	32	29	53	24	13	303	14	22	386	39
Total Analysis Volume [veh/h]	129	334	126	115	213	94	53	1210	56	87	1543	157
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.14	0.14	0.07	0.09	0.09	0.03	0.25	0.25	0.05	0.33	0.33
Intersection LOS	B											
Intersection V/C	0.617											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	129	352	120	162	276	59	34	1366	70	55	1600	125
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	352	120	162	276	59	34	1366	70	55	1600	125
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	88	30	41	69	15	9	342	18	14	400	31
Total Analysis Volume [veh/h]	129	352	120	162	276	59	34	1366	70	55	1600	125
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.14	0.14	0.10	0.10	0.10	0.02	0.28	0.28	0.03	0.34	0.34
Intersection LOS	B											
Intersection V/C	0.642											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.688

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	443	622	182	71	350	83	153	1418	387	215	1484	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	443	622	182	71	350	83	153	1418	387	215	1484	75
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	111	156	46	18	88	21	38	355	97	54	371	19
Total Analysis Volume [veh/h]	443	622	182	71	350	83	153	1418	387	215	1484	75
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.18	0.11	0.04	0.10	0.05	0.09	0.28	0.23	0.13	0.31	0.31
Intersection LOS	B											
Intersection V/C	0.688											



**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.826

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	309	576	449	547	330	10	14	1456	241	442	1429	970
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	309	576	449	547	330	10	14	1456	241	442	1429	970
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	144	112	137	83	3	4	364	60	111	357	243
Total Analysis Volume [veh/h]	309	576	449	547	330	10	14	1456	241	442	1429	970
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.09	0.20	0.20	0.16	0.10	0.10	0.00	0.25	0.25	0.13	0.28	0.41
Intersection LOS	D											
Intersection V/C	0.826											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	581	0	832	0	1567	886	283	1976	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	581	0	832	0	1567	886	283	1976	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	145	0	208	0	392	222	71	494	0
Total Analysis Volume [veh/h]	0	0	0	581	0	832	0	1567	886	283	1976	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.28	0.00	0.36	0.36	0.08	0.39	0.00
Intersection LOS	C											
Intersection V/C	0.771											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T						T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	1073	0	523	0	0	0	564	1603	0	0	1258	630
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1073	0	523	0	0	0	564	1603	0	0	1258	630
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	268	0	131	0	0	0	141	401	0	0	315	158
Total Analysis Volume [veh/h]	1073	0	523	0	0	0	564	1603	0	0	1258	630
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.32	0.00	0.31	0.00	0.00	0.00	0.17	0.31	0.00	0.00	0.28	0.28
Intersection LOS	D											
Intersection V/C	0.809											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.267

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration			←		←	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	504	31	36	448	66	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	504	31	36	448	66	55
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	126	8	9	112	17	14
Total Analysis Volume [veh/h]	504	31	36	448	66	55
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.16	0.02	0.13	0.04	0.03
Intersection LOS	A					
Intersection V/C	0.267					



**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	82	732	352	350	676	72	77	131	22	409	140	472
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	732	352	350	676	72	77	131	22	409	140	472
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	183	88	88	169	18	19	33	6	102	35	118
Total Analysis Volume [veh/h]	82	732	352	350	676	72	77	131	22	409	140	472
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.21	0.21	0.10	0.15	0.15	0.05	0.09	0.09	0.12	0.08	0.17
Intersection LOS	A											
Intersection V/C	0.585											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	31	53	104	144	127	191	136	1727	35	125	1695	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	53	104	144	127	191	136	1727	35	125	1695	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	13	26	36	32	48	34	432	9	31	424	53
Total Analysis Volume [veh/h]	31	53	104	144	127	191	136	1727	35	125	1695	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.06	0.08	0.04	0.11	0.08	0.35	0.35	0.07	0.33	0.12
Intersection LOS	B											
Intersection V/C	0.615											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	4	7	6	413	30	198	139	1997	9	59	1919	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	6	413	30	198	139	1997	9	59	1919	340
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	2	103	8	50	35	499	2	15	480	85
Total Analysis Volume [veh/h]	4	7	6	413	30	198	139	1997	9	59	1919	340
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.12	0.13	0.12	0.08	0.39	0.39	0.03	0.44	0.44
Intersection LOS	C											
Intersection V/C	0.710											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.814

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	435	792	254	246	652	251	216	1740	403	350	1669	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	435	792	254	246	652	251	216	1740	403	350	1669	189
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	198	64	62	163	63	54	435	101	88	417	47
Total Analysis Volume [veh/h]	435	792	254	246	652	251	216	1740	403	350	1669	189
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.16	0.15	0.07	0.19	0.15	0.06	0.34	0.24	0.10	0.33	0.11
Intersection LOS	D											
Intersection V/C	0.814											



**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.840

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	287	489	320	465	417	141	121	1986	202	487	2051	621
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	287	489	320	465	417	141	121	1986	202	487	2051	621
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	122	80	116	104	35	30	497	51	122	513	155
Total Analysis Volume [veh/h]	287	489	320	465	417	141	121	1986	202	487	2051	621
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.14	0.19	0.14	0.16	0.16	0.04	0.32	0.32	0.14	0.40	0.23
Intersection LOS	D											
Intersection V/C	0.840											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.797

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	665	0	625	0	1743	1044	0	2520	483
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	665	0	625	0	1743	1044	0	2520	483
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	166	0	156	0	436	261	0	630	121
Total Analysis Volume [veh/h]	0	0	0	665	0	625	0	1743	1044	0	2520	483
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.20	0.00	0.25	0.00	0.34	0.00	0.00	0.49	0.00
Intersection LOS	C											
Intersection V/C	0.797											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.758

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1244	104	516	0	0	248	165	1840	411	0	1515	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1244	104	516	0	0	248	165	1840	411	0	1515	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	311	26	129	0	0	62	41	460	103	0	379	7
Total Analysis Volume [veh/h]	1244	104	516	0	0	248	165	1840	411	0	1515	26
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.24	0.27	0.27	0.00	0.00	0.07	0.10	0.36	0.00	0.00	0.23	0.23
Intersection LOS	C											
Intersection V/C	0.758											

*APPENDIX D-X*

**YEAR 2021 CUMULATIVE PLUS PROJECT  
TRAFFIC CONDITIONS – HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2021 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (veh/h)	69	961	89	79	1204	44	58	164	68	172	378	63
Future Volume (veh/h)	69	961	89	79	1204	44	58	164	68	172	378	63
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	78	1080	100	87	1323	48	65	184	76	191	420	70
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	458	2527	234	109	1614	59	82	265	105	217	557	92
Arrive On Green	0.27	0.56	0.56	0.04	0.23	0.23	0.02	0.04	0.04	0.13	0.19	0.19
Sat Flow, veh/h	1688	4505	417	1688	4792	174	1688	2351	936	1688	2891	478
Grp Volume(v), veh/h	78	773	407	87	890	481	65	130	130	191	243	247
Grp Sat Flow(s),veh/h/ln	1688	1612	1697	1688	1612	1741	1688	1683	1604	1688	1683	1686
Q Serve(g_s), s	4.2	16.6	16.6	6.1	31.5	31.5	4.6	9.1	9.6	13.3	16.4	16.6
Cycle Q Clear(g_c), s	4.2	16.6	16.6	6.1	31.5	31.5	4.6	9.1	9.6	13.3	16.4	16.6
Prop In Lane	1.00		0.25	1.00		0.10	1.00		0.58	1.00		0.28
Lane Grp Cap(c), veh/h	458	1809	952	109	1086	586	82	190	181	217	324	325
V/C Ratio(X)	0.17	0.43	0.43	0.80	0.82	0.82	0.79	0.68	0.72	0.88	0.75	0.76
Avail Cap(c_a), veh/h	458	1809	952	183	1156	624	141	393	374	309	561	562
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	15.2	15.2	56.7	43.0	43.0	58.4	55.7	55.9	51.3	45.7	45.8
Incr Delay (d2), s/veh	0.1	0.7	1.4	4.0	5.5	9.7	5.5	1.5	1.8	14.1	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.8	6.3	2.7	13.6	15.4	2.1	4.1	4.2	6.4	6.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	16.0	16.6	60.7	48.5	52.7	63.9	57.1	57.7	65.4	47.0	47.2
LnGrp LOS	C	B	B	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1258			1458			325			681	
Approach Delay, s/veh		17.3			50.6			58.7			52.3	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	72.3	18.5	18.5	37.6	45.4	8.9	28.1				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	13.0	41.0	22.0	28.0	11.0	* 43	10.0	40.0				
Max Q Clear Time (g_c+I1), s	8.1	18.6	15.3	11.6	6.2	33.5	6.6	18.6				
Green Ext Time (p_c), s	0.0	11.3	0.1	1.9	0.0	6.9	0.0	4.3				

Intersection Summary

HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

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



# HCM 6th Signalized Intersection Summary

## 2: Berry Street & Lambert Road































Year 2021 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑		↵	↑↑↑		↵	↑↑		↵	↑↑	
Traffic Volume (veh/h)	26	1013	100	142	1299	102	47	144	73	177	383	28
Future Volume (veh/h)	26	1013	100	142	1299	102	47	144	73	177	383	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	28	1101	109	151	1382	109	64	195	99	239	518	38
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	2003	198	176	2470	195	81	267	130	265	734	54
Arrive On Green	0.01	0.15	0.15	0.10	0.54	0.54	0.05	0.12	0.12	0.16	0.23	0.23
Sat Flow, veh/h	1688	4475	443	1688	4571	361	1688	2194	1069	1688	3181	233
Grp Volume(v), veh/h	28	793	417	151	975	516	64	148	146	239	274	282
Grp Sat Flow(s),veh/h/ln	1688	1612	1692	1688	1612	1707	1688	1683	1580	1688	1683	1730
Q Serve(g_s), s	2.0	27.4	27.4	10.6	23.9	23.9	4.5	10.1	10.8	16.7	17.9	18.0
Cycle Q Clear(g_c), s	2.0	27.4	27.4	10.6	23.9	23.9	4.5	10.1	10.8	16.7	17.9	18.0
Prop In Lane	1.00		0.26	1.00		0.21	1.00		0.68	1.00		0.13
Lane Grp Cap(c), veh/h	34	1444	758	176	1742	922	81	205	193	265	389	399
V/C Ratio(X)	0.82	0.55	0.55	0.86	0.56	0.56	0.79	0.72	0.76	0.90	0.70	0.71
Avail Cap(c_a), veh/h	56	1444	758	211	1742	922	141	352	330	323	534	549
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.41	0.41	0.41	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	39.9	39.9	52.9	18.2	18.2	56.5	50.7	51.0	49.7	42.4	42.4
Incr Delay (d2), s/veh	13.9	1.3	2.4	10.4	0.5	1.0	6.3	1.8	2.3	21.9	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	12.0	12.9	4.9	8.3	8.9	2.0	4.3	4.3	8.5	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	41.2	42.3	63.2	18.7	19.2	62.8	52.5	53.3	71.6	43.5	43.6
LnGrp LOS	E	D	D	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		1238			1642			358			795	
Approach Delay, s/veh		42.3			23.0			54.7			52.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	60.7	21.8	20.9	5.4	71.8	8.7	34.0				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	15.0	36.6	23.0	25.1	4.0	48.6	10.0	38.1				
Max Q Clear Time (g_c+I1), s	12.6	29.4	18.7	12.8	4.0	25.9	6.5	20.0				
Green Ext Time (p_c), s	0.0	5.0	0.1	1.9	0.0	14.5	0.0	4.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				37.4								
HCM 6th LOS				D								

### HCM 6th Signalized Intersection Summary 3: Brea Boulevard & Lambert Road

Year 2021 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	116	1092	263	231	1308	151	220	334	158	129	746	255
Future Volume (veh/h)	116	1092	263	231	1308	151	220	334	158	129	746	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	133	1255	302	269	1521	176	286	434	205	134	777	266
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	1585	492	267	1770	205	337	945	421	141	879	392
Arrive On Green	0.08	0.33	0.33	0.16	0.40	0.40	0.10	0.28	0.28	0.08	0.26	0.26
Sat Flow, veh/h	1688	4837	1502	1688	4397	508	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	133	1255	302	269	1115	582	286	434	205	134	777	266
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1680	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	9.4	28.3	20.3	19.0	37.9	38.0	10.3	12.8	13.6	9.5	26.6	19.1
Cycle Q Clear(g_c), s	9.4	28.3	20.3	19.0	37.9	38.0	10.3	12.8	13.6	9.5	26.6	19.1
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1585	492	267	1299	677	337	945	421	141	879	392
V/C Ratio(X)	0.95	0.79	0.61	1.01	0.86	0.86	0.85	0.46	0.49	0.95	0.88	0.68
Avail Cap(c_a), veh/h	141	1585	492	267	1299	677	355	982	438	141	898	400
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)	0.72	0.72	0.72	0.47	0.47	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	36.6	34.0	50.5	32.7	32.7	52.9	35.6	36.0	54.8	42.6	39.8
Incr Delay (d2), s/veh	48.5	3.0	4.1	39.4	3.7	6.9	15.7	0.5	1.2	61.0	10.6	5.0
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	5.8	11.1	7.8	10.7	14.6	15.8	4.9	5.3	5.1	6.4	12.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.2	39.6	38.0	89.9	36.5	39.7	68.6	36.1	37.2	115.7	53.1	44.8
LnGrp LOS	F	D	D	F	D	D	E	D	D	F	D	D
Approach Vol, veh/h		1690			1966			925			1177	
Approach Delay, s/veh		44.4			44.7			46.4			58.4	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	44.3	14.0	38.7	14.0	53.3	16.4	36.3				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	38.0	10.0	35.0	10.0	47.0	13.0	32.0				
Max Q Clear Time (g_c+I1), s	21.0	30.3	11.5	15.6	11.4	40.0	12.3	28.6				
Green Ext Time (p_c), s	0.0	6.9	0.0	7.3	0.0	6.7	0.0	2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Year 2021 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (veh/h)	7	1086	257	544	1664	492	179	147	214	817	736	4
Future Volume (veh/h)	7	1086	257	544	1664	492	179	147	214	817	736	4
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	8	1263	299	633	1935	572	239	196	285	961	866	5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	15	1323	312	655	2236	1145	292	148	250	982	1019	6
Arrive On Green	0.00	0.27	0.27	0.40	0.92	0.92	0.09	0.08	0.08	0.30	0.30	0.30
Sat Flow, veh/h	3274	4963	1170	3274	4837	1502	3375	1772	3003	3274	3432	20
Grp Volume(v), veh/h	8	1163	399	633	1935	572	239	196	285	961	425	446
Grp Sat Flow(s),veh/h/ln	1637	1524	1561	1637	1612	1502	1688	1772	1502	1637	1683	1768
Q Serve(g_s), s	0.3	30.0	30.2	22.7	18.1	6.4	8.4	10.0	10.0	34.9	28.5	28.5
Cycle Q Clear(g_c), s	0.3	30.0	30.2	22.7	18.1	6.4	8.4	10.0	10.0	34.9	28.5	28.5
Prop In Lane	1.00		0.75	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	15	1219	416	655	2236	1145	292	148	250	982	500	525
V/C Ratio(X)	0.55	0.95	0.96	0.97	0.87	0.50	0.82	1.33	1.14	0.98	0.85	0.85
Avail Cap(c_a), veh/h	55	1219	416	655	2236	1145	309	148	250	982	500	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.23	0.23	0.23	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	43.3	43.3	35.6	3.1	0.6	53.9	55.0	55.0	41.6	39.7	39.7
Incr Delay (d2), s/veh	6.2	10.8	23.7	10.2	1.2	0.4	13.8	186.4	99.5	23.4	12.5	12.0
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	12.1	13.9	7.6	1.6	0.5	4.0	12.0	7.2	16.8	13.1	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	54.1	67.1	45.9	4.3	0.9	67.7	241.4	154.5	65.0	52.2	51.7
LnGrp LOS	E	D	E	D	A	A	E	F	F	E	D	D
Approach Vol, veh/h		1570			3140			720			1832	
Approach Delay, s/veh		57.5			12.1			149.3			58.8	
Approach LOS		E			B			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	28.0	37.0	40.0	15.0	4.5	60.5	14.4	40.6				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	24.0	32.0	36.0	10.0	2.0	54.0	11.0	35.0				
Max Q Clear Time (g_c+I1), s	24.7	32.2	36.9	12.0	2.3	20.1	10.4	30.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	26.6	0.0	2.7				

Intersection Summary

HCM 6th Ctrl Delay	47.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 5: SR-57 SB Ramps & Lambert Road

Year 2021 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1511	550	206	1877	0	0	0	0	957	0	827
Future Volume (veh/h)	0	1511	550	206	1877	0	0	0	0	957	0	827
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1717	566	240	2183	0				1412	0	641
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2033	574	248	2399	0				1448	0	644
Arrive On Green	0.00	0.77	0.77	0.15	0.99	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1717	566	240	2183	0				1412	0	641
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	25.7	43.2	8.7	4.6	0.0				49.3	0.0	51.0
Cycle Q Clear(g_c), s	0.0	25.7	43.2	8.7	4.6	0.0				49.3	0.0	51.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2033	574	248	2399	0				1448	0	644
V/C Ratio(X)	0.00	0.84	0.99	0.97	0.91	0.00				0.97	0.00	0.99
Avail Cap(c_a), veh/h	0	2033	574	248	2399	0				1448	0	644
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.17	0.17	0.35	0.35	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.7	13.8	50.7	0.3	0.0				33.6	0.0	34.1
Incr Delay (d2), s/veh	0.0	0.8	12.4	25.7	2.5	0.0				17.9	0.0	34.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	6.3	4.1	0.7	0.0				23.2	0.0	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.5	26.2	76.5	2.8	0.0				51.5	0.0	68.1
LnGrp LOS	A	B	C	E	A	A				D	A	E
Approach Vol, veh/h		2283			2423						2053	
Approach Delay, s/veh		15.9			10.1						56.7	
Approach LOS		B			B						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.6	50.4		56.0		64.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.1	45.9		51.5		59.5						
Max Q Clear Time (g_c+I1), s	10.7	45.2		53.0		6.6						
Green Ext Time (p_c), s	0.0	0.7		0.0		28.2						

### Intersection Summary

























HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.














HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Year 2021 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	417	2061	0	0	1173	471	890	0	443	0	0	0
Future Volume (veh/h)	417	2061	0	0	1173	471	890	0	443	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	469	2316	0	0	1486	484	1011	0	503			
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	512	2778	0	0	2022	571	1148	0	527			
Arrive On Green	0.31	1.00	0.00	0.00	0.38	0.38	0.35	0.00	0.35			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	469	2316	0	0	1486	484	1011	0	503			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	16.6	0.0	0.0	0.0	28.8	35.4	34.8	0.0	39.2			
Cycle Q Clear(g_c), s	16.6	0.0	0.0	0.0	28.8	35.4	34.8	0.0	39.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	512	2778	0	0	2022	571	1148	0	527			
V/C Ratio(X)	0.92	0.83	0.00	0.00	0.73	0.85	0.88	0.00	0.96			
Avail Cap(c_a), veh/h	532	2778	0	0	2022	571	1159	0	532			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.5	0.0	0.0	0.0	32.0	34.0	36.6	0.0	38.0			
Incr Delay (d2), s/veh	2.6	0.3	0.0	0.0	2.4	14.4	8.0	0.0	27.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	0.1	0.0	0.0	12.2	14.5	15.0	0.0	18.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	0.3	0.0	0.0	34.4	48.4	44.6	0.0	65.9			
LnGrp LOS	D	A	A	A	C	D	D	A	E			
Approach Vol, veh/h		2785			1970			1514				
Approach Delay, s/veh		7.5			37.8			51.7				
Approach LOS		A			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		73.4			23.3	50.2		46.6				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		68.5			19.5	44.5		42.5				
Max Q Clear Time (g_c+I1), s		2.0			18.6	37.4		41.2				
Green Ext Time (p_c), s		35.1			0.2	5.5		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					27.7							
HCM 6th LOS					C							
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
7: Berry Street & Mercury Lane

Year 2021 + Project  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	28	23	315	57	64	544
Future Volume (veh/h)	28	23	315	57	64	544
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	47	39	394	71	76	648
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	129	114	2161	386	786	2549
Arrive On Green	0.08	0.08	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1688	1502	2942	510	928	3455
Grp Volume(v), veh/h	47	39	231	234	76	648
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1680	928	1683
Q Serve(g_s), s	1.6	1.5	2.3	2.4	1.5	3.5
Cycle Q Clear(g_c), s	1.6	1.5	2.3	2.4	3.9	3.5
Prop In Lane	1.00	1.00		0.30	1.00	
Lane Grp Cap(c), veh/h	129	114	1275	1272	786	2549
V/C Ratio(X)	0.37	0.34	0.18	0.18	0.10	0.25
Avail Cap(c_a), veh/h	591	526	1275	1272	786	2549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.55	0.55	0.63	0.63
Uniform Delay (d), s/veh	26.3	26.3	2.1	2.1	2.6	2.2
Incr Delay (d2), s/veh	1.7	1.8	0.2	0.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.2	0.3	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.1	28.0	2.2	2.2	2.8	2.3
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	86		465			724
Approach Delay, s/veh	28.1		2.2			2.4
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		50.4			50.4	9.6
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		4.4			5.9	3.6
Green Ext Time (p_c), s		2.6			4.7	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			4.1			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2021 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	32	53	34	319	79	230	40	502	226	282	932	57
Future Volume (veh/h)	32	53	34	319	79	230	40	502	226	282	932	57
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	39	65	41	431	107	311	48	605	272	297	981	60
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	85	54	498	368	846	67	795	349	1165	2638	161
Arrive On Green	0.04	0.08	0.08	0.15	0.21	0.21	0.05	0.32	0.32	0.36	0.57	0.57
Sat Flow, veh/h	1688	1016	641	3274	1772	1502	1688	3291	1446	3274	4661	285
Grp Volume(v), veh/h	39	0	106	431	107	311	48	593	284	297	678	363
Grp Sat Flow(s),veh/h/ln	1688	0	1657	1637	1772	1502	1688	1612	1512	1637	1612	1721
Q Serve(g_s), s	2.7	0.0	7.5	15.4	6.1	2.2	3.4	19.8	20.4	7.7	13.9	13.9
Cycle Q Clear(g_c), s	2.7	0.0	7.5	15.4	6.1	2.2	3.4	19.8	20.4	7.7	13.9	13.9
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.96	1.00		0.17
Lane Grp Cap(c), veh/h	61	0	139	498	368	846	67	779	365	1165	1826	974
V/C Ratio(X)	0.64	0.00	0.76	0.87	0.29	0.37	0.71	0.76	0.78	0.25	0.37	0.37
Avail Cap(c_a), veh/h	98	0	456	627	724	1148	127	779	365	1165	1826	974
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	0.0	53.8	49.7	40.1	6.4	56.1	37.6	37.8	27.4	14.3	14.3
Incr Delay (d2), s/veh	10.4	0.0	8.5	10.2	0.4	0.3	11.6	6.1	13.4	0.1	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	3.5	7.0	2.7	2.6	1.6	7.9	8.4	3.0	5.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	0.0	62.3	59.9	40.5	6.7	67.7	43.7	51.2	27.5	14.9	15.4
LnGrp LOS	E	A	E	E	D	A	E	D	D	C	B	B
Approach Vol, veh/h		145			849			925			1338	
Approach Delay, s/veh		63.7			38.0			47.3			17.8	
Approach LOS		E			D			D			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	47.7	34.0	23.2	15.0	8.8	72.9	8.4	29.9				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	* 29	23.0	* 33	9.0	37.0	7.0	49.0				
Max Q Clear Time (g_c+I1), s	9.7	22.4	17.4	9.5	5.4	15.9	4.7	8.1				
Green Ext Time (p_c), s	0.6	3.0	0.8	0.5	0.0	7.0	0.0	1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.5								
HCM 6th LOS				C								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
9: Puente Street & Imperial Highway

Year 2021 + Project  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1543	64	77	1532	155	52	124	176	115	82	117
Future Volume (veh/h)	187	1543	64	77	1532	155	52	124	176	115	82	117
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	215	1774	74	83	1647	167	61	146	207	140	100	143
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	2829	118	104	1975	613	292	403	341	222	765	341
Arrive On Green	0.24	0.59	0.59	0.02	0.13	0.13	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1688	4763	198	1688	4837	1502	1137	1772	1502	1028	3367	1502
Grp Volume(v), veh/h	215	1201	647	83	1647	167	61	146	207	140	100	143
Grp Sat Flow(s),veh/h/ln	1688	1612	1736	1688	1612	1502	1137	1772	1502	1028	1683	1502
Q Serve(g_s), s	13.3	28.9	29.0	5.9	39.8	12.0	5.4	8.3	14.8	15.9	2.8	9.8
Cycle Q Clear(g_c), s	13.3	28.9	29.0	5.9	39.8	12.0	8.3	8.3	14.8	24.3	2.8	9.8
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	1916	1031	104	1975	613	292	403	341	222	765	341
V/C Ratio(X)	0.53	0.63	0.63	0.79	0.83	0.27	0.21	0.36	0.61	0.63	0.13	0.42
Avail Cap(c_a), veh/h	404	1916	1031	169	1975	613	355	502	425	280	954	425
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	39.8	15.7	15.8	58.0	47.9	35.9	40.2	39.0	41.5	49.2	36.9	39.6
Incr Delay (d2), s/veh	1.3	1.6	2.9	1.3	0.4	0.1	0.4	0.5	1.7	2.1	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	10.0	11.1	2.6	17.2	4.7	1.5	3.6	5.5	4.1	1.2	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	17.3	18.7	59.3	48.4	36.0	40.6	39.6	43.3	51.3	37.0	40.2
LnGrp LOS	D	B	B	E	D	D	D	D	D	D	D	D
Approach Vol, veh/h		2063			1897			414			383	
Approach Delay, s/veh		20.2			47.7			41.6			43.4	
Approach LOS		C			D			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.3	11.4	76.3		32.3	33.7	54.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	12.0	60.0		34.0	23.0	* 49				
Max Q Clear Time (g_c+I1), s		16.8	7.9	31.0		26.3	15.3	41.8				
Green Ext Time (p_c), s		1.5	0.1	15.2		1.0	0.3	5.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				34.9								
HCM 6th LOS				C								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway




































Year 2021 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑↑		↖	↗	↘
Traffic Volume (veh/h)	162	1783	4	58	1952	292	2	27	30	321	15	180
Future Volume (veh/h)	162	1783	4	58	1952	292	2	27	30	321	15	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	1857	4	68	2296	344	4	47	53	436	0	237
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	2326	5	374	2581	375	7	87	80	309	0	138
Arrive On Green	0.12	0.62	0.62	0.22	0.60	0.60	0.05	0.05	0.05	0.09	0.00	0.09
Sat Flow, veh/h	1688	4984	11	1688	4266	619	138	1627	1502	3375	0	1502
Grp Volume(v), veh/h	169	1202	659	68	1718	922	51	0	53	436	0	237
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1660	1765	0	1502	1688	0	1502
Q Serve(g_s), s	11.0	33.6	33.6	3.9	54.0	59.2	3.4	0.0	4.2	11.0	0.0	11.0
Cycle Q Clear(g_c), s	11.0	33.6	33.6	3.9	54.0	59.2	3.4	0.0	4.2	11.0	0.0	11.0
Prop In Lane	1.00		0.01	1.00		0.37	0.08		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	1505	826	374	1951	1005	94	0	80	309	0	138
V/C Ratio(X)	1.09	0.80	0.80	0.18	0.88	0.92	0.54	0.00	0.66	1.41	0.00	1.72
Avail Cap(c_a), veh/h	155	1505	826	374	1951	1005	412	0	350	309	0	138
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.09	0.09	0.09	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	52.7	18.5	18.5	37.9	20.0	21.1	55.4	0.0	55.7	54.5	0.0	54.5
Incr Delay (d2), s/veh	90.0	3.5	6.1	0.0	0.6	1.7	4.8	0.0	9.0	202.1	0.0	352.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	10.1	11.7	1.6	17.9	20.5	1.6	0.0	1.7	13.3	0.0	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	142.6	22.0	24.7	37.9	20.6	22.8	60.1	0.0	64.7	256.6	0.0	407.4
LnGrp LOS	F	C	C	D	C	C	E	A	E	F	A	F
Approach Vol, veh/h		2030			2708			104			673	
Approach Delay, s/veh		32.9			21.8			62.5			309.7	
Approach LOS		C			C			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.4	31.6	61.0		16.0	15.0	77.6				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		28.0	6.0	* 56		11.0	11.0	51.0				
Max Q Clear Time (g_c+I1), s		6.2	5.9	35.6		13.0	13.0	61.2				
Green Ext Time (p_c), s		0.5	0.0	12.4		0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			61.8									
HCM 6th LOS			E									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	 	
Traffic Volume (veh/h)	178	1602	363	177	1623	86	435	476	164	165	910	201
Future Volume (veh/h)	178	1602	363	177	1623	86	435	476	164	165	910	201
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	185	1669	378	195	1784	95	558	610	210	174	958	212
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1653	513	191	1653	513	518	1733	538	300	982	438
Arrive On Green	0.08	0.45	0.45	0.06	0.34	0.34	0.16	0.36	0.36	0.06	0.20	0.20
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	185	1669	378	195	1784	95	558	610	210	174	958	212
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	6.8	41.0	24.8	7.0	41.0	5.3	19.0	11.1	12.5	6.2	33.9	15.1
Cycle Q Clear(g_c), s	6.8	41.0	24.8	7.0	41.0	5.3	19.0	11.1	12.5	6.2	33.9	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1653	513	191	1653	513	518	1733	538	300	982	438
V/C Ratio(X)	0.97	1.01	0.74	1.02	1.08	0.19	1.08	0.35	0.39	0.58	0.98	0.48
Avail Cap(c_a), veh/h	191	1653	513	191	1653	513	518	1733	538	300	982	438
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.50	0.50	0.50	0.30	0.30	0.30	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	55.2	32.7	28.3	56.5	39.5	27.8	50.5	28.3	28.7	54.1	47.9	40.3
Incr Delay (d2), s/veh	37.7	18.1	4.7	41.1	39.7	0.2	61.7	0.6	2.1	2.3	20.9	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	16.3	8.3	3.9	21.5	1.9	12.0	4.3	4.7	2.7	17.5	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.0	50.8	33.0	97.6	79.2	28.0	112.2	28.8	30.8	56.4	68.8	43.4
LnGrp LOS	F	F	C	F	F	C	F	C	C	E	E	D
Approach Vol, veh/h		2232			2074			1378			1344	
Approach Delay, s/veh		51.3			78.6			62.9			63.2	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	48.0	11.0	46.0	23.0	40.0	11.0	46.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	43.0	7.0	41.0	19.0	35.0	7.0	41.0				
Max Q Clear Time (g_c+I1), s	8.2	14.5	9.0	43.0	21.0	35.9	8.8	43.0				
Green Ext Time (p_c), s	0.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			63.9									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (veh/h)	57	1644	240	484	1805	203	162	178	415	186	544	38
Future Volume (veh/h)	57	1644	240	484	1805	203	162	178	415	186	544	38
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	66	1890	276	526	1962	221	200	220	512	209	611	43
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1759	257	491	2056	738	273	1038	463	218	931	65
Arrive On Green	0.05	0.32	0.32	0.15	0.43	0.43	0.08	0.31	0.31	0.07	0.29	0.29
Sat Flow, veh/h	3274	5412	790	3274	4837	1502	3274	3367	1502	3274	3191	224
Grp Volume(v), veh/h	66	1596	570	526	1962	221	200	220	512	209	322	332
Grp Sat Flow(s),veh/h/ln	1637	1524	1630	1637	1612	1502	1637	1683	1502	1637	1683	1732
Q Serve(g_s), s	2.3	39.0	39.0	18.0	47.1	2.5	7.2	5.8	37.0	7.6	20.1	20.2
Cycle Q Clear(g_c), s	2.3	39.0	39.0	18.0	47.1	2.5	7.2	5.8	37.0	7.6	20.1	20.2
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	164	1486	530	491	2056	738	273	1038	463	218	491	505
V/C Ratio(X)	0.40	1.07	1.08	1.07	0.95	0.30	0.73	0.21	1.11	0.96	0.66	0.66
Avail Cap(c_a), veh/h	164	1486	530	491	2056	738	273	1038	463	218	491	505
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)	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	40.5	40.5	51.0	33.4	18.2	53.7	30.7	41.5	55.8	37.2	37.2
Incr Delay (d2), s/veh	0.5	38.1	45.0	61.0	11.7	1.0	9.7	0.5	73.8	48.8	6.7	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	19.1	21.5	11.3	19.4	3.7	3.3	2.4	22.5	4.6	9.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	78.6	85.5	112.0	45.0	19.2	63.4	31.2	115.3	104.7	43.9	43.8
LnGrp LOS	E	F	F	F	D	B	E	C	F	F	D	D
Approach Vol, veh/h		2232			2709			932			863	
Approach Delay, s/veh		79.7			55.9			84.3			58.6	
Approach LOS		E			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	42.0	22.0	44.0	14.0	40.0	10.0	56.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	8.0	37.0	18.0	39.0	10.0	35.0	6.0	51.0				
Max Q Clear Time (g_c+I1), s	9.6	39.0	20.0	41.0	9.2	22.2	4.3	49.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	3.1	0.0	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				68.1								
HCM 6th LOS				E								

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021 + Project  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (veh/h)	0	1496	1961	0	609	563
Future Volume (veh/h)	0	1496	1961	0	609	563
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1626	2179	0	837	425
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2580	2580	0	1294	576
Arrive On Green	0.00	0.53	0.53	0.00	0.38	0.38
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1626	2179	0	837	425
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	28.4	45.9	0.0	24.4	29.2
Cycle Q Clear(g_c), s	0.0	28.4	45.9	0.0	24.4	29.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2580	2580	0	1294	576
V/C Ratio(X)	0.00	0.63	0.84	0.00	0.65	0.74
Avail Cap(c_a), veh/h	0	2580	2580	0	1294	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	23.8	0.0	30.3	31.8
Incr Delay (d2), s/veh	0.0	1.2	3.6	0.0	2.5	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.1	16.7	0.0	10.3	11.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	20.9	27.4	0.0	32.9	40.1
LnGrp LOS	A	C	C	A	C	D
Approach Vol, veh/h		1626	2179		1262	
Approach Delay, s/veh		20.9	27.4		35.3	
Approach LOS		C	C		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				69.0	51.0	69.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				64.0	46.0	64.0
Max Q Clear Time (g_c+I1), s				30.4	31.2	47.9
Green Ext Time (p_c), s				14.6	4.6	12.6

Intersection Summary

HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021 + Project  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↔	↗			↗↗
Traffic Volume (veh/h)	130	1388	0	0	1025	6	1081	157	817	0	0	57
Future Volume (veh/h)	130	1388	0	0	1025	6	1081	157	817	0	0	57
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	140	1492	0	0	1178	7	1104	637	765	0	0	86
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	164	2096	0	0	1906	11	1631	856	726	0	0	0
Arrive On Green	0.10	0.43	0.00	0.00	0.30	0.30	0.48	0.48	0.48	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6547	37	3375	1772	1502			0
Grp Volume(v), veh/h	140	1492	0	0	855	330	1104	637	765			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1765	1688	1772	1502			
Q Serve(g_s), s	9.8	30.3	0.0	0.0	19.2	19.3	30.1	34.8	58.0			
Cycle Q Clear(g_c), s	9.8	30.3	0.0	0.0	19.2	19.3	30.1	34.8	58.0			
Prop In Lane	1.00		0.00	0.00		0.02	1.00		1.00			
Lane Grp Cap(c), veh/h	164	2096	0	0	1383	534	1631	856	726			
V/C Ratio(X)	0.85	0.71	0.00	0.00	0.62	0.62	0.68	0.74	1.05			
Avail Cap(c_a), veh/h	169	2096	0	0	1383	534	1631	856	726			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	53.3	27.9	0.0	0.0	35.9	35.9	23.8	25.0	31.0			
Incr Delay (d2), s/veh	31.3	2.1	0.0	0.0	2.1	5.3	2.3	5.8	48.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	11.4	0.0	0.0	7.2	8.8	12.3	15.6	29.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	29.9	0.0	0.0	38.0	41.2	26.1	30.8	79.5			
LnGrp LOS	F	C	A	A	D	D	C	C	F			
Approach Vol, veh/h		1632			1185			2506				
Approach Delay, s/veh		34.6			38.9			43.6				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		63.0		57.0			15.7	41.3				
Change Period (Y+Rc), s		5.0		5.0			4.0	5.0				
Max Green Setting (Gmax), s		58.0		41.0			12.0	25.0				
Max Q Clear Time (g_c+I1), s		60.0		32.3			11.8	21.3				
Green Ext Time (p_c), s		0.0		5.7			0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	69	961	89	79	1204	44	58	164	68	172	378	63
Future Volume (vph)	69	961	89	79	1204	44	58	164	68	172	378	63
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.987			0.995			0.956			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4755	0	1676	4794	0	1676	3205	0	1676	3283	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4755	0	1676	4794	0	1676	3205	0	1676	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			5			49			17	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.89	0.89	0.89	0.90	0.90	0.90
Adj. Flow (vph)	78	1080	100	87	1323	48	65	184	76	191	420	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1180	0	87	1371	0	65	260	0	191	490	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	14.0	46.0		16.0	48.0		13.0	33.0		25.0	45.0	
Total Split (%)	11.7%	38.3%		13.3%	40.0%		10.8%	27.5%		20.8%	37.5%	
Maximum Green (s)	11.0	41.0		13.0	43.0		10.0	28.0		22.0	40.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	9.1	60.5		10.2	63.2		8.3	16.0		17.4	26.7	
Actuated g/C Ratio	0.08	0.50		0.08	0.53		0.07	0.13		0.14	0.22	
v/c Ratio	0.61	0.49		0.62	0.54		0.57	0.56		0.79	0.66	
Control Delay	73.6	22.5		59.4	10.4		73.7	31.2		71.1	44.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	73.6	22.5		59.4	10.4		73.7	31.2		71.1	44.9	
LOS	E	C		E	B		E	C		E	D	
Approach Delay		25.7			13.3			39.7			52.2	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	59	206		51	278		42	69		144	184	
Queue Length 95th (ft)	110	337		m96	447		m79	97		218	200	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	153	2402		181	2527		139	785		307	1105	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.49		0.48	0.54		0.47	0.33		0.62	0.44	

Intersection Summary

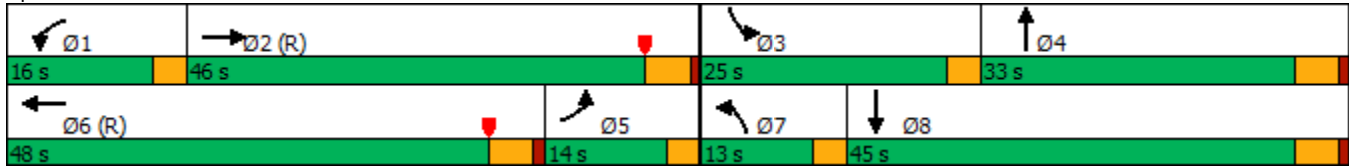
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 93 (78%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2021 + Project  
 AM Peak Hour

Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 26.9	Intersection LOS: C
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road





Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	26	1013	100	142	1299	102	47	144	73	177	383	28
Future Volume (vph)	26	1013	100	142	1299	102	47	144	73	177	383	28
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.986			0.989			0.949			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4750	0	1676	4765	0	1676	3182	0	1676	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4750	0	1676	4765	0	1676	3182	0	1676	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			13			67			7	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	28	1101	109	151	1382	109	64	195	99	239	518	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1210	0	151	1491	0	64	294	0	239	556	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	7.0	43.6		19.0	55.6		13.0	31.4		26.0	44.4	
Total Split (%)	5.8%	36.3%		15.8%	46.3%		10.8%	26.2%		21.7%	37.0%	
Maximum Green (s)	4.0	36.6		15.0	48.6		10.0	25.1		23.0	38.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.7	50.4		14.3	63.1		8.3	14.9		20.1	28.4	
Actuated g/C Ratio	0.05	0.42		0.12	0.53		0.07	0.12		0.17	0.24	
v/c Ratio	0.35	0.60		0.76	0.59		0.56	0.65		0.85	0.70	
Control Delay	83.3	23.4		74.2	9.6		59.5	42.2		74.5	46.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	83.3	23.4		74.2	9.6		59.5	42.2		74.5	46.2	
LOS	F	C		E	A		E	D		E	D	
Approach Delay		24.7			15.5			45.3			54.7	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	16	288		96	165		47	100		178	212	
Queue Length 95th (ft)	m46	403		m123	m424		59	114		212	187	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	79	2001		219	2513		139	718		321	1058	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.35	0.60		0.69	0.59		0.46	0.41		0.74	0.53	

Intersection Summary

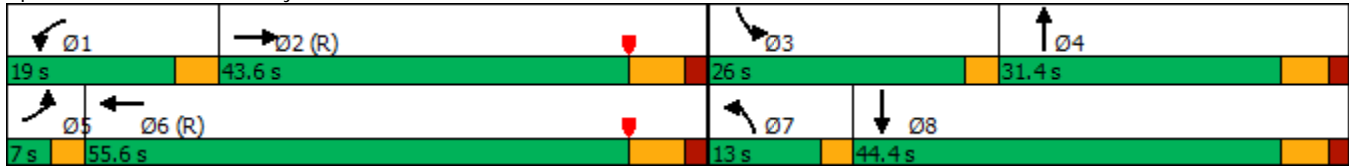
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 35.6 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2021 + Project  
 AM Peak Hour
























Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 28.7	Intersection LOS: C
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road



Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	1092	263	231	1308	151	220	334	158	129	746	255
Future Volume (vph)	116	1092	263	231	1308	151	220	334	158	129	746	255
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.984				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233		19				205			181
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		3309			3979			1995			706	
Travel Time (s)		50.1			60.3			38.9			13.8	
Peak Hour Factor	0.87	0.87	0.87	0.86	0.86	0.86	0.77	0.77	0.77	0.96	0.96	0.96
Adj. Flow (vph)	133	1255	302	269	1521	176	286	434	205	134	777	266
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	1255	302	269	1697	0	286	434	205	134	777	266
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3		8
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	14.0	43.0	43.0	23.0	52.0		17.0	40.0	40.0	14.0	37.0	37.0
Total Split (%)	11.7%	35.8%	35.8%	19.2%	43.3%		14.2%	33.3%	33.3%	11.7%	30.8%	30.8%
Maximum Green (s)	10.0	38.0	38.0	19.0	47.0		13.0	35.0	35.0	10.0	32.0	32.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	10.2	38.0	38.0	19.2	47.0		12.6	34.8	34.8	10.0	32.2	32.2
Actuated g/C Ratio	0.08	0.32	0.32	0.16	0.39		0.10	0.29	0.29	0.08	0.27	0.27
v/c Ratio	0.94	0.82	0.48	1.00	0.91		0.84	0.45	0.35	0.96	0.86	0.50
Control Delay	122.4	32.4	5.8	99.1	20.9		65.3	26.8	5.0	122.6	53.1	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.4	32.4	5.8	99.1	20.9		65.3	26.8	5.0	122.6	53.1	15.7
LOS	F	C	A	F	C		E	C	A	F	D	B
Approach Delay		34.7			31.6			33.9			52.5	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	110	349	30	~194	401		86	157	45	105	303	51
Queue Length 95th (ft)	m#219	194	16	m#311	279		130	103	0	#232	#405	135
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	142	1525	634	268	1868		352	977	582	139	900	534
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.82	0.48	1.00	0.91		0.81	0.44	0.35	0.96	0.86	0.50

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

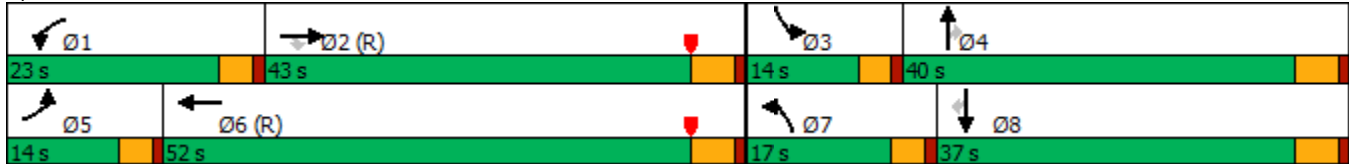
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2021 + Project  
 AM Peak Hour

Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 37.2	Intersection LOS: D
Intersection Capacity Utilization 80.4%	ICU Level of Service D
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1086	257	544	1664	492	179	147	214	817	736	4
Future Volume (vph)	7	1086	257	544	1664	492	179	147	214	817	736	4
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.971				0.850		0.939	0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5895	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5895	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						137		93	164			
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.75	0.75	0.75	0.85	0.85	0.85
Adj. Flow (vph)	8	1263	299	633	1935	572	239	196	285	961	866	5
Shared Lane Traffic (%)									47%			
Lane Group Flow (vph)	8	1562	0	633	1935	572	239	330	151	961	871	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1		3
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20		240
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	37.0		28.0	59.0	40.0	15.0	15.0	15.0	40.0	40.0	
Total Split (%)	5.0%	30.8%		23.3%	49.2%	33.3%	12.5%	12.5%	12.5%	33.3%	33.3%	
Maximum Green (s)	2.0	32.0		24.0	54.0	36.0	11.0	10.0	10.0	36.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	32.0		24.0	58.8	99.8	10.7	10.0	10.0	36.0	35.3	
Actuated g/C Ratio	0.02	0.27		0.20	0.49	0.83	0.09	0.08	0.08	0.30	0.29	
v/c Ratio	0.15	0.99		0.97	0.82	0.45	0.82	0.98	0.57	0.99	0.88	
Control Delay	78.7	37.9		74.6	24.7	1.5	76.4	84.5	15.4	67.6	52.4	
Queue Delay	0.0	38.0		0.0	5.0	0.8	0.0	1.3	0.2	0.0	0.0	
Total Delay	78.7	76.0		74.6	29.7	2.3	76.4	85.8	15.6	67.6	52.4	
LOS	E	E		E	C	A	E	F	B	E	D	
Approach Delay		76.0			33.8			68.0			60.4	
Approach LOS		E			C			E			E	
Queue Length 50th (ft)	3	345		264	327	27	94	103	0	380	340	
Queue Length 95th (ft)	m5	m#386		m#292	m413	m44	114	#141	26	#470	392	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1572		650	2361	1270	298	336	264	975	985	
Starvation Cap Reductn	0	0		0	366	387	0	0	0	0	0	
Spillback Cap Reductn	0	234		0	0	0	0	2	6	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	1.17		0.97	0.97	0.65	0.80	0.99	0.59	0.99	0.88	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 24 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated

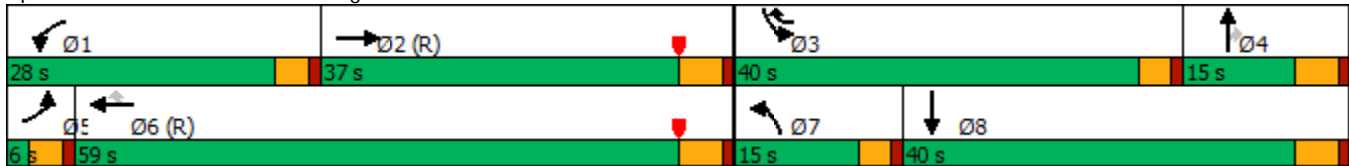


Lanes, Volumes, Timings  
**4: State College Boulevard & Lambert Road**

Year 2021 + Project  
 AM Peak Hour

Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 53.0	Intersection LOS: D
Intersection Capacity Utilization 85.5%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1511	550	206	1877	0	0	0	0	957	0	827
Future Volume (vph)	0	1511	550	206	1877	0	0	0	0	957	0	827
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.991	0.850								0.934	0.850
Flt Protected				0.950						0.950	0.973	
Satd. Flow (prot)	0	4512	1290	3252	4818	0	0	0	0	1593	1459	1425
Flt Permitted				0.950						0.950	0.973	
Satd. Flow (perm)	0	4512	1290	3252	4818	0	0	0	0	1593	1459	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9	462								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95	0.86	0.86	0.86
Adj. Flow (vph)	0	1660	604	240	2183	0	0	0	0	1113	0	962
Shared Lane Traffic (%)			17%							35%		32%
Lane Group Flow (vph)	0	1763	501	240	2183	0	0	0	0	723	698	654
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		50.4	50.4	13.6	64.0					56.0	56.0	56.0
Total Split (%)		42.0%	42.0%	11.3%	53.3%					46.7%	46.7%	46.7%
Maximum Green (s)		45.9	45.9	9.1	59.5					51.5	51.5	51.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		45.9	45.9	9.1	59.5					51.5	51.5	51.5
Actuated g/C Ratio		0.38	0.38	0.08	0.50					0.43	0.43	0.43
v/c Ratio		1.02	0.64	0.98	0.91					1.06	1.06	1.02
Control Delay		48.1	6.3	85.4	27.1					85.0	84.3	72.1
Queue Delay		19.8	1.0	0.0	5.6					0.0	1.2	0.9
Total Delay		67.9	7.3	85.4	32.7					85.0	85.6	73.1
LOS		E	A	F	C					F	F	E
Approach Delay		54.5			37.9						81.4	
Approach LOS		D			D						F	
Queue Length 50th (ft)		-406	63	95	298					-646	-626	-536
Queue Length 95th (ft)		m#559	m65	m#124	383					#828	#819	#720
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1731	778	246	2388					683	657	642
Starvation Cap Reductn		86	100	0	134					0	0	0
Spillback Cap Reductn		11	0	0	176					0	2	2
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.07	0.74	0.98	0.99					1.06	1.07	1.02

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	28.9 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.06
Intersection Signal Delay:	56.8
Intersection LOS:	E
Intersection Capacity Utilization:	89.4%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road

→ Ø2 (R)	↙ Ø1	↕ Ø4
50.4 s	13.6 s	56 s
← Ø5 (R)		
64 s		

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	417	2061	0	0	1173	471	890	0	443	0	0	0
Future Volume (vph)	417	2061	0	0	1173	471	890	0	443	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.988	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13	432			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.88	0.88	0.88	0.95	0.95	0.95
Adj. Flow (vph)	469	2316	0	0	1380	554	1011	0	503	0	0	0
Shared Lane Traffic (%)						22%						
Lane Group Flow (vph)	469	2316	0	0	1502	432	1011	0	503	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	24.0	73.0			49.0	49.0	47.0		47.0			
Total Split (%)	20.0%	60.8%			40.8%	40.8%	39.2%		39.2%			
Maximum Green (s)	19.5	68.5			44.5	44.5	42.5		42.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lead				Lag				Lag			
Lead-Lag Optimize?	Yes				Yes				Yes			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	19.4	69.8			45.9	45.9	41.2		41.2			
Actuated g/C Ratio	0.16	0.58			0.38	0.38	0.34		0.34			
v/c Ratio	0.89	0.83			0.87	0.57	0.91		0.91			
Control Delay	59.0	8.3			40.9	5.7	49.9		56.1			
Queue Delay	0.0	1.1			1.3	0.0	0.0		0.0			
Total Delay	59.0	9.4			42.2	5.7	49.9		56.1			
LOS	E	A			D	A	D		E			
Approach Delay		17.7			34.1			51.9				
Approach LOS		B			C			D				
Queue Length 50th (ft)	188	274			417	0	375		331			
Queue Length 95th (ft)	m181	m258			448	56	450		#514			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	533	2803			1729	760	1151		566			
Starvation Cap Reductn	0	251			0	0	0		0			
Spillback Cap Reductn	0	0			91	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.88	0.91			0.92	0.57	0.88		0.89			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 37.5 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 31.1  
 Intersection Capacity Utilization 89.4%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.














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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021 + Project  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	28	23	315	57	64	544
Future Volume (vph)	28	23	315	57	64	544
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.977			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3276	0	1676	3353
Flt Permitted	0.950				0.485	
Satd. Flow (perm)	1676	1500	3276	0	856	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39	47			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.59	0.59	0.80	0.80	0.84	0.84
Adj. Flow (vph)	47	39	394	71	76	648
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	39	465	0	76	648
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021 + Project  
AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	8.8	8.8	47.6		47.6	47.6
Actuated g/C Ratio	0.15	0.15	0.79		0.79	0.79
v/c Ratio	0.19	0.15	0.18		0.11	0.24
Control Delay	22.2	8.5	2.5		2.4	2.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	22.2	8.5	2.5		2.4	2.0
LOS	C	A	A		A	A
Approach Delay	16.0		2.5			2.0
Approach LOS	B		A			A
Queue Length 50th (ft)	16	0	32		3	18
Queue Length 95th (ft)	21	8	m48		m14	47
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	550	2607		679	2659
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.08	0.07	0.18		0.11	0.24

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 47 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.24  
 Intersection Signal Delay: 3.1  
 Intersection LOS: A  
 Intersection Capacity Utilization 33.6%  
 ICU Level of Service A  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	53	34	319	79	230	40	502	226	282	932	57
Future Volume (vph)	32	53	34	319	79	230	40	502	226	282	932	57
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.942				0.850		0.953			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1662	0	3252	1765	1500	1676	4591	0	3252	4774	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1662	0	3252	1765	1500	1676	4591	0	3252	4774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26				129		89			8	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.82	0.82	0.82	0.74	0.74	0.74	0.83	0.83	0.83	0.95	0.95	0.95
Adj. Flow (vph)	39	65	41	431	107	311	48	605	272	297	981	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	106	0	431	107	311	48	877	0	297	1041	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021 + Project  
AM Peak Hour

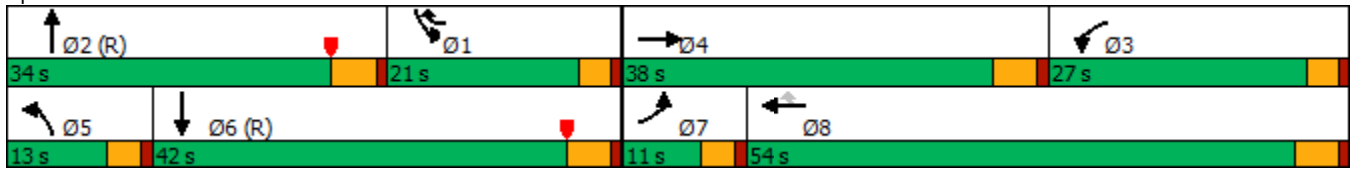


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	11.0	38.0		27.0	54.0	21.0	13.0	34.0		21.0	42.0	
Total Split (%)	9.2%	31.7%		22.5%	45.0%	17.5%	10.8%	28.3%		17.5%	35.0%	
Maximum Green (s)	7.0	33.0		23.0	49.0	17.0	9.0	29.0		17.0	37.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effect Green (s)	6.8	14.5		20.4	32.3	51.9	8.3	50.1		17.0	60.8	
Actuated g/C Ratio	0.06	0.12		0.17	0.27	0.43	0.07	0.42		0.14	0.51	
v/c Ratio	0.41	0.47		0.78	0.23	0.43	0.42	0.45		0.65	0.43	
Control Delay	68.1	41.2		58.0	33.7	11.1	66.3	7.0		39.7	10.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.1	41.2		58.0	33.7	11.1	66.3	7.0		39.7	10.9	
LOS	E	D		E	C	B	E	A		D	B	
Approach Delay		48.4			37.8			10.1			17.3	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	30	60		165	70	82	34	16		112	50	
Queue Length 95th (ft)	61	84		173	73	57	m48	m242		m136	m286	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	97	475		624	720	721	128	1968		460	2423	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.40	0.22		0.69	0.15	0.43	0.38	0.45		0.65	0.43	

Intersection Summary
























Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 22.0 Intersection LOS: C  
 Intersection Capacity Utilization 53.3% ICU Level of Service A  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1543	64	77	1532	155	52	124	176	115	82	117
Future Volume (vph)	187	1543	64	77	1532	155	52	124	176	115	82	117
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4789	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.689			0.552		
Satd. Flow (perm)	1676	4789	0	1676	4818	1500	1216	1765	1500	974	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				167			202			143
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		713			2627			1029			2657	
Travel Time (s)		10.8			39.8			17.5			45.3	
Peak Hour Factor	0.87	0.87	0.87	0.93	0.93	0.93	0.85	0.85	0.85	0.82	0.82	0.82
Adj. Flow (vph)	215	1774	74	83	1647	167	61	146	207	140	100	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	215	1848	0	83	1647	167	61	146	207	140	100	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
 9: Puente Street & Imperial Highway

Year 2021 + Project  
 AM Peak Hour

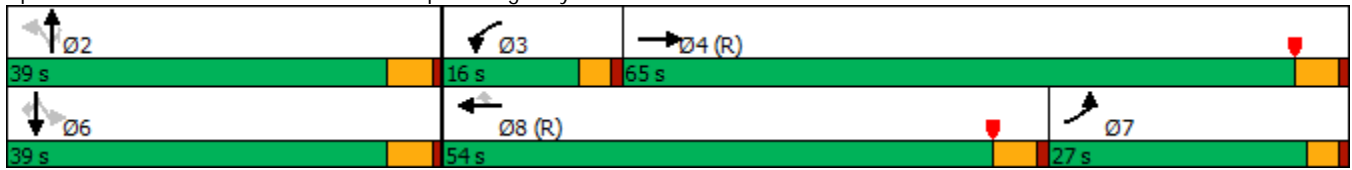


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	27.0	65.0		16.0	54.0	54.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	22.5%	54.2%		13.3%	45.0%	45.0%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	23.0	60.0		12.0	49.0	49.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effect Green (s)	23.0	76.0		10.5	61.3	61.3	21.7	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.19	0.63		0.09	0.51	0.51	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.67	0.61		0.57	0.67	0.20	0.28	0.46	0.47	0.80	0.17	0.37
Control Delay	56.4	16.6		73.5	3.6	0.1	42.6	46.7	9.1	68.9	33.4	19.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	16.6		73.5	3.6	0.1	42.6	46.7	9.1	68.9	33.4	19.0
LOS	E	B		E	A	A	D	D	A	E	C	B
Approach Delay		20.7			6.3			27.3			41.0	
Approach LOS		C			A			C			D	
Queue Length 50th (ft)	156	305		65	35	0	42	103	3	112	38	63
Queue Length 95th (ft)	233	448		m45	m60	m0	68	138	49	158	53	79
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	321	3035		170	2462	848	344	500	569	275	950	527
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.61		0.49	0.67	0.20	0.18	0.29	0.36	0.51	0.11	0.27

**Intersection Summary**

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 56 (47%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 17.2  
 Intersection LOS: B  
 Intersection Capacity Utilization 71.6%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 9: Puente Street & Imperial Highway





Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	1783	4	58	1952	292	2	27	30	321	15	180
Future Volume (vph)	162	1783	4	58	1952	292	2	27	30	321	15	180
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.980			0.924				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (prot)	1676	4818	0	1676	4721	0	0	3092	0	1593	1603	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (perm)	1676	4818	0	1676	4721	0	0	3092	0	1593	1603	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			53				237
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2627			2079			349			889	
Travel Time (s)		39.8			31.5			5.9			15.2	
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Adj. Flow (vph)	169	1857	4	68	2296	344	4	47	53	422	20	237
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	169	1861	0	68	2640	0	0	104	0	219	223	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	15.0	61.0		10.0	56.0		33.0	33.0		16.0	16.0	16.0
Total Split (%)	12.5%	50.8%		8.3%	46.7%		27.5%	27.5%		13.3%	13.3%	13.3%
Maximum Green (s)	11.0	56.0		6.0	51.0		28.0	28.0		11.0	11.0	11.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				20.0	21.0		21.0	21.0				
Pedestrian Calls (#/hr)				2	2		2	2				
Act Effct Green (s)	11.5	56.5		6.0	51.0		11.2	11.2		27.2	27.2	27.2
Actuated g/C Ratio	0.10	0.47		0.05	0.42		0.09	0.09		0.23	0.23	0.23
v/c Ratio	1.06	0.82		0.82	1.30		0.31	0.31		0.61	0.61	0.45
Control Delay	129.9	21.2		80.9	170.2		26.8	26.8		53.7	54.0	23.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	129.9	21.2		80.9	170.2		26.8	26.8		53.7	54.0	23.0
LOS	F	C		F	F		C	C		D	D	C
Approach Delay		30.3			167.9		26.8	26.8			43.1	
Approach LOS		C			F		C	C			D	
Queue Length 50th (ft)	119	449		49	-935		20	20		176	180	92
Queue Length 95th (ft)	#288	342		m51	m#831		18	18		#338	#345	102
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	160	2269		83	2023		762	762		361	363	523
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.06	0.82		0.82	1.30		0.14	0.14		0.61	0.61	0.45

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	3 (3%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	99.3
Intersection LOS:	F
Intersection Capacity Utilization:	84.3%
ICU Level of Service:	E
Analysis Period (min):	15

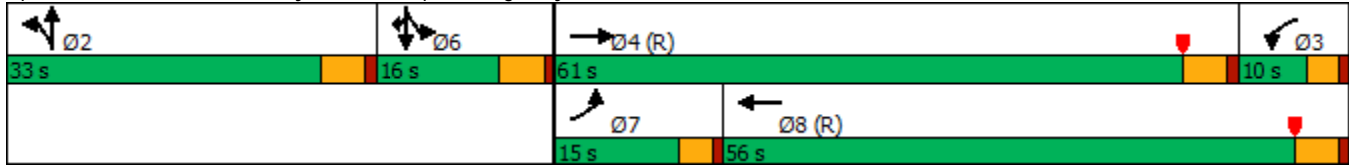
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2021 + Project  
 AM Peak Hour





































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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	  		 	 	
Traffic Volume (vph)	178	1602	363	177	1623	86	435	476	164	165	910	201
Future Volume (vph)	178	1602	363	177	1623	86	435	476	164	165	910	201
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			136			147			136
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Adj. Flow (vph)	185	1669	378	195	1784	95	558	610	210	174	958	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	1669	378	195	1784	95	558	610	210	174	958	212
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	23.0	48.0	48.0	15.0	40.0	40.0
Total Split (%)	9.2%	38.3%	38.3%	9.2%	38.3%	38.3%	19.2%	40.0%	40.0%	12.5%	33.3%	33.3%
Maximum Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Actuated g/C Ratio	0.06	0.34	0.34	0.06	0.34	0.34	0.16	0.36	0.36	0.09	0.29	0.29
v/c Ratio	0.98	1.01	0.61	1.03	1.08	0.16	1.09	0.35	0.33	0.58	0.98	0.40
Control Delay	87.2	49.9	14.3	84.0	67.8	2.3	112.2	29.0	10.6	53.4	69.0	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.2	49.9	14.3	84.0	67.8	2.3	112.2	29.0	10.6	53.4	69.0	21.6
LOS	F	D	B	F	E	A	F	C	B	D	E	C
Approach Delay		47.0			66.3			59.9			59.5	
Approach LOS		D			E			E			E	
Queue Length 50th (ft)	74	-369	53	-76	-547	4	-249	126	32	67	323	39
Queue Length 95th (ft)	m#115	#585	m121	m#99	m#639	m7	#285	135	64	m89	#547	m141
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	189	1646	623	189	1646	602	514	1726	631	298	977	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	1.01	0.61	1.03	1.08	0.16	1.09	0.35	0.33	0.58	0.98	0.40

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 9 (8%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 57.6  
 Intersection LOS: E  
 Intersection Capacity Utilization 93.1%  
 ICU Level of Service F  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
 AM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway

↑ Ø2 48 s	↘ Ø1 15 s	→ Ø4 (R) 46 s	↙ Ø3 11 s
↓ Ø6 40 s	↖ Ø5 23 s	← Ø8 (R) 46 s	↗ Ø7 11 s

Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	1644	240	484	1805	203	162	178	415	186	544	38
Future Volume (vph)	57	1644	240	484	1805	203	162	178	415	186	544	38
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.981				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				217			239			6
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Adj. Flow (vph)	66	1890	276	526	1962	221	200	220	512	209	611	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	2166	0	526	1962	221	200	220	512	209	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	44.0		22.0	56.0	12.0	14.0	42.0	42.0	12.0	40.0	
Total Split (%)	8.3%	36.7%		18.3%	46.7%	10.0%	11.7%	35.0%	35.0%	10.0%	33.3%	
Maximum Green (s)	6.0	39.0		18.0	51.0	8.0	10.0	37.0	37.0	8.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	39.0		18.0	53.0	66.0	10.0	37.0	37.0	8.0	35.0	
Actuated g/C Ratio	0.05	0.32		0.15	0.44	0.55	0.08	0.31	0.31	0.07	0.29	
v/c Ratio	0.41	1.11		1.08	0.92	0.24	0.74	0.21	0.82	0.97	0.67	
Control Delay	47.9	68.0		93.0	24.6	0.7	70.5	31.4	31.8	109.5	41.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.9	68.0		93.0	24.6	0.7	70.5	31.4	31.8	109.5	41.2	
LOS	D	E		F	C	A	E	C	C	F	D	
Approach Delay		67.4			35.9			40.0			57.7	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	27	~530		~238	414	0	79	66	207	84	232	
Queue Length 95th (ft)	m32	m#529		m#322	#641	m7	107	88	281	#160	295	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1956		487	2127	922	271	1033	627	216	972	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	1.11		1.08	0.92	0.24	0.74	0.21	0.82	0.97	0.67	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 71 (59%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.11  
 Intersection Signal Delay: 49.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.1%  
 ICU Level of Service D  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.



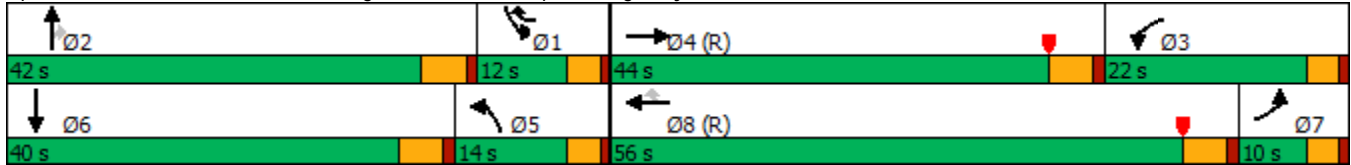
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021 + Project  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↘↘↘	↗
Traffic Volume (vph)	0	1496	1961	0	609	563
Future Volume (vph)	0	1496	1961	0	609	563
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.964	0.850
Flt Protected					0.963	
Satd. Flow (prot)	0	4818	4818	0	3178	1365
Flt Permitted					0.963	
Satd. Flow (perm)	0	4818	4818	0	3178	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					4	4
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.92	0.92
Adj. Flow (vph)	0	1626	2179	0	662	612
Shared Lane Traffic (%)						34%
Lane Group Flow (vph)	0	1626	2179	0	870	404
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021 + Project  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		69.0	69.0		51.0	51.0
Total Split (%)		57.5%	57.5%		42.5%	42.5%
Maximum Green (s)		64.0	64.0		46.0	46.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		64.0	64.0		46.0	46.0
Actuated g/C Ratio		0.53	0.53		0.38	0.38
v/c Ratio		0.63	0.85		0.71	0.77
Control Delay		3.5	21.6		35.2	43.5
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		3.5	21.6		35.2	43.5
LOS		A	C		D	D
Approach Delay		3.5	21.6		37.8	
Approach LOS		A	C		D	
Queue Length 50th (ft)		72	501		290	294
Queue Length 95th (ft)		m62	m553		365	#443
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2569	2569		1220	525
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.63	0.85		0.71	0.77

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 83 (69%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 19.9  
 Intersection Capacity Utilization 111.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

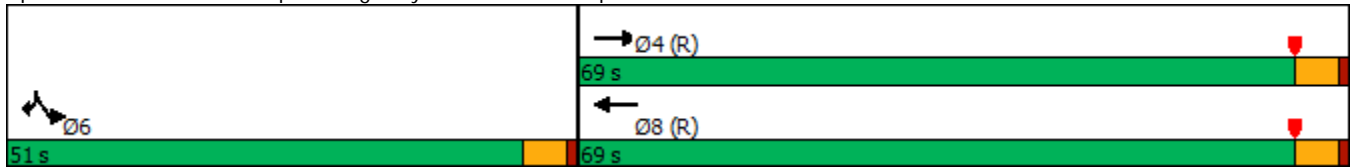
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021 + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1388	0	0	1025	6	1081	157	817	0	0	57
Future Volume (vph)	130	1388	0	0	1025	6	1081	157	817	0	0	57
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.999			0.921	0.850			0.850
Flt Protected	0.950						0.950	0.990				
Satd. Flow (prot)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Flt Permitted	0.950						0.950	0.990				
Satd. Flow (perm)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			64	154			275
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.66	0.66	0.66
Adj. Flow (vph)	140	1492	0	0	1178	7	1287	187	973	0	0	86
Shared Lane Traffic (%)							10%		36%			
Lane Group Flow (vph)	140	1492	0	0	1185	0	1158	666	623	0	0	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Year 2021 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	16.0	46.0			30.0		63.0	63.0	63.0			11.0
Total Split (%)	13.3%	38.3%			25.0%		52.5%	52.5%	52.5%			9.2%
Maximum Green (s)	12.0	41.0			25.0		58.0	58.0	58.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lead				Lag		Lead	Lead	Lead			Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	11.8	43.2			27.4		58.0	58.0	58.0			6.0
Actuated g/C Ratio	0.10	0.36			0.23		0.48	0.48	0.48			0.05
v/c Ratio	0.85	0.86			0.85		0.79	0.95	0.81			0.22
Control Delay	77.8	34.5			52.1		30.6	51.2	29.4			1.3
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	77.8	34.5			52.1		30.6	51.2	29.4			1.3
LOS	E	C			D		C	D	C			A
Approach Delay		38.2			52.1			35.9				1.3
Approach LOS		D			D			D				A
Queue Length 50th (ft)	106	397			264		399	518	329			0
Queue Length 95th (ft)	m#213	#481			#313		441	#726	444			0
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	167	1734			1386		1474	702	768			393
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.84	0.86			0.85		0.79	0.95	0.81			0.22

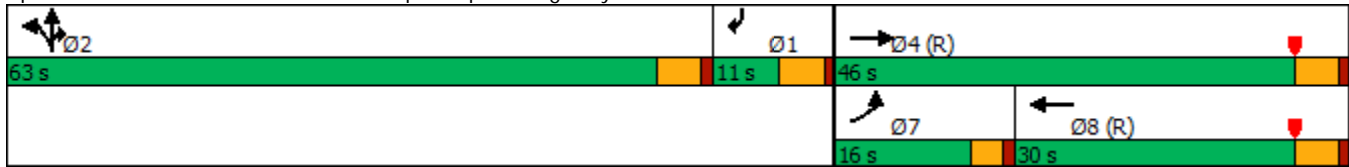
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 11 (9%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 39.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 72.2%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖	↑↑		↗	↑↑	
Traffic Volume (veh/h)	53	1207	56	87	1541	157	129	334	126	115	213	94
Future Volume (veh/h)	53	1207	56	87	1541	157	129	334	126	115	213	94
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	58	1326	62	91	1605	164	163	423	159	151	280	124
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	2288	107	113	1844	188	238	510	190	176	364	157
Arrive On Green	0.12	0.48	0.48	0.07	0.41	0.41	0.05	0.07	0.07	0.10	0.16	0.16
Sat Flow, veh/h	1688	4736	221	1688	4460	455	1688	2401	893	1688	2289	988
Grp Volume(v), veh/h	58	903	485	91	1160	609	163	295	287	151	204	200
Grp Sat Flow(s),veh/h/ln	1688	1612	1732	1688	1612	1690	1688	1683	1611	1688	1683	1594
Q Serve(g_s), s	3.8	24.1	24.1	6.4	39.5	39.7	11.4	20.8	21.1	10.6	13.9	14.5
Cycle Q Clear(g_c), s	3.8	24.1	24.1	6.4	39.5	39.7	11.4	20.8	21.1	10.6	13.9	14.5
Prop In Lane	1.00		0.13	1.00		0.27	1.00		0.55	1.00		0.62
Lane Grp Cap(c), veh/h	202	1558	837	113	1333	699	238	357	342	176	267	253
V/C Ratio(X)	0.29	0.58	0.58	0.81	0.87	0.87	0.68	0.83	0.84	0.86	0.76	0.79
Avail Cap(c_a), veh/h	202	1558	837	183	1371	718	239	407	389	225	393	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	22.3	22.3	55.2	32.2	32.3	54.6	53.6	53.8	52.8	48.3	48.5
Incr Delay (d2), s/veh	0.3	1.6	2.9	2.8	4.5	8.3	6.0	9.8	11.3	18.6	2.4	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.9	9.9	2.7	15.3	16.8	5.5	10.3	10.2	5.3	5.9	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	23.9	25.2	58.0	36.8	40.6	60.6	63.4	65.1	71.5	50.7	52.4
LnGrp LOS	D	C	C	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1446			1860			745			555	
Approach Delay, s/veh		25.3			39.0			63.4			57.0	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	63.0	15.5	30.5	19.4	54.6	22.0	24.1				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	5.0	* 5				
Max Green Setting (Gmax), s	13.0	46.0	16.0	29.0	8.0	* 51	17.0	* 28				
Max Q Clear Time (g_c+I1), s	8.4	26.1	12.6	23.1	5.8	41.7	13.4	16.5				
Green Ext Time (p_c), s	0.0	12.3	0.1	2.4	0.0	7.9	0.1	2.6				

Intersection Summary

HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

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



# HCM 6th Signalized Intersection Summary

## 2: Berry Street & Lambert Road































Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑		↵	↑↑↑		↵	↑↑		↵	↑↑	
Traffic Volume (veh/h)	34	1366	67	47	1600	125	127	352	115	162	276	59
Future Volume (veh/h)	34	1366	67	47	1600	125	127	352	115	162	276	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	39	1552	76	49	1684	132	135	374	122	186	317	68
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	2333	114	62	2332	183	158	438	141	212	572	121
Arrive On Green	0.02	0.33	0.33	0.04	0.51	0.51	0.19	0.35	0.35	0.13	0.21	0.21
Sat Flow, veh/h	1688	4724	231	1688	4574	358	1688	2504	806	1688	2765	585
Grp Volume(v), veh/h	39	1059	569	49	1186	630	135	250	246	186	191	194
Grp Sat Flow(s),veh/h/ln	1688	1612	1730	1688	1612	1707	1688	1683	1627	1688	1683	1667
Q Serve(g_s), s	2.8	33.8	33.8	3.5	34.2	34.4	9.3	16.5	16.9	13.0	12.2	12.5
Cycle Q Clear(g_c), s	2.8	33.8	33.8	3.5	34.2	34.4	9.3	16.5	16.9	13.0	12.2	12.5
Prop In Lane	1.00		0.13	1.00		0.21	1.00		0.50	1.00		0.35
Lane Grp Cap(c), veh/h	49	1592	854	62	1644	871	158	295	285	212	348	345
V/C Ratio(X)	0.80	0.67	0.67	0.79	0.72	0.72	0.86	0.85	0.86	0.88	0.55	0.56
Avail Cap(c_a), veh/h	70	1592	854	98	1644	871	225	352	340	253	380	376
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	0.34	0.34	0.34	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	31.6	31.6	57.4	22.8	22.8	48.0	37.5	37.7	51.6	42.6	42.7
Incr Delay (d2), s/veh	16.1	1.6	2.9	2.9	1.0	1.8	14.3	13.0	15.5	22.5	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	13.9	15.2	1.5	12.2	13.2	4.1	6.4	6.5	6.7	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	33.2	34.6	60.3	23.8	24.6	62.3	50.5	53.2	74.0	43.1	43.4
LnGrp LOS	E	C	C	E	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1667			1865			631			571	
Approach Delay, s/veh		34.6			25.0			54.1			53.3	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	66.3	18.0	27.3	6.5	68.2	14.2	31.1				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	7.0	49.6	18.0	25.1	5.0	52.6	16.0	27.1				
Max Q Clear Time (g_c+I1), s	5.5	35.8	15.0	18.9	4.8	36.4	11.3	14.5				
Green Ext Time (p_c), s	0.0	10.6	0.1	2.1	0.0	13.1	0.1	2.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											35.7	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Year 2021  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	153	1413	387	215	1476	75	443	622	182	71	350	83
Future Volume (veh/h)	153	1413	387	215	1476	75	443	622	182	71	350	83
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	170	1570	430	224	1538	78	461	648	190	87	427	101
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1898	589	225	1967	100	464	877	391	108	615	274
Arrive On Green	0.11	0.39	0.39	0.13	0.42	0.42	0.14	0.26	0.26	0.06	0.18	0.18
Sat Flow, veh/h	1688	4837	1502	1688	4715	239	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	170	1570	430	224	1052	564	461	648	190	87	427	101
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1729	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	12.0	35.0	29.3	15.9	33.9	33.9	16.9	21.2	12.9	6.1	14.2	7.1
Cycle Q Clear(g_c), s	12.0	35.0	29.3	15.9	33.9	33.9	16.9	21.2	12.9	6.1	14.2	7.1
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1898	589	225	1346	721	464	877	391	108	615	274
V/C Ratio(X)	0.93	0.83	0.73	1.00	0.78	0.78	0.99	0.74	0.49	0.81	0.69	0.37
Avail Cap(c_a), veh/h	183	1898	589	225	1346	721	464	1038	463	127	814	363
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)	0.61	0.61	0.61	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	32.8	31.1	52.0	30.2	30.2	51.4	40.6	37.6	55.4	45.9	43.0
Incr Delay (d2), s/veh	33.6	2.7	4.8	47.1	3.0	5.5	40.1	2.7	1.3	23.4	2.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	13.4	11.1	9.5	13.0	14.4	9.4	9.0	4.8	3.3	6.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	35.5	35.9	99.0	33.3	35.7	91.5	43.4	38.9	78.8	48.1	44.1
LnGrp LOS	F	D	D	F	C	D	F	D	D	E	D	D
Approach Vol, veh/h		2170			1840			1299			615	
Approach Delay, s/veh		39.6			42.0			59.8			51.8	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	52.1	11.7	36.3	17.0	55.1	21.0	26.9				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0	9.0	37.0	13.0	43.0	17.0	29.0				
Max Q Clear Time (g_c+I1), s	17.9	37.0	8.1	23.2	14.0	35.9	18.9	16.2				
Green Ext Time (p_c), s	0.0	2.9	0.0	8.1	0.0	6.7	0.0	5.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			46.0									
HCM 6th LOS			D									

# HCM 6th Signalized Intersection Summary

## 4: State College Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (veh/h)	14	1451	241	442	1421	970	309	576	449	547	330	10
Future Volume (veh/h)	14	1451	241	442	1421	970	309	576	449	547	330	10
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	15	1527	254	460	1480	1010	336	801	371	608	367	11
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1676	279	409	2093	951	395	738	313	657	975	29
Arrive On Green	0.01	0.32	0.32	0.25	0.87	0.87	0.12	0.21	0.21	0.20	0.29	0.29
Sat Flow, veh/h	3274	5303	882	3274	4837	1502	3375	3544	1502	3274	3337	100
Grp Volume(v), veh/h	15	1316	465	460	1480	1010	336	801	371	608	185	193
Grp Sat Flow(s),veh/h/ln	1637	1524	1613	1637	1612	1502	1688	1772	1502	1637	1683	1754
Q Serve(g_s), s	0.5	33.2	33.2	15.0	12.7	51.9	11.7	25.0	25.0	21.9	10.5	10.5
Cycle Q Clear(g_c), s	0.5	33.2	33.2	15.0	12.7	51.9	11.7	25.0	25.0	21.9	10.5	10.5
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	27	1445	510	409	2093	951	395	738	313	657	492	512
V/C Ratio(X)	0.55	0.91	0.91	1.12	0.71	1.06	0.85	1.08	1.19	0.93	0.38	0.38
Avail Cap(c_a), veh/h	55	1445	510	409	2093	951	534	738	313	682	492	512
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	0.37	0.47	0.47	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	39.4	39.4	45.0	5.4	14.4	52.0	47.5	47.5	47.1	33.8	33.8
Incr Delay (d2), s/veh	2.3	4.3	10.6	70.6	1.0	38.9	7.4	58.5	111.3	17.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.4	14.1	9.0	2.1	27.7	5.3	16.7	18.8	10.3	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	43.7	50.1	115.6	6.4	53.3	59.4	106.0	158.8	64.9	34.0	34.0
LnGrp LOS	E	D	D	F	A	F	E	F	F	E	C	C
Approach Vol, veh/h		1796			2950			1508			986	
Approach Delay, s/veh		45.5			39.5			108.6			53.0	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	42.9	28.1	30.0	5.0	56.9	18.0	40.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	37.0	25.0	25.0	2.0	50.0	19.0	31.0				
Max Q Clear Time (g_c+I1), s	17.0	35.2	23.9	27.0	2.5	53.9	13.7	12.5				
Green Ext Time (p_c), s	0.0	1.6	0.2	0.0	0.0	0.0	0.3	3.0				

### Intersection Summary

HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1562	886	283	1974	0	0	0	0	581	0	826
Future Volume (veh/h)	0	1562	886	283	1974	0	0	0	0	581	0	826
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	2055	638	318	2218	0				962	0	560
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2370	669	336	2834	0				1145	0	509
Arrive On Green	0.00	0.89	0.89	0.21	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	2055	638	318	2218	0				962	0	560
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	22.2	36.8	11.5	0.0	0.0				31.6	0.0	40.7
Cycle Q Clear(g_c), s	0.0	22.2	36.8	11.5	0.0	0.0				31.6	0.0	40.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2370	669	336	2834	0				1145	0	509
V/C Ratio(X)	0.00	0.87	0.95	0.95	0.78	0.00				0.84	0.00	1.10
Avail Cap(c_a), veh/h	0	2370	669	336	2834	0				1145	0	509
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.24	0.24	0.16	0.16	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.8	5.6	47.4	0.0	0.0				36.6	0.0	39.7
Incr Delay (d2), s/veh	0.0	1.2	9.1	10.0	0.4	0.0				5.7	0.0	69.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	3.7	4.5	0.1	0.0				13.8	0.0	24.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.0	14.7	57.4	0.4	0.0				42.4	0.0	109.5
LnGrp LOS	A	A	B	E	A	A				D	A	F
Approach Vol, veh/h		2693			2536						1522	
Approach Delay, s/veh		8.0			7.5						67.1	
Approach LOS		A			A						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.8	58.0		45.2		74.8						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	12.3	53.5		40.7		70.3						
Max Q Clear Time (g_c+I1), s	13.5	38.8		42.7		2.0						
Green Ext Time (p_c), s	0.0	12.4		0.0		32.6						

Intersection Summary

HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 6: SR-57 NB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↑↑↑			↑↑↑	↗	↗↘		↗			
Traffic Volume (veh/h)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Future Volume (veh/h)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	571	1635	0	0	1556	491	1141	0	556			
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	587	2761	0	0	1883	532	1159	0	532			
Arrive On Green	0.36	1.00	0.00	0.00	0.35	0.35	0.35	0.00	0.35			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	571	1635	0	0	1556	491	1141	0	556			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	20.6	0.0	0.0	0.0	32.1	37.7	41.5	0.0	42.5			
Cycle Q Clear(g_c), s	20.6	0.0	0.0	0.0	32.1	37.7	41.5	0.0	42.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	587	2761	0	0	1883	532	1159	0	532			
V/C Ratio(X)	0.97	0.59	0.00	0.00	0.83	0.92	0.98	0.00	1.05			
Avail Cap(c_a), veh/h	587	2761	0	0	1883	532	1159	0	532			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.11	0.11	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	38.2	0.0	0.0	0.0	35.4	37.2	38.4	0.0	38.8			
Incr Delay (d2), s/veh	7.3	0.1	0.0	0.0	4.3	24.0	22.6	0.0	51.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	0.0	13.9	16.6	19.9	0.0	22.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.1	0.0	0.0	39.7	61.2	61.0	0.0	90.2			
LnGrp LOS	D	A	A	A	D	E	E	A	F			
Approach Vol, veh/h		2206			2047			1697				
Approach Delay, s/veh		11.9			44.9			70.5				
Approach LOS		B			D			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		73.0			26.0	47.0		47.0				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		68.5			21.5	42.5		42.5				
Max Q Clear Time (g_c+I1), s		2.0			22.6	39.7		44.5				
Green Ext Time (p_c), s		17.8			0.0	2.4		0.0				

### Intersection Summary

HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane

Year 2021  
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	52	48	504	10	25	448
Future Volume (veh/h)	52	48	504	10	25	448
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	84	77	525	10	32	567
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	157	140	2501	48	722	2492
Arrive On Green	0.09	0.09	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1688	1502	3468	64	870	3455
Grp Volume(v), veh/h	84	77	261	274	32	567
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1760	870	1683
Q Serve(g_s), s	2.9	2.9	2.9	2.9	0.7	3.2
Cycle Q Clear(g_c), s	2.9	2.9	2.9	2.9	3.6	3.2
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	157	140	1246	1303	722	2492
V/C Ratio(X)	0.53	0.55	0.21	0.21	0.04	0.23
Avail Cap(c_a), veh/h	591	526	1246	1303	722	2492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.81	0.81
Uniform Delay (d), s/veh	26.0	26.0	2.4	2.4	2.9	2.4
Incr Delay (d2), s/veh	2.8	3.3	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	0.3	0.3	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.8	29.4	2.4	2.4	3.0	2.6
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	161		535			599
Approach Delay, s/veh	29.0		2.4			2.6
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		49.4			49.4	10.6
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		4.9			5.6	4.9
Green Ext Time (p_c), s		3.0			3.8	0.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2021  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	77	131	22	407	140	472	82	732	351	350	676	72
Future Volume (veh/h)	77	131	22	407	140	472	82	732	351	350	676	72
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	86	146	24	447	154	519	93	832	399	402	777	83
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	178	29	491	380	743	431	941	438	918	1406	149
Arrive On Green	0.06	0.12	0.12	0.15	0.21	0.21	0.51	0.58	0.58	0.28	0.32	0.32
Sat Flow, veh/h	1688	1484	244	3274	1772	1502	1688	3225	1502	3274	4440	472
Grp Volume(v), veh/h	86	0	170	447	154	519	93	832	399	402	563	297
Grp Sat Flow(s),veh/h/ln	1688	0	1728	1637	1772	1502	1688	1612	1502	1637	1612	1687
Q Serve(g_s), s	6.0	0.0	11.5	16.1	9.0	6.1	3.6	26.7	28.4	12.1	17.3	17.5
Cycle Q Clear(g_c), s	6.0	0.0	11.5	16.1	9.0	6.1	3.6	26.7	28.4	12.1	17.3	17.5
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	107	0	207	491	380	743	431	941	438	918	1021	534
V/C Ratio(X)	0.80	0.00	0.82	0.91	0.41	0.70	0.22	0.88	0.91	0.44	0.55	0.56
Avail Cap(c_a), veh/h	183	0	475	491	561	896	431	941	438	918	1021	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	0.0	51.6	50.2	40.6	11.1	22.8	23.3	23.6	35.4	33.9	34.0
Incr Delay (d2), s/veh	12.7	0.0	7.9	21.0	0.7	1.9	0.2	9.6	21.4	0.3	2.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.4	8.0	4.0	6.9	1.4	7.8	9.1	4.8	7.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	0.0	59.4	71.2	41.2	12.9	23.0	32.9	45.0	35.8	36.1	38.1
LnGrp LOS	E	A	E	E	D	B	C	C	D	D	D	D
Approach Vol, veh/h		256			1120			1324			1262	
Approach Delay, s/veh		62.4			40.1			35.9			36.5	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.6	40.0	23.0	19.4	34.6	43.0	11.6	30.7				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	35.0	18.0	* 33	13.0	38.0	13.0	38.0				
Max Q Clear Time (g_c+I1), s	14.1	30.4	18.1	13.5	5.6	19.5	8.0	11.0				
Green Ext Time (p_c), s	0.3	3.0	0.0	0.8	0.1	5.3	0.1	3.0				

Intersection Summary

HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

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



HCM 6th Signalized Intersection Summary  
 9: Puente Street & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	136	1722	35	125	1692	210	31	53	104	144	127	191
Future Volume (veh/h)	136	1722	35	125	1692	210	31	53	104	144	127	191
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	149	1892	38	130	1762	219	40	69	135	158	140	210
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	2923	59	153	2257	701	224	343	291	250	652	291
Arrive On Green	0.21	0.60	0.60	0.18	0.93	0.93	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1688	4881	98	1688	4837	1502	1031	1772	1502	1178	3367	1502
Grp Volume(v), veh/h	149	1250	680	130	1762	219	40	69	135	158	140	210
Grp Sat Flow(s),veh/h/ln	1688	1612	1754	1688	1612	1502	1031	1772	1502	1178	1683	1502
Q Serve(g_s), s	9.1	30.5	30.5	8.9	10.7	1.6	4.1	3.9	9.6	15.6	4.2	15.7
Cycle Q Clear(g_c), s	9.1	30.5	30.5	8.9	10.7	1.6	8.3	3.9	9.6	19.5	4.2	15.7
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	1931	1051	153	2257	701	224	343	291	250	652	291
V/C Ratio(X)	0.41	0.65	0.65	0.85	0.78	0.31	0.18	0.20	0.46	0.63	0.21	0.72
Avail Cap(c_a), veh/h	362	1931	1051	211	2257	701	316	502	425	355	954	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.63	0.63	0.63
Uniform Delay (d), s/veh	40.6	15.8	15.8	48.3	2.5	2.2	44.2	40.6	42.9	48.8	40.7	45.4
Incr Delay (d2), s/veh	0.7	1.7	3.1	2.3	0.3	0.1	0.4	0.3	1.2	1.7	0.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	10.4	11.8	3.5	1.1	0.4	1.1	1.7	3.5	4.6	1.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	17.5	18.9	50.6	2.7	2.3	44.6	40.9	44.0	50.5	40.8	47.5
LnGrp LOS	D	B	B	D	A	A	D	D	D	D	D	D
Approach Vol, veh/h		2079			2111			244			508	
Approach Delay, s/veh		19.6			5.6			43.2			46.6	
Approach LOS		B			A			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.2	14.9	76.9		28.2	30.8	61.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	15.0	57.0		34.0	16.0	* 56				
Max Q Clear Time (g_c+I1), s		11.6	10.9	32.5		21.5	11.1	12.7				
Green Ext Time (p_c), s		0.9	0.1	14.6		1.7	0.1	19.8				

Intersection Summary

HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Notes

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



HCM 6th Signalized Intersection Summary  
 10: Berry Street & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↖		↗	↖	↖
Traffic Volume (veh/h)	134	1997	9	59	1919	324	4	7	6	402	30	195
Future Volume (veh/h)	134	1997	9	59	1919	324	4	7	6	402	30	195
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	158	2349	11	65	2109	356	6	10	8	471	0	217
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	460	3265	15	82	1778	293	23	38	30	366	0	163
Arrive On Green	0.09	0.22	0.22	0.02	0.14	0.14	0.03	0.03	0.03	0.11	0.00	0.11
Sat Flow, veh/h	1688	4969	23	1688	4185	688	824	1376	1104	3375	0	1502
Grp Volume(v), veh/h	158	1524	836	65	1613	852	13	0	11	471	0	217
Grp Sat Flow(s),veh/h/ln	1688	1612	1768	1688	1612	1648	1731	0	1573	1688	0	1502
Q Serve(g_s), s	10.6	52.6	52.7	4.6	51.0	51.0	0.9	0.0	0.9	13.0	0.0	13.0
Cycle Q Clear(g_c), s	10.6	52.6	52.7	4.6	51.0	51.0	0.9	0.0	0.9	13.0	0.0	13.0
Prop In Lane	1.00		0.01	1.00		0.42	0.48		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	460	2119	1161	82	1371	700	48	0	43	366	0	163
V/C Ratio(X)	0.34	0.72	0.72	0.79	1.18	1.22	0.26	0.00	0.26	1.29	0.00	1.33
Avail Cap(c_a), veh/h	460	2119	1161	84	1371	700	404	0	367	366	0	163
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	0.23	0.23	0.23	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	44.5	36.7	36.7	58.4	51.6	51.6	57.2	0.0	57.2	53.5	0.0	53.5
Incr Delay (d2), s/veh	0.3	1.5	2.7	10.9	81.4	100.9	2.9	0.0	3.2	148.5	0.0	185.4
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	4.7	23.0	25.6	2.2	37.4	42.0	0.4	0.0	0.4	12.9	0.0	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	38.2	39.5	69.3	133.0	152.4	60.1	0.0	60.3	202.0	0.0	238.9
LnGrp LOS	D	D	D	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2518			2530			24			688	
Approach Delay, s/veh		39.1			137.9			60.2			213.6	
Approach LOS		D			F			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	9.8	83.8		18.0	37.7	56.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		28.0	6.0	54.0		13.0	9.0	* 51				
Max Q Clear Time (g_c+I1), s		2.9	6.6	54.7		15.0	12.6	53.0				
Green Ext Time (p_c), s		0.1	0.0	0.0		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	103.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	215	1733	401	350	1658	189	432	792	254	246	652	249
Future Volume (veh/h)	215	1733	401	350	1658	189	432	792	254	246	652	249
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	236	1904	441	354	1675	191	445	816	262	283	749	286
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	1774	551	1864	4205	1305	355	1492	463	300	1010	450
Arrive On Green	0.10	0.49	0.49	0.57	0.87	0.87	0.11	0.31	0.31	0.18	0.60	0.60
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	236	1904	441	354	1675	191	445	816	262	283	749	286
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	8.6	44.0	44.0	6.3	8.3	8.0	13.0	16.8	17.5	10.2	19.2	14.8
Cycle Q Clear(g_c), s	8.6	44.0	44.0	6.3	8.3	8.0	13.0	16.8	17.5	10.2	19.2	14.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	246	1774	551	1864	4205	1305	355	1492	463	300	1010	450
V/C Ratio(X)	0.96	1.07	0.80	0.19	0.40	0.15	1.25	0.55	0.57	0.94	0.74	0.63
Avail Cap(c_a), veh/h	246	1774	551	1864	4205	1305	355	1492	463	300	1010	450
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	53.8	30.7	63.1	12.5	1.6	14.4	53.5	34.5	34.8	48.7	20.6	19.8
Incr Delay (d2), s/veh	9.8	34.3	1.2	0.0	0.0	0.0	135.7	1.4	4.9	32.4	4.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	19.9	15.6	2.1	0.7	0.5	11.9	6.7	6.8	5.1	5.5	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	65.1	64.3	12.5	1.6	14.5	189.2	36.0	39.7	81.1	24.7	25.2
LnGrp LOS	E	F	E	B	A	B	F	D	D	F	C	C
Approach Vol, veh/h		2581			2220			1523			1318	
Approach Delay, s/veh		64.8			4.4			81.4			36.9	
Approach LOS		E			A			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	74.3	49.0	17.0	41.0	13.0	110.3				
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	* 37	10.0	* 44	13.0	35.0	9.0	45.0				
Max Q Clear Time (g_c+I1), s	12.2	19.5	8.3	46.0	15.0	21.2	10.6	10.3				
Green Ext Time (p_c), s	0.0	5.9	0.2	0.0	0.0	5.1	0.0	16.5				

Intersection Summary

HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (veh/h)	121	1980	201	487	2041	621	285	489	320	465	417	141
Future Volume (veh/h)	121	1980	201	487	2041	621	285	489	320	465	417	141
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	123	2020	205	524	2195	668	306	526	344	489	439	148
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1889	191	355	1895	738	382	1038	463	327	723	241
Arrive On Green	0.05	0.33	0.33	0.11	0.39	0.39	0.12	0.31	0.31	0.10	0.29	0.29
Sat Flow, veh/h	3274	5666	574	3274	4837	1502	3274	3367	1502	3274	2478	828
Grp Volume(v), veh/h	123	1630	595	524	2195	668	306	526	344	489	297	290
Grp Sat Flow(s),veh/h/ln	1637	1524	1669	1637	1612	1502	1637	1683	1502	1637	1683	1623
Q Serve(g_s), s	4.5	40.0	40.0	13.0	47.0	36.9	10.9	15.4	24.7	12.0	18.2	18.5
Cycle Q Clear(g_c), s	4.5	40.0	40.0	13.0	47.0	36.9	10.9	15.4	24.7	12.0	18.2	18.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	164	1524	556	355	1895	738	382	1038	463	327	491	473
V/C Ratio(X)	0.75	1.07	1.07	1.48	1.16	0.90	0.80	0.51	0.74	1.49	0.60	0.61
Avail Cap(c_a), veh/h	164	1524	556	355	1895	738	382	1038	463	327	491	473
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)	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	40.0	40.0	53.5	36.5	27.9	51.6	34.0	37.2	54.0	36.6	36.7
Incr Delay (d2), s/veh	2.0	32.9	36.1	229.6	77.7	16.7	11.6	1.8	10.3	237.7	5.4	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	18.9	21.2	16.5	31.0	14.5	5.0	6.4	10.0	15.7	8.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	72.9	76.1	283.1	114.2	44.6	63.2	35.8	47.6	291.7	42.0	42.5
LnGrp LOS	E	F	F	F	F	D	E	D	D	F	D	D
Approach Vol, veh/h		2348			3387			1176			1076	
Approach Delay, s/veh		73.0			126.6			46.4			155.6	
Approach LOS		E			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	17.0	45.0	18.0	40.0	10.0	52.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	13.0	40.0	14.0	35.0	6.0	47.0				
Max Q Clear Time (g_c+I1), s	14.0	26.7	15.0	42.0	12.9	20.5	6.5	49.0				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.0	0.1	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				102.9								
HCM 6th LOS				F								

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (veh/h)	0	1741	2510	0	665	625
Future Volume (veh/h)	0	1741	2510	0	665	625
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1795	2728	0	931	473
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2862	2862	0	1097	488
Arrive On Green	0.00	0.59	0.59	0.00	0.32	0.32
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1795	2728	0	931	473
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	28.9	63.4	0.0	30.9	37.2
Cycle Q Clear(g_c), s	0.0	28.9	63.4	0.0	30.9	37.2
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2862	2862	0	1097	488
V/C Ratio(X)	0.00	0.63	0.95	0.00	0.85	0.97
Avail Cap(c_a), veh/h	0	2862	2862	0	1097	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.9	22.9	0.0	37.8	39.9
Incr Delay (d2), s/veh	0.0	1.1	9.0	0.0	8.2	33.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.8	23.3	0.0	13.8	18.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	17.0	31.9	0.0	46.0	73.7
LnGrp LOS	A	B	C	A	D	E
Approach Vol, veh/h		1795	2728		1404	
Approach Delay, s/veh		17.0	31.9		55.3	
Approach LOS		B	C		E	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				76.0	44.0	76.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				71.0	39.0	71.0
Max Q Clear Time (g_c+I1), s				30.9	39.2	65.4
Green Ext Time (p_c), s				18.1	0.0	5.3

Intersection Summary

HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↕	↗			↗↗
Traffic Volume (veh/h)	165	1838	0	0	1512	26	1238	104	516	0	0	248
Future Volume (veh/h)	165	1838	0	0	1512	26	1238	104	516	0	0	248
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	176	1955	0	0	1699	29	1533	0	403	0	0	295
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	338	2661	0	0	1917	33	1856	0	551	0	0	0
Arrive On Green	0.20	0.55	0.00	0.00	0.31	0.31	0.37	0.00	0.37	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6466	106	5063	0	1502		0	
Grp Volume(v), veh/h	176	1955	0	0	1249	479	1533	0	403		0.0	
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1753	1688	0	1502			
Q Serve(g_s), s	11.2	36.6	0.0	0.0	31.2	31.2	33.0	0.0	27.9			
Cycle Q Clear(g_c), s	11.2	36.6	0.0	0.0	31.2	31.2	33.0	0.0	27.9			
Prop In Lane	1.00		0.00	0.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	338	2661	0	0	1410	540	1856	0	551			
V/C Ratio(X)	0.52	0.73	0.00	0.00	0.89	0.89	0.83	0.00	0.73			
Avail Cap(c_a), veh/h	338	2661	0	0	1410	540	1856	0	551			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.9	20.4	0.0	0.0	39.5	39.5	34.5	0.0	32.9			
Incr Delay (d2), s/veh	1.4	1.8	0.0	0.0	8.5	18.9	4.4	0.0	8.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.7	13.0	0.0	0.0	12.3	15.7	14.1	0.0	11.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	22.2	0.0	0.0	48.0	58.4	38.9	0.0	41.2			
LnGrp LOS	D	C	A	A	D	E	D	A	D			
Approach Vol, veh/h		2131			1728			1936				
Approach Delay, s/veh		24.1			50.9			39.4				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		49.0		71.0			29.0	42.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		44.0		55.0			14.0	* 37				
Max Q Clear Time (g_c+I1), s		35.0		38.6			13.2	33.2				
Green Ext Time (p_c), s		5.5		11.7			0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶↶		↶	↶↶	
Traffic Volume (vph)	53	1207	56	87	1541	157	129	334	126	115	213	94
Future Volume (vph)	53	1207	56	87	1541	157	129	334	126	115	213	94
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.986			0.959			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4750	0	1676	3215	0	1676	3199	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4750	0	1676	3215	0	1676	3199	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			18			43			55	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.79	0.79	0.79	0.76	0.76	0.76
Adj. Flow (vph)	58	1326	62	91	1605	164	163	423	159	151	280	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	1388	0	91	1769	0	163	582	0	151	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	11.0	51.0		16.0	56.0		20.0	34.0		19.0	33.0	
Total Split (%)	9.2%	42.5%		13.3%	46.7%		16.7%	28.3%		15.8%	27.5%	
Maximum Green (s)	8.0	46.0		13.0	51.0		17.0	29.0		16.0	28.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	7.2	54.5		10.4	59.2		20.3	25.3		13.9	18.9	
Actuated g/C Ratio	0.06	0.45		0.09	0.49		0.17	0.21		0.12	0.16	
v/c Ratio	0.59	0.64		0.63	0.75		0.58	0.82		0.78	0.74	
Control Delay	77.7	28.3		67.1	14.4		54.7	51.7		77.5	49.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.7	28.3		67.1	14.4		54.7	51.7		77.5	49.2	
LOS	E	C		E	B		D	D		E	D	
Approach Delay		30.3			17.0			52.3			56.9	
Approach LOS		C			B			D			E	
Queue Length 50th (ft)	44	309		58	435		113	210		114	138	
Queue Length 95th (ft)	#92	395		m80	574		170	224		154	141	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	111	2175		181	2354		285	809		223	788	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.64		0.50	0.75		0.57	0.72		0.68	0.51	

Intersection Summary

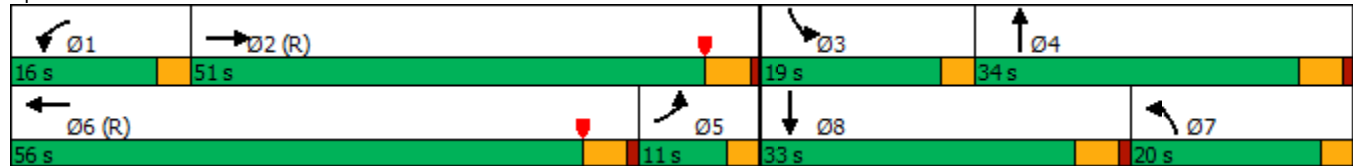
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 69 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 74.2%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road





Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	1366	67	47	1600	125	127	352	115	162	276	59
Future Volume (vph)	34	1366	67	47	1600	125	127	352	115	162	276	59
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.989			0.963			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4765	0	1676	3229	0	1676	3266	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4765	0	1676	3229	0	1676	3266	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			13			33			20	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.87	0.87	0.87
Adj. Flow (vph)	39	1552	76	49	1684	132	135	374	122	186	317	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	1628	0	49	1816	0	135	496	0	186	385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	8.0	56.6		11.0	59.6		19.0	31.4		21.0	33.4	
Total Split (%)	6.7%	47.2%		9.2%	49.7%		15.8%	26.2%		17.5%	27.8%	
Maximum Green (s)	5.0	49.6		7.0	52.6		16.0	25.1		18.0	27.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.7	56.9		6.6	58.7		13.2	21.8		16.2	24.8	
Actuated g/C Ratio	0.05	0.47		0.06	0.49		0.11	0.18		0.14	0.21	
v/c Ratio	0.50	0.72		0.54	0.78		0.74	0.81		0.83	0.56	
Control Delay	88.1	19.8		84.3	9.3		80.9	60.1		78.4	43.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	88.1	19.8		84.3	9.3		80.9	60.1		78.4	43.4	
LOS	F	B		F	A		F	E		E	D	
Approach Delay		21.4			11.3			64.5			54.8	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	24	429		34	420		110	171		140	132	
Queue Length 95th (ft)	m44	499		m39	m460		178	225		#231	174	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	79	2272		100	2335		223	701		251	753	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.49	0.72		0.49	0.78		0.61	0.71		0.74	0.51	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 16.6 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 27.2	Intersection LOS: C
Intersection Capacity Utilization 79.3%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road

Ø1 11 s	Ø2 (R) 56.6 s	Ø3 21 s	Ø4 31.4 s
Ø5 8 s	Ø6 (R) 59.6 s	Ø7 19 s	Ø8 33.4 s

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘↗	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	153	1413	387	215	1476	75	443	622	182	71	350	83
Future Volume (vph)	153	1413	387	215	1476	75	443	622	182	71	350	83
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4784	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4784	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			330		7				179			127
Link Speed (mph)		45		45				35			35	
Link Distance (ft)		3309		3979				1995			706	
Travel Time (s)		50.1		60.3				38.9			13.8	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.96	0.96	0.96	0.82	0.82	0.82
Adj. Flow (vph)	170	1570	430	224	1538	78	461	648	190	87	427	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	1570	430	224	1616	0	461	648	190	87	427	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24				24			24	
Link Offset(ft)		0		0				0			0	
Crosswalk Width(ft)		16		16				16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117				117			117	
Detector 2 Size(ft)		6		6				6			6	
Detector 2 Type		Cl+Ex		Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0				0.0			0.0	
Detector 3 Position(ft)		234		234				234			234	
Detector 3 Size(ft)		6		6				6			6	
Detector 3 Type		Cl+Ex		Cl+Ex				Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	45.0	45.0	20.0	48.0		21.0	42.0	42.0	13.0	34.0	34.0
Total Split (%)	14.2%	37.5%	37.5%	16.7%	40.0%		17.5%	35.0%	35.0%	10.8%	28.3%	28.3%
Maximum Green (s)	13.0	40.0	40.0	16.0	43.0		17.0	37.0	37.0	9.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.9	41.4	41.4	17.8	45.4		17.0	34.2	34.2	8.5	25.7	25.7
Actuated g/C Ratio	0.12	0.34	0.34	0.15	0.38		0.14	0.28	0.28	0.07	0.21	0.21
v/c Ratio	0.88	0.94	0.59	0.90	0.89		1.00	0.68	0.34	0.74	0.59	0.24
Control Delay	101.3	36.0	5.2	95.8	28.3		78.6	36.1	5.3	88.4	45.5	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.3	36.0	5.2	95.8	28.3		78.6	36.1	5.3	88.4	45.5	4.7
LOS	F	D	A	F	C		E	D	A	F	D	A
Approach Delay		35.0			36.5			46.7			44.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	134	446	28	~151	458		~189	241	43	67	152	0
Queue Length 95th (ft)	m#246	#539	20	#332	#541		#292	310	m36	#124	184	18
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	194	1664	734	249	1812		460	1033	586	125	810	458
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.94	0.59	0.90	0.89		1.00	0.63	0.32	0.70	0.53	0.22

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 65 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

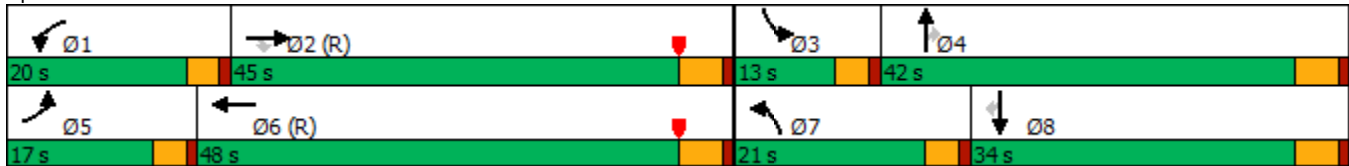
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 39.1	Intersection LOS: D
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (vph)	14	1451	241	442	1421	970	309	576	449	547	330	10
Future Volume (vph)	14	1451	241	442	1421	970	309	576	449	547	330	10
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.979				0.850		0.972	0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5943	0	3252	4818	1500	3252	3122	1365	3252	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5943	0	3252	4818	1500	3252	3122	1365	3252	3340	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						55		20	181		2	
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	15	1527	254	460	1480	1010	336	626	488	608	367	11
Shared Lane Traffic (%)									30%			
Lane Group Flow (vph)	15	1781	0	460	1480	1010	336	772	342	608	378	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	42.0		19.0	55.0	29.0	23.0	30.0	30.0	29.0	36.0	
Total Split (%)	5.0%	35.0%		15.8%	45.8%	24.2%	19.2%	25.0%	25.0%	24.2%	30.0%	
Maximum Green (s)	2.0	37.0		15.0	50.0	25.0	19.0	25.0	25.0	25.0	31.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	37.0		15.0	53.6	83.6	16.2	25.0	25.0	25.0	33.8	
Actuated g/C Ratio	0.02	0.31		0.12	0.45	0.70	0.14	0.21	0.21	0.21	0.28	
v/c Ratio	0.28	0.97		1.13	0.69	0.95	0.77	1.16	0.80	0.90	0.40	
Control Delay	87.9	23.2		130.1	25.4	23.2	61.8	129.1	36.1	63.7	36.9	
Queue Delay	0.0	22.9		0.0	1.2	0.1	0.0	0.0	0.3	0.0	0.0	
Total Delay	87.9	46.1		130.1	26.7	23.3	61.8	129.1	36.4	63.7	36.9	
LOS	F	D		F	C	C	E	F	D	E	D	
Approach Delay		46.4			41.6			91.6			53.4	
Approach LOS		D			D			F			D	
Queue Length 50th (ft)	6	127		~220	251	518	130	~382	135	238	125	
Queue Length 95th (ft)	m8	m#273		m#297	m327	m#982	177	#516	#302	#339	176	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1832		406	2152	1061	514	666	427	677	941	
Starvation Cap Reductn	0	0		0	420	1	0	0	0	0	0	
Spillback Cap Reductn	0	143		0	0	0	0	0	4	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	1.05		1.13	0.85	0.95	0.65	1.16	0.81	0.90	0.40	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 5 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

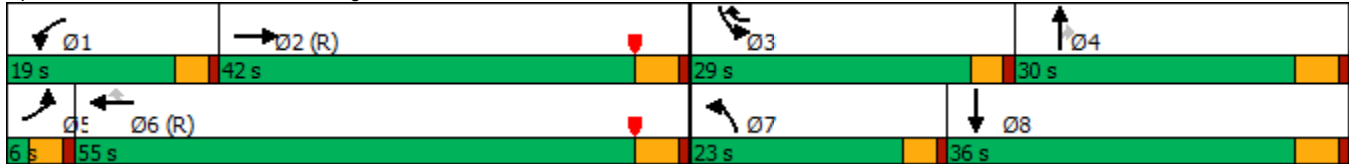


Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Year 2021  
 PM Peak Hour

Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 54.6	Intersection LOS: D
Intersection Capacity Utilization 99.4%	ICU Level of Service F
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1562	886	283	1974	0	0	0	0	581	0	826
Future Volume (vph)	0	1562	886	283	1974	0	0	0	0	581	0	826
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.973	0.850								0.880	0.850
Flt Protected				0.950						0.950	0.990	
Satd. Flow (prot)	0	4430	1290	3252	4818	0	0	0	0	1593	1399	1425
Flt Permitted				0.950						0.950	0.990	
Satd. Flow (perm)	0	4430	1290	3252	4818	0	0	0	0	1593	1399	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46	572								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	0	1627	923	318	2218	0	0	0	0	638	0	908
Shared Lane Traffic (%)			38%							16%		45%
Lane Group Flow (vph)	0	1978	572	318	2218	0	0	0	0	536	511	499
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		58.0	58.0	16.8	74.8					45.2	45.2	45.2
Total Split (%)		48.3%	48.3%	14.0%	62.3%					37.7%	37.7%	37.7%
Maximum Green (s)		53.5	53.5	12.3	70.3					40.7	40.7	40.7
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		53.5	53.5	12.3	70.3					40.7	40.7	40.7
Actuated g/C Ratio		0.45	0.45	0.10	0.59					0.34	0.34	0.34
v/c Ratio		0.99	0.64	0.95	0.79					0.99	1.00	0.96
Control Delay		30.8	3.5	60.3	7.5					77.0	76.3	66.3
Queue Delay		8.6	0.8	0.0	0.8					0.0	0.0	0.0
Total Delay		39.4	4.3	60.3	8.4					77.0	76.3	66.3
LOS		D	A	E	A					E	E	E
Approach Delay		31.6			14.9						73.3	
Approach LOS		C			B						E	
Queue Length 50th (ft)		245	26	123	240					433	~398	363
Queue Length 95th (ft)		m#345	m24	m129	m296					#680	#659	#598
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		2000	892	333	2822					540	510	519
Starvation Cap Reductn		65	111	0	301					0	0	0
Spillback Cap Reductn		10	0	0	127					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.02	0.73	0.95	0.88					0.99	1.00	0.96

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 11.5 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 34.9  
 Intersection Capacity Utilization 91.0%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 5: SR-57 SB Ramps & Lambert Road

Year 2021  
 PM Peak Hour

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road

→ Ø2 (R)	↙ Ø1	↕ Ø4
58 s	16.8 s	45.2 s
← Ø5 (R)		
74.8 s		

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Future Volume (vph)	560	1602	0	0	1256	630	1073	0	523	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.979	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4457	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4457	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					27	440			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	571	1635	0	0	1308	656	1141	0	556	0	0	0
Shared Lane Traffic (%)						33%						
Lane Group Flow (vph)	571	1635	0	0	1524	440	1141	0	556	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	26.0	73.0			47.0	47.0	47.0		47.0			
Total Split (%)	21.7%	60.8%			39.2%	39.2%	39.2%		39.2%			
Maximum Green (s)	21.5	68.5			42.5	42.5	42.5		42.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag				Lead		Lead					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	21.5	68.5			42.5	42.5	42.5		42.5			
Actuated g/C Ratio	0.18	0.57			0.35	0.35	0.35		0.35			
v/c Ratio	0.98	0.59			0.96	0.59	0.99		0.98			
Control Delay	67.7	18.0			51.6	6.2	63.4		69.0			
Queue Delay	0.0	1.6			0.0	0.0	0.0		0.0			
Total Delay	67.7	19.6			51.6	6.2	63.4		69.0			
LOS	E	B			D	A	E		E			
Approach Delay		32.0			41.5			65.2				
Approach LOS		C			D			E				
Queue Length 50th (ft)	234	367			437	0	450		392			
Queue Length 95th (ft)	m236	m371			#551	91	#602		#631			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	582	2750			1595	741	1151		566			
Starvation Cap Reductn	0	870			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.98	0.87			0.96	0.59	0.99		0.98			

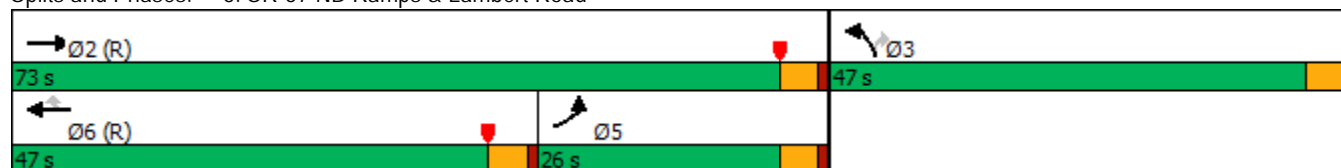
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 22.5 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 44.8  
 Intersection Capacity Utilization 91.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	48	504	10	25	448
Future Volume (vph)	52	48	504	10	25	448
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3343	0	1676	3353
Flt Permitted	0.950				0.453	
Satd. Flow (perm)	1676	1500	3343	0	799	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		77	4			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	0.62	0.62	0.96	0.96	0.79	0.79
Adj. Flow (vph)	84	77	525	10	32	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	77	535	0	32	567
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2021  
PM Peak Hour

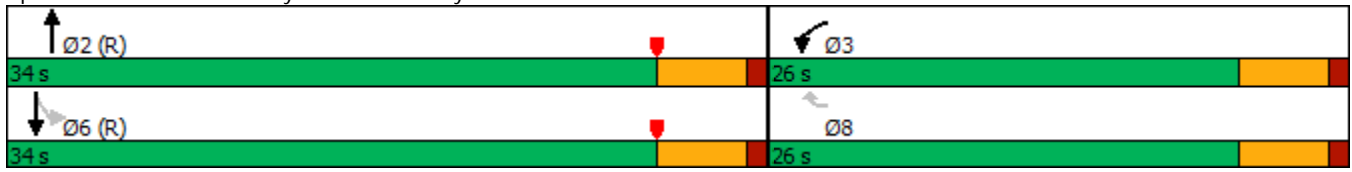


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	9.6	9.6	43.6		43.6	43.6
Actuated g/C Ratio	0.16	0.16	0.73		0.73	0.73
v/c Ratio	0.31	0.25	0.22		0.06	0.23
Control Delay	23.8	7.6	3.6		2.5	2.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	23.8	7.6	3.6		2.5	2.5
LOS	C	A	A		A	A
Approach Delay	16.0		3.6			2.5
Approach LOS	B		A			A
Queue Length 50th (ft)	28	0	45		2	15
Queue Length 95th (ft)	35	11	m87		m6	37
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	575	2430		580	2436
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.13	0.22		0.06	0.23

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	52 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.31
Intersection Signal Delay:	4.6
Intersection LOS:	A
Intersection Capacity Utilization:	35.3%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	131	22	407	140	472	82	732	351	350	676	72
Future Volume (vph)	77	131	22	407	140	472	82	732	351	350	676	72
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.979				0.850		0.951			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1728	0	3252	1765	1500	1676	4582	0	3252	4750	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1728	0	3252	1765	1500	1676	4582	0	3252	4750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				122		102			16	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.88	0.88	0.88	0.87	0.87	0.87
Adj. Flow (vph)	86	146	24	447	154	519	93	832	399	402	777	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	170	0	447	154	519	93	1231	0	402	860	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	17.0	38.0		22.0	43.0	20.0	17.0	40.0		20.0	43.0	
Total Split (%)	14.2%	31.7%		18.3%	35.8%	16.7%	14.2%	33.3%		16.7%	35.8%	
Maximum Green (s)	13.0	33.0		18.0	38.0	16.0	13.0	35.0		16.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.8	18.7		20.9	30.9	48.7	13.0	46.5		16.0	49.5	
Actuated g/C Ratio	0.09	0.16		0.17	0.26	0.41	0.11	0.39		0.13	0.41	
v/c Ratio	0.57	0.62		0.79	0.34	0.76	0.51	0.67		0.93	0.44	
Control Delay	66.9	53.7		58.6	38.0	25.7	62.5	18.1		71.5	25.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	66.9	53.7		58.6	38.0	25.7	62.5	18.1		71.5	25.7	
LOS	E	D		E	D	C	E	B		E	C	
Approach Delay		58.1			40.5			21.2			40.3	
Approach LOS		E			D			C			D	
Queue Length 50th (ft)	65	122		168	101	200	75	115		152	141	
Queue Length 95th (ft)	118	166		#273	146	239	m120	m127		m#229	m171	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	181	480		565	558	681	181	1836		433	1967	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.48	0.35		0.79	0.28	0.76	0.51	0.67		0.93	0.44	

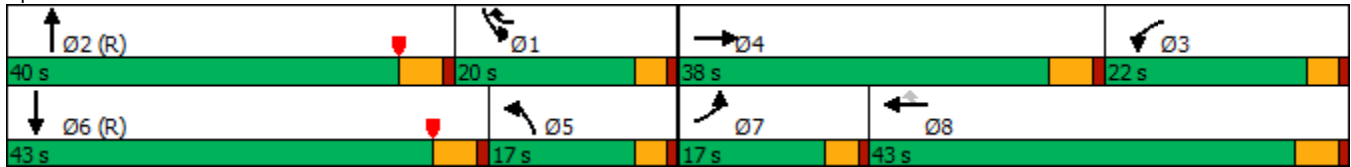
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 49 (41%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 35.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 69.9%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	1722	35	125	1692	210	31	53	104	144	127	191
Future Volume (vph)	136	1722	35	125	1692	210	31	53	104	144	127	191
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4803	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.663			0.712		
Satd. Flow (perm)	1676	4803	0	1676	4818	1500	1170	1765	1500	1256	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				219			135			210
Link Speed (mph)		45			45			40				40
Link Distance (ft)		713			2627			1029				2657
Travel Time (s)		10.8			39.8			17.5				45.3
Peak Hour Factor	0.91	0.91	0.91	0.96	0.96	0.96	0.77	0.77	0.77	0.91	0.91	0.91
Adj. Flow (vph)	149	1892	38	130	1763	219	40	69	135	158	140	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	1930	0	130	1763	219	40	69	135	158	140	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	20.0	62.0		19.0	61.0	61.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	16.7%	51.7%		15.8%	50.8%	50.8%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	16.0	57.0		15.0	56.0	56.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effect Green (s)	16.0	70.8		13.5	68.4	68.4	21.6	21.6	21.6	21.6	21.6	21.6
Actuated g/C Ratio	0.13	0.59		0.11	0.57	0.57	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.67	0.68		0.69	0.64	0.23	0.19	0.22	0.35	0.70	0.23	0.48
Control Delay	65.0	20.2		61.6	5.0	0.3	40.2	40.6	8.5	48.2	28.9	7.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.0	20.2		61.6	5.0	0.3	40.2	40.6	8.5	48.2	28.9	7.7
LOS	E	C		E	A	A	D	D	A	D	C	A
Approach Delay		23.5			8.0			22.7			26.1	
Approach LOS		C			A			C			C	
Queue Length 50th (ft)	111	353		84	33	0	27	47	0	109	29	0
Queue Length 95th (ft)	#196	536		m78	m228	m6	45	66	29	189	m44	21
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	223	2836		214	2744	948	331	500	521	355	950	575
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.68		0.61	0.64	0.23	0.12	0.14	0.26	0.45	0.15	0.37

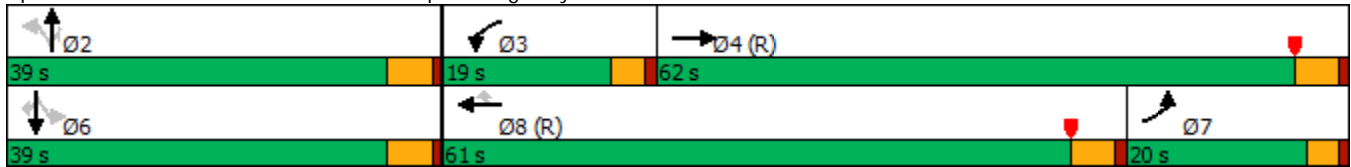
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 108 (90%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.70  
 Intersection Signal Delay: 17.1 Intersection LOS: B  
 Intersection Capacity Utilization 72.5% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 9: Puente Street & Imperial Highway





Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↖		↗	↖	↗
Traffic Volume (vph)	134	1997	9	59	1919	324	4	7	6	402	30	195
Future Volume (vph)	134	1997	9	59	1919	324	4	7	6	402	30	195
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.978			0.950				0.850
Flt Protected	0.950			0.950				0.988		0.950	0.959	
Satd. Flow (prot)	1676	4813	0	1676	4712	0	0	3147	0	1593	1608	1500
Flt Permitted	0.950			0.950				0.988		0.950	0.959	
Satd. Flow (perm)	1676	4813	0	1676	4712	0	0	3147	0	1593	1608	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			34			8				217
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Adj. Flow (vph)	158	2349	11	65	2109	356	6	10	8	447	33	217
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	158	2360	0	65	2465	0	0	24	0	241	239	217
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	13.0	59.0		10.0	56.0		33.0	33.0		18.0	18.0	18.0
Total Split (%)	10.8%	49.2%		8.3%	46.7%		27.5%	27.5%		15.0%	15.0%	15.0%
Maximum Green (s)	9.0	54.0		6.0	51.0		28.0	28.0		13.0	13.0	13.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		21.0	21.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	9.0	55.9		8.5	55.4		10.5	10.5		30.5	30.5	30.5
Actuated g/C Ratio	0.08	0.47		0.07	0.46		0.09	0.09		0.25	0.25	0.25
v/c Ratio	1.26	1.05		0.55	1.12		0.09	0.09		0.60	0.59	0.40
Control Delay	205.3	63.4		62.7	80.5		34.4	34.4		39.0	38.7	5.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	205.3	63.4		62.7	80.5		34.4	34.4		39.0	38.7	5.2
LOS	F	E		E	F		C	C		D	D	A
Approach Delay		72.3			80.0		34.4	34.4			28.4	
Approach LOS		E			E		C	C			C	
Queue Length 50th (ft)	~155	~763		43	~817		6	6		113	109	0
Queue Length 95th (ft)	#274	#778		m56	m#894		12	12		#447	#440	75
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	125	2243		118	2192		740	740		404	408	543
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.26	1.05		0.55	1.12		0.03	0.03		0.60	0.59	0.40

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	54 (45%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.26
Intersection Signal Delay:	70.2
Intersection LOS:	E
Intersection Capacity Utilization:	85.5%
ICU Level of Service:	E
Analysis Period (min):	15

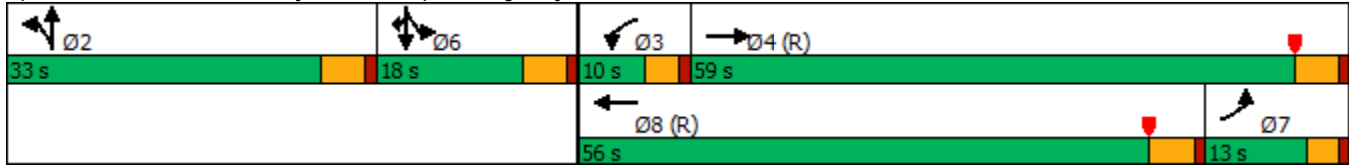
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2021  
 PM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (vph)	215	1733	401	350	1658	189	432	792	254	246	652	249
Future Volume (vph)	215	1733	401	350	1658	189	432	792	254	246	652	249
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			136			170			160
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	236	1904	441	354	1675	191	445	816	262	283	749	286
Shared Lane Traffic (%)												
Lane Group Flow (vph)	236	1904	441	354	1675	191	445	816	262	283	749	286
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	13.0	49.0	49.0	14.0	50.0	50.0	17.0	42.0	42.0	15.0	40.0	40.0
Total Split (%)	10.8%	40.8%	40.8%	11.7%	41.7%	41.7%	14.2%	35.0%	35.0%	12.5%	33.3%	33.3%
Maximum Green (s)	9.0	44.0	44.0	10.0	45.0	45.0	13.0	37.0	37.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	9.0	44.0	44.0	10.0	45.0	45.0	13.0	37.0	37.0	11.0	35.0	35.0
Actuated g/C Ratio	0.08	0.37	0.37	0.08	0.38	0.38	0.11	0.31	0.31	0.09	0.29	0.29
v/c Ratio	0.97	1.08	0.66	1.31	0.93	0.30	1.26	0.55	0.45	0.95	0.77	0.52
Control Delay	83.9	59.5	7.0	168.5	10.9	0.8	183.1	36.3	14.5	72.9	23.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.9	59.5	7.0	168.5	10.9	0.8	183.1	36.3	14.5	72.9	23.7	8.4
LOS	F	E	A	F	B	A	F	D	B	E	C	A
Approach Delay		52.8			35.2			75.4			31.0	
Approach LOS		D			D			E			C	
Queue Length 50th (ft)	90	~602	44	~183	239	4	~223	192	52	111	258	60
Queue Length 95th (ft)	m93	m#571	m94	m#162	m169	m2	#328	236	130	m#180	182	m45
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	243	1766	664	271	1806	647	352	1485	580	298	977	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.08	0.66	1.31	0.93	0.30	1.26	0.55	0.45	0.95	0.77	0.52

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	100 (83%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.31
Intersection Signal Delay:	48.4
Intersection LOS:	D
Intersection Capacity Utilization:	92.9%
ICU Level of Service:	F
Analysis Period (min):	15

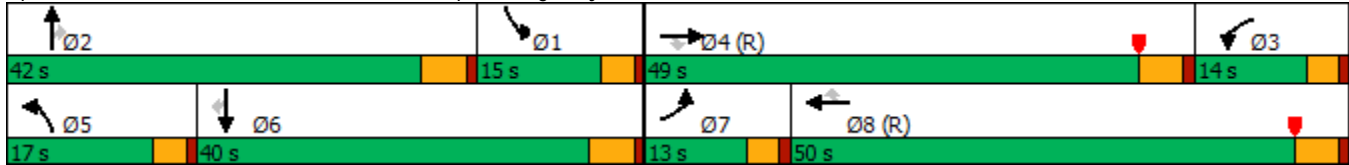
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2021  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1980	201	487	2041	621	285	489	320	465	417	141
Future Volume (vph)	121	1980	201	487	2041	621	285	489	320	465	417	141
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				103			146			39
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	123	2020	205	524	2195	668	306	526	344	489	439	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	2225	0	524	2195	668	306	526	344	489	587	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	45.0		17.0	52.0	16.0	18.0	42.0	42.0	16.0	40.0	
Total Split (%)	8.3%	37.5%		14.2%	43.3%	13.3%	15.0%	35.0%	35.0%	13.3%	33.3%	
Maximum Green (s)	6.0	40.0		13.0	47.0	12.0	14.0	37.0	37.0	12.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	40.0		13.0	47.0	64.0	14.0	37.0	37.0	12.0	35.0	
Actuated g/C Ratio	0.05	0.33		0.11	0.39	0.53	0.12	0.31	0.31	0.10	0.29	
v/c Ratio	0.76	1.11		1.49	1.16	0.79	0.81	0.51	0.61	1.50	0.61	
Control Delay	53.4	65.0		258.9	108.3	21.0	68.8	36.1	25.0	279.7	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.4	65.0		258.9	108.3	21.1	68.8	36.1	25.0	279.7	37.1	
LOS	D	E		F	F	C	E	D	C	F	D	
Approach Delay		64.4			114.4			41.4			147.4	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	52	~553		~289	~734	249	121	175	130	~271	192	
Queue Length 95th (ft)	m54	m#508		m#305	m#786	m271	#189	231	234	#379	254	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2009		352	1887	848	379	1033	563	325	968	
Starvation Cap Reductn	0	0		0	0	4	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.76	1.11		1.49	1.16	0.79	0.81	0.51	0.61	1.50	0.61	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 43 (36%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.50  
 Intersection Signal Delay: 93.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 91.8%  
 ICU Level of Service F  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.



Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021  
 PM Peak Hour

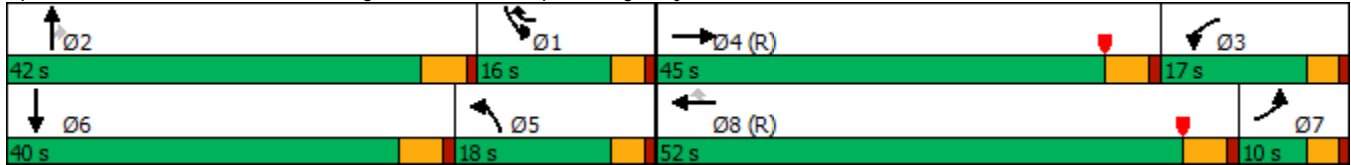
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1741	2510	0	665	625
Future Volume (vph)	0	1741	2510	0	665	625
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.963	0.850
Flt Protected					0.964	
Satd. Flow (prot)	0	4818	4818	0	3178	1365
Flt Permitted					0.964	
Satd. Flow (perm)	0	4818	4818	0	3178	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	2
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	0.97	0.97	0.92	0.92	0.91	0.91
Adj. Flow (vph)	0	1795	2728	0	731	687
Shared Lane Traffic (%)						35%
Lane Group Flow (vph)	0	1795	2728	0	971	447
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		76.0	76.0		44.0	44.0
Total Split (%)		63.3%	63.3%		36.7%	36.7%
Maximum Green (s)		71.0	71.0		39.0	39.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		71.0	71.0		39.0	39.0
Actuated g/C Ratio		0.59	0.59		0.32	0.32
v/c Ratio		0.63	0.96		0.94	1.01
Control Delay		3.8	17.1		56.4	85.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		3.8	17.1		56.4	85.1
LOS		A	B		E	F
Approach Delay		3.8	17.1		65.4	
Approach LOS		A	B		E	
Queue Length 50th (ft)		60	408		374	~381
Queue Length 95th (ft)		m57	m#462		#507	#623
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2850	2850		1034	444
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.63	0.96		0.94	1.01

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	69 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	24.6
Intersection LOS:	C
Intersection Capacity Utilization:	137.0%
ICU Level of Service:	H
Analysis Period (min):	15

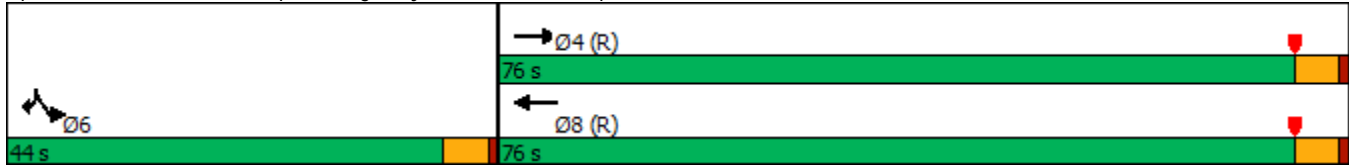
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2021  
 PM Peak Hour

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	1838	0	0	1512	26	1238	104	516	0	0	248
Future Volume (vph)	165	1838	0	0	1512	26	1238	104	516	0	0	248
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.997			0.972	0.850			0.850
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1676	4818	0	0	6052	0	3051	1432	1425	0	0	2640
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1676	4818	0	0	6052	0	3051	1432	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			11	119			272
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	0.94	0.94	0.94	0.89	0.89	0.89	0.94	0.94	0.94	0.84	0.84	0.84
Adj. Flow (vph)	176	1955	0	0	1699	29	1317	111	549	0	0	295
Shared Lane Traffic (%)							23%		17%			
Lane Group Flow (vph)	176	1955	0	0	1728	0	1014	507	456	0	0	295
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	18.0	60.0			42.0		49.0	49.0	49.0			11.0
Total Split (%)	15.0%	50.0%			35.0%		40.8%	40.8%	40.8%			9.2%
Maximum Green (s)	14.0	55.0			37.0		44.0	44.0	44.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lag	Lag	Lag			Lead
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	14.0	55.0			37.0		44.0	44.0	44.0			6.0
Actuated g/C Ratio	0.12	0.46			0.31		0.37	0.37	0.37			0.05
v/c Ratio	0.90	0.89			0.93		0.91	0.95	0.76			0.76
Control Delay	74.7	20.6			49.6		48.7	66.0	34.0			22.0
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	74.7	20.6			49.6		48.7	66.0	34.0			22.0
LOS	E	C			D		D	E	C			C
Approach Delay		25.1			49.6			49.8				22.0
Approach LOS		C			D			D				C
Queue Length 50th (ft)	131	373			375		406	433	246			9
Queue Length 95th (ft)	m#234	m457			#422		#541	#695	392			47
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	195	2208			1868		1118	532	597			390
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.90	0.89			0.93		0.91	0.95	0.76			0.76

**Intersection Summary**

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 53 (44%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 39.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

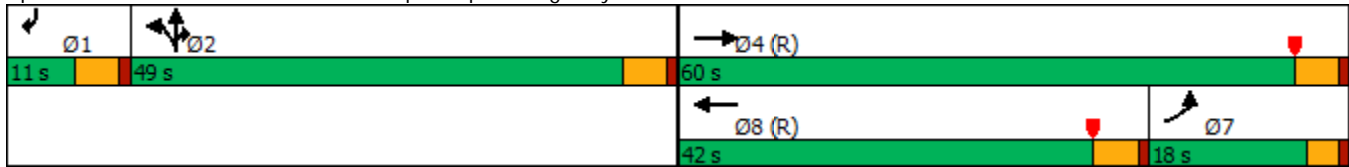
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2021  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



*APPENDIX D-XI*

**YEAR 2021 CUMULATIVE PLUS PROJECT  
WITH MITIGATION TRAFFIC CONDITIONS  
– ICU METHODOLOGY**



**THIS PAGE LEFT BLANK INTENTIONALLY**

*APPENDIX D-XII*

**YEAR 2021 CUMULATIVE PLUS PROJECT  
WITH MITIGATION TRAFFIC CONDITIONS  
– HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2021 + Project [MIT]  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑		↵	↑↑↑			↵		↵	↵	↵
Traffic Volume (veh/h)	162	1783	4	58	1952	292	2	27	30	321	15	180
Future Volume (veh/h)	162	1783	4	58	1952	292	2	27	30	321	15	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	1857	4	68	2296	344	4	47	53	436	0	237
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	2788	6	85	2246	326	7	81	75	614	0	273
Arrive On Green	0.03	0.18	0.18	0.10	1.00	1.00	0.05	0.05	0.05	0.18	0.00	0.18
Sat Flow, veh/h	1688	4984	11	1688	4266	619	138	1627	1502	3375	0	1502
Grp Volume(v), veh/h	169	1202	659	68	1718	922	51	0	53	436	0	237
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1660	1765	0	1502	1688	0	1502
Q Serve(g_s), s	10.0	41.6	41.6	4.7	63.2	63.2	3.4	0.0	4.2	14.6	0.0	18.4
Cycle Q Clear(g_c), s	10.0	41.6	41.6	4.7	63.2	63.2	3.4	0.0	4.2	14.6	0.0	18.4
Prop In Lane	1.00		0.01	1.00		0.37	0.08		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1804	990	85	1698	874	88	0	75	614	0	273
V/C Ratio(X)	1.20	0.67	0.67	0.80	1.01	1.06	0.58	0.00	0.71	0.71	0.00	0.87
Avail Cap(c_a), veh/h	141	1804	990	141	1698	874	88	0	75	759	0	338
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	0.09	0.09	0.09	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	58.4	38.5	38.5	53.3	0.0	0.0	55.8	0.0	56.2	46.1	0.0	47.7
Incr Delay (d2), s/veh	130.6	1.5	2.7	1.6	9.7	28.0	9.1	0.0	26.2	2.3	0.0	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	18.2	20.3	1.9	2.3	6.8	1.7	0.0	2.1	6.2	0.0	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	188.9	40.0	41.2	54.9	9.7	28.0	64.9	0.0	82.4	48.4	0.0	65.0
LnGrp LOS	F	D	D	D	F	F	E	A	F	D	A	E
Approach Vol, veh/h		2030			2708			104			673	
Approach Delay, s/veh		52.8			17.1			73.8			54.2	
Approach LOS		D			B			E			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.0	10.1	72.1		26.8	14.0	68.2				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	10.0	58.0		27.0	10.0	58.0				
Max Q Clear Time (g_c+I1), s		6.2	6.7	43.6		20.4	12.0	65.2				
Green Ext Time (p_c), s		0.0	0.0	9.8		1.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	35.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2021 + Project [MIT]  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	178	1602	363	177	1623	86	435	476	164	165	910	201
Future Volume (veh/h)	178	1602	363	177	1623	86	435	476	164	165	910	201
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	185	1669	378	195	1784	95	558	610	210	174	958	212
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1653	513	1091	3023	939	518	1836	570	230	1411	438
Arrive On Green	0.02	0.11	0.11	0.33	0.63	0.63	0.16	0.38	0.38	0.02	0.10	0.10
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	4837	1502
Grp Volume(v), veh/h	185	1669	378	195	1784	95	558	610	210	174	958	212
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1612	1502
Q Serve(g_s), s	6.8	41.0	31.4	5.1	26.3	3.0	19.0	10.7	9.5	6.3	23.0	16.1
Cycle Q Clear(g_c), s	6.8	41.0	31.4	5.1	26.3	3.0	19.0	10.7	9.5	6.3	23.0	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1653	513	1091	3023	939	518	1836	570	230	1411	438
V/C Ratio(X)	0.97	1.01	0.74	0.18	0.59	0.10	1.08	0.33	0.37	0.76	0.68	0.48
Avail Cap(c_a), veh/h	191	1653	513	1091	3023	939	518	1836	570	300	1411	438
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.64	0.64	0.64	0.30	0.30	0.30	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	58.7	53.2	55.6	28.4	13.4	9.0	50.5	26.4	16.5	57.6	48.8	45.7
Incr Delay (d2), s/veh	43.5	20.1	6.0	0.0	0.3	0.1	61.7	0.5	1.8	6.4	2.2	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	20.7	13.5	1.9	8.5	0.9	12.0	4.1	3.4	2.9	10.2	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.2	73.4	61.6	28.4	13.6	9.1	112.2	26.9	18.4	64.0	51.0	48.8
LnGrp LOS	F	F	E	C	B	A	F	C	B	E	D	D
Approach Vol, veh/h		2232			2074			1378			1344	
Approach Delay, s/veh		73.8			14.8			60.1			52.3	
Approach LOS		E			B			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	50.6	46.0	46.0	23.0	40.0	11.0	81.0				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	43.0	7.0	* 41	19.0	35.0	7.0	41.0				
Max Q Clear Time (g_c+I1), s	8.3	12.7	7.1	43.0	21.0	25.0	8.8	28.3				
Green Ext Time (p_c), s	0.1	5.0	0.0	0.0	0.0	5.0	0.0	9.1				

Intersection Summary

HCM 6th Ctrl Delay	49.6
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project [MIT]  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (veh/h)	57	1644	240	484	1805	203	162	178	415	186	544	38
Future Volume (veh/h)	57	1644	240	484	1805	203	162	178	415	186	544	38
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	66	1890	276	526	1962	221	200	220	512	209	611	43
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	1759	257	1161	3113	1067	273	1038	996	218	931	65
Arrive On Green	0.04	0.32	0.32	0.35	0.64	0.64	0.08	0.31	0.31	0.07	0.29	0.29
Sat Flow, veh/h	3274	5412	790	3274	4837	1502	3274	3367	1502	3274	3191	224
Grp Volume(v), veh/h	66	1596	570	526	1962	221	200	220	512	209	322	332
Grp Sat Flow(s),veh/h/ln	1637	1524	1630	1637	1612	1502	1637	1683	1502	1637	1683	1732
Q Serve(g_s), s	2.4	39.0	39.0	14.8	29.2	1.6	7.2	5.8	0.0	7.6	20.1	20.2
Cycle Q Clear(g_c), s	2.4	39.0	39.0	14.8	29.2	1.6	7.2	5.8	0.0	7.6	20.1	20.2
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	146	1486	530	1161	3113	1067	273	1038	996	218	491	505
V/C Ratio(X)	0.45	1.07	1.08	0.45	0.63	0.21	0.73	0.21	0.51	0.96	0.66	0.66
Avail Cap(c_a), veh/h	164	1486	530	1161	3113	1067	273	1038	996	218	491	505
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)	0.29	0.29	0.29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	40.5	40.5	29.8	12.8	9.0	53.7	30.7	10.3	55.8	37.2	37.2
Incr Delay (d2), s/veh	0.6	38.0	44.7	0.3	1.0	0.4	9.7	0.5	1.9	48.8	6.7	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	19.1	21.4	5.7	9.4	2.0	3.3	2.4	6.5	4.6	9.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	78.5	85.2	30.0	13.8	9.5	63.4	31.2	12.2	104.7	43.9	43.8
LnGrp LOS	E	F	F	C	B	A	E	C	B	F	D	D
Approach Vol, veh/h		2232			2709			932			863	
Approach Delay, s/veh		79.5			16.6			27.7			58.6	
Approach LOS		E			B			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	42.0	47.7	44.0	14.0	40.0	9.3	82.3				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	8.0	37.0	18.0	* 39	10.0	35.0	6.0	51.0				
Max Q Clear Time (g_c+I1), s	9.6	7.8	16.8	41.0	9.2	22.2	4.4	31.2				
Green Ext Time (p_c), s	0.0	3.4	0.3	0.0	0.1	3.1	0.0	14.1				

Intersection Summary

HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2021 + Project  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↖		↗	↖	↖
Traffic Volume (veh/h)	139	1997	9	59	1919	340	4	7	6	413	30	198
Future Volume (veh/h)	139	1997	9	59	1919	340	4	7	6	413	30	198
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	164	2349	11	65	2109	374	6	10	8	483	0	220
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	2568	12	210	1972	340	23	38	30	583	0	260
Arrive On Green	0.11	0.35	0.35	0.25	0.95	0.95	0.03	0.03	0.03	0.17	0.00	0.17
Sat Flow, veh/h	1688	4969	23	1688	4152	716	824	1376	1104	3375	0	1502
Grp Volume(v), veh/h	164	1524	836	65	1625	858	13	0	11	483	0	220
Grp Sat Flow(s),veh/h/ln	1688	1612	1768	1688	1612	1643	1731	0	1573	1688	0	1502
Q Serve(g_s), s	11.1	54.3	54.3	3.8	57.0	57.0	0.9	0.0	0.9	16.6	0.0	17.0
Cycle Q Clear(g_c), s	11.1	54.3	54.3	3.8	57.0	57.0	0.9	0.0	0.9	16.6	0.0	17.0
Prop In Lane	1.00		0.01	1.00		0.44	0.48		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	281	1666	913	210	1532	780	48	0	43	583	0	260
V/C Ratio(X)	0.58	0.91	0.92	0.31	1.06	1.10	0.26	0.00	0.26	0.83	0.00	0.85
Avail Cap(c_a), veh/h	281	1666	913	210	1532	780	87	0	79	759	0	338
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.21	0.21	0.21	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	49.4	36.7	36.7	40.8	3.0	3.0	57.2	0.0	57.2	47.9	0.0	48.1
Incr Delay (d2), s/veh	2.1	6.7	11.2	0.2	31.0	49.8	2.9	0.0	3.2	5.8	0.0	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	23.2	26.6	1.5	7.7	11.9	0.4	0.0	0.4	7.3	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.5	43.4	47.9	41.0	34.0	52.8	60.1	0.0	60.3	53.7	0.0	62.3
LnGrp LOS	D	D	D	D	F	F	E	A	E	D	A	E
Approach Vol, veh/h		2524			2548			24			703	
Approach Delay, s/veh		45.4			40.5			60.2			56.4	
Approach LOS		D			D			E			E	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.3	19.0	67.0		25.7	24.0	62.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	6.0	62.0		27.0	11.0	57.0				
Max Q Clear Time (g_c+I1), s		2.9	5.8	56.3		19.0	13.1	59.0				
Green Ext Time (p_c), s		0.0	0.0	5.1		1.7	0.0	0.0				

Intersection Summary































HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
























HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	  				
Traffic Volume (veh/h)	216	1740	403	350	1669	189	435	792	254	246	652	251
Future Volume (veh/h)	216	1740	403	350	1669	189	435	792	254	246	652	251
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	237	1912	443	354	1686	191	448	816	262	283	749	289
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	3104	964	273	3144	976	355	1532	476	300	1411	438
Arrive On Green	0.02	0.21	0.21	0.08	0.65	0.65	0.11	0.32	0.32	0.03	0.10	0.10
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	4837	1502
Grp Volume(v), veh/h	237	1912	443	354	1686	191	448	816	262	283	749	289
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1612	1502
Q Serve(g_s), s	8.7	43.0	38.8	10.0	22.5	6.1	13.0	16.6	17.3	10.4	17.7	26.5
Cycle Q Clear(g_c), s	8.7	43.0	38.8	10.0	22.5	6.1	13.0	16.6	17.3	10.4	17.7	26.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	246	3104	964	273	3144	976	355	1532	476	300	1411	438
V/C Ratio(X)	0.97	0.62	0.46	1.30	0.54	0.20	1.26	0.53	0.55	0.94	0.53	0.66
Avail Cap(c_a), veh/h	246	3104	964	273	3144	976	355	1532	476	300	1411	438
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.44	0.44	0.44	0.09	0.09	0.09	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	58.4	33.9	45.9	55.0	11.3	8.4	53.5	33.7	33.9	57.9	46.4	68.4
Incr Delay (d2), s/veh	29.4	0.4	0.7	136.4	0.1	0.0	139.2	1.3	4.5	32.4	1.2	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	18.5	15.8	9.2	7.0	1.8	12.1	6.6	6.7	5.9	7.8	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.8	34.3	46.6	191.4	11.3	8.5	192.7	35.0	38.5	90.2	47.6	74.7
LnGrp LOS	F	C	D	F	B	A	F	D	D	F	D	E
Approach Vol, veh/h		2592			2231			1526			1321	
Approach Delay, s/veh		41.3			39.7			81.9			62.6	
Approach LOS		D			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	43.0	14.0	83.0	18.0	40.0	13.0	84.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0				
Max Green Setting (Gmax), s	11.0	37.0	10.0	44.0	13.0	* 35	9.0	45.0				
Max Q Clear Time (g_c+I1), s	12.4	19.3	12.0	45.0	15.0	28.5	10.7	24.5				
Green Ext Time (p_c), s	0.0	6.0	0.0	0.0	0.0	3.2	0.0	12.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			52.6									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1986	202	487	2051	621	287	489	320	465	417	141
Future Volume (veh/h)	121	1986	202	487	2051	621	287	489	320	465	417	141
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	123	2027	206	524	2205	668	309	526	344	489	439	148
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1888	192	1255	3265	1164	382	1038	1039	327	723	241
Arrive On Green	0.05	0.33	0.33	0.38	0.68	0.68	0.12	0.31	0.31	0.10	0.29	0.29
Sat Flow, veh/h	3274	5665	575	3274	4837	1502	3274	3367	1502	3274	2478	828
Grp Volume(v), veh/h	123	1635	598	524	2205	668	309	526	344	489	297	290
Grp Sat Flow(s),veh/h/ln	1637	1524	1668	1637	1612	1502	1637	1683	1502	1637	1683	1623
Q Serve(g_s), s	4.5	40.0	40.0	14.1	32.7	29.7	11.0	15.4	0.0	12.0	18.2	18.5
Cycle Q Clear(g_c), s	4.5	40.0	40.0	14.1	32.7	29.7	11.0	15.4	0.0	12.0	18.2	18.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	164	1524	556	1255	3265	1164	382	1038	1039	327	491	473
V/C Ratio(X)	0.75	1.07	1.07	0.42	0.68	0.57	0.81	0.51	0.33	1.49	0.60	0.61
Avail Cap(c_a), veh/h	164	1524	556	1255	3265	1164	382	1038	1039	327	491	473
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)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	40.0	40.0	27.2	11.6	18.0	51.7	34.0	7.4	54.0	36.6	36.7
Incr Delay (d2), s/veh	1.8	34.4	37.3	0.2	1.1	2.1	12.2	1.8	0.9	237.7	5.4	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	19.1	21.3	5.3	10.1	8.8	5.1	6.4	3.2	15.7	8.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.1	74.4	77.3	27.4	12.8	20.1	63.9	35.8	8.3	291.7	42.0	42.5
LnGrp LOS	E	F	F	C	B	C	E	D	A	F	D	D
Approach Vol, veh/h		2356			3397			1179			1076	
Approach Delay, s/veh		74.3			16.5			35.1			155.6	
Approach LOS		E			B			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	52.0	45.0	18.0	40.0	10.0	87.0				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	13.0	* 40	14.0	35.0	6.0	47.0				
Max Q Clear Time (g_c+I1), s	14.0	17.4	16.1	42.0	13.0	20.5	6.5	34.7				
Green Ext Time (p_c), s	0.0	4.4	0.0	0.0	0.1	2.9	0.0	11.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			54.9									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	1783	4	58	1952	292	2	27	30	321	15	180
Future Volume (vph)	162	1783	4	58	1952	292	2	27	30	321	15	180
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.980			0.924				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (prot)	1676	4818	0	1676	4721	0	0	3092	0	1593	1603	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (perm)	1676	4818	0	1676	4721	0	0	3092	0	1593	1603	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					32			53				228
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.96	0.96	0.96	0.85	0.85	0.85	0.57	0.57	0.57	0.76	0.76	0.76
Adj. Flow (vph)	169	1857	4	68	2296	344	4	47	53	422	20	237
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	169	1861	0	68	2640	0	0	104	0	219	223	237
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	32.0		11.0	11.0		32.0	32.0	32.0
Total Split (s)	14.0	63.0		14.0	63.0		11.0	11.0		32.0	32.0	32.0
Total Split (%)	11.7%	52.5%		11.7%	52.5%		9.2%	9.2%		26.7%	26.7%	26.7%
Maximum Green (s)	10.0	58.0		10.0	58.0		6.0	6.0		27.0	27.0	27.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		17.0			20.0					20.0	20.0	20.0
Pedestrian Calls (#/hr)		2			2					2	2	2
Act Effect Green (s)	15.0	66.0		9.1	58.0			6.0		22.0	22.0	22.0
Actuated g/C Ratio	0.12	0.55		0.08	0.48			0.05		0.18	0.18	0.18
v/c Ratio	0.81	0.70		0.54	1.15			0.51		0.75	0.76	0.51
Control Delay	67.7	33.1		82.1	84.2			38.4		54.4	55.1	18.9
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	67.7	33.1		82.1	84.2			38.4		54.4	55.1	18.9
LOS	E	C		F	F			D		D	E	B
Approach Delay		36.0			84.2			38.4			42.2	
Approach LOS		D			F			D			D	
Queue Length 50th (ft)	132	372		56	-872			20		181	184	96
Queue Length 95th (ft)	#306	597		m55	m#767			23		183	188	86
Internal Link Dist (ft)		2547			1999			269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	209	2648		141	2298			204		358	360	514
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	0.81	0.70		0.48	1.15			0.51		0.61	0.62	0.46







Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 7 (6%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.15  
 Intersection Signal Delay: 60.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 84.3%  
 ICU Level of Service E  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

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

Splits and Phases: 10: Berry Street & Imperial Highway

 Ø2	 Ø6	 Ø3	 Ø4 (R)
11 s	32 s	14 s	63 s
		 Ø7	 Ø8 (R)
		14 s	63 s

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	178	1602	363	177	1623	86	435	476	164	165	910	201
Future Volume (vph)	178	1602	363	177	1623	86	435	476	164	165	910	201
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			127			140			173
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	0.96	0.96	0.96	0.91	0.91	0.91	0.78	0.78	0.78	0.95	0.95	0.95
Adj. Flow (vph)	185	1669	378	195	1784	95	558	610	210	174	958	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	1669	378	195	1784	95	558	610	210	174	958	212
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	23.0	48.0	48.0	15.0	40.0	40.0
Total Split (%)	9.2%	38.3%	38.3%	9.2%	38.3%	38.3%	19.2%	40.0%	40.0%	12.5%	33.3%	33.3%
Maximum Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.7	43.7	10.3	35.0	35.0
Actuated g/C Ratio	0.06	0.34	0.34	0.06	0.34	0.34	0.16	0.36	0.36	0.09	0.29	0.29
v/c Ratio	0.98	1.01	0.61	1.03	1.08	0.16	1.09	0.35	0.33	0.62	0.68	0.38
Control Delay	101.3	61.9	20.5	92.8	68.0	2.4	112.2	28.6	11.3	55.6	46.1	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.3	61.9	20.5	92.8	68.0	2.4	112.2	28.6	11.3	55.6	46.1	17.0
LOS	F	E	C	F	E	A	F	C	B	E	D	B
Approach Delay		58.2			67.3			59.8			42.8	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	76	-486	139	-76	-547	3	-249	126	36	70	272	56
Queue Length 95th (ft)	m#140	#601	298	m#99	m#639	m7	#285	135	68	m89	335	m171
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	189	1646	623	189	1646	596	514	1752	634	298	1405	560
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	1.01	0.61	1.03	1.08	0.16	1.09	0.35	0.33	0.58	0.68	0.38

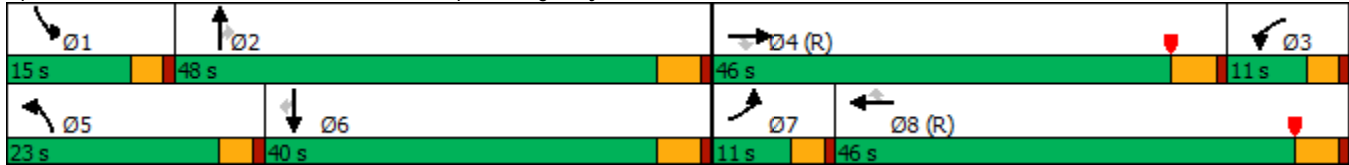
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 60 (50%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 58.3  
 Intersection Capacity Utilization 85.1%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project [MIT]  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑↗		↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↗	
Traffic Volume (vph)	57	1644	240	484	1805	203	162	178	415	186	544	38
Future Volume (vph)	57	1644	240	484	1805	203	162	178	415	186	544	38
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.981				0.850			0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5955	0	3252	4818	1500	3252	3353	1500	3252	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				203			91		6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4135			486			892			1016	
Travel Time (s)		62.7			7.4			15.2			17.3	
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.92	0.81	0.81	0.81	0.89	0.89	0.89
Adj. Flow (vph)	66	1890	276	526	1962	221	200	220	512	209	611	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	2166	0	526	1962	221	200	220	512	209	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	1	5	2	3	1	6	
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project [MIT]  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	10.0	10.0	40.0	40.0
Total Split (s)	10.0	44.0		22.0	56.0	12.0	14.0	42.0	22.0	12.0	40.0	40.0
Total Split (%)	8.3%	36.7%		18.3%	46.7%	10.0%	11.7%	35.0%	18.3%	10.0%	33.3%	33.3%
Maximum Green (s)	6.0	39.0		18.0	51.0	8.0	10.0	37.0	18.0	8.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		23.0			30.0			30.0			28.0	28.0
Pedestrian Calls (#/hr)		2			2			2			2	2
Act Effct Green (s)	6.0	39.0		18.0	53.0	62.8	10.0	37.0	60.0	8.0	35.0	35.0
Actuated g/C Ratio	0.05	0.32		0.15	0.44	0.52	0.08	0.31	0.50	0.07	0.29	0.29
v/c Ratio	0.41	1.11		1.08	0.92	0.25	0.74	0.21	0.64	0.97	0.67	0.67
Control Delay	78.9	70.8		97.8	33.0	2.7	70.5	31.4	22.3	109.5	41.2	41.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	70.8		97.8	33.0	2.7	70.5	31.4	22.3	109.5	41.2	41.2
LOS	E	E		F	C	A	E	C	C	F	D	D
Approach Delay		71.1			43.1			34.8			57.7	57.7
Approach LOS		E			D			C			E	E
Queue Length 50th (ft)	24	~530		~230	519	11	79	66	234	84	232	232
Queue Length 95th (ft)	m28	m#530		m#318	#641	m19	107	88	293	#160	295	295
Internal Link Dist (ft)		4055			406			812			936	936
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1956		487	2127	881	271	1033	795	216	972	972
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	1.11		1.08	0.92	0.25	0.74	0.21	0.64	0.97	0.67	0.67

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	2 (2%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.11
Intersection Signal Delay:	53.1
Intersection LOS:	D
Intersection Capacity Utilization:	81.1%
ICU Level of Service:	D
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.



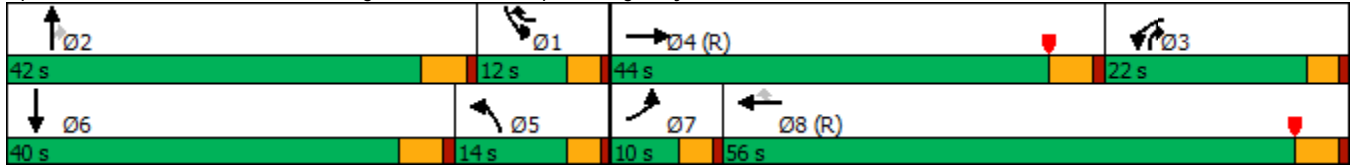
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↖		↗	↖	↗
Traffic Volume (vph)	139	1997	9	59	1919	340	4	7	6	413	30	198
Future Volume (vph)	139	1997	9	59	1919	340	4	7	6	413	30	198
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.977			0.950				0.850
Flt Protected	0.950			0.950				0.988		0.950	0.958	
Satd. Flow (prot)	1676	4813	0	1676	4707	0	0	3147	0	1593	1606	1500
Flt Permitted	0.950			0.950				0.988		0.950	0.958	
Satd. Flow (perm)	1676	4813	0	1676	4707	0	0	3147	0	1593	1606	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			40			8				178
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.71	0.71	0.71	0.90	0.90	0.90
Adj. Flow (vph)	164	2349	11	65	2109	374	6	10	8	459	33	220
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	164	2360	0	65	2483	0	0	24	0	243	249	220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2021 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	32.0		11.0	11.0		32.0	32.0	32.0
Total Split (s)	15.0	67.0		10.0	62.0		11.0	11.0		32.0	32.0	32.0
Total Split (%)	12.5%	55.8%		8.3%	51.7%		9.2%	9.2%		26.7%	26.7%	26.7%
Maximum Green (s)	11.0	62.0		6.0	57.0		6.0	6.0		27.0	27.0	27.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		17.0			20.0					20.0	20.0	20.0
Pedestrian Calls (#/hr)		2			2					2	2	2
Act Effct Green (s)	11.0	70.3		6.0	65.3			6.0		23.1	23.1	23.1
Actuated g/C Ratio	0.09	0.59		0.05	0.54			0.05		0.19	0.19	0.19
v/c Ratio	1.07	0.84		0.78	0.96			0.15		0.79	0.81	0.51
Control Delay	133.2	27.2		81.2	22.2			43.2		59.7	60.8	17.8
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	133.2	27.2		81.2	22.2			43.2		59.7	60.8	17.8
LOS	F	C		F	C			D		E	E	B
Approach Delay		34.1			23.7			43.2			47.2	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	~140	392		54	~776			6		186	191	58
Queue Length 95th (ft)	m#254	597		m#61	m#831			15		261	266	107
Internal Link Dist (ft)		2547			1999			269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	153	2820		83	2580			164		358	361	475
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.07	0.84		0.78	0.96			0.15		0.68	0.69	0.46

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	101 (84%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	31.2
Intersection LOS:	C
Intersection Capacity Utilization:	86.5%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2021 + Project  
 PM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway

↖ ↗ Ø2	↖ ↗ Ø6	→ Ø4 (R)	↖ ↗ Ø3
11 s	32 s	67 s	10 s
		← Ø8 (R)	↖ ↗ Ø7
		62 s	15 s

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	216	1740	403	350	1669	189	435	792	254	246	652	251
Future Volume (vph)	216	1740	403	350	1669	189	435	792	254	246	652	251
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			136			157			153
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	0.91	0.91	0.91	0.99	0.99	0.99	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	237	1912	443	354	1686	191	448	816	262	283	749	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	1912	443	354	1686	191	448	816	262	283	749	289
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	13.0	49.0	49.0	14.0	50.0	50.0	17.0	42.0	42.0	15.0	40.0	40.0
Total Split (%)	10.8%	40.8%	40.8%	11.7%	41.7%	41.7%	14.2%	35.0%	35.0%	12.5%	33.3%	33.3%
Maximum Green (s)	9.0	44.0	44.0	10.0	45.0	45.0	13.0	37.0	37.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	9.0	44.0	44.0	10.0	45.0	45.0	13.0	37.0	37.0	11.0	35.0	35.0
Actuated g/C Ratio	0.08	0.37	0.37	0.08	0.38	0.38	0.11	0.31	0.31	0.09	0.29	0.29
v/c Ratio	0.98	1.08	0.67	1.31	0.93	0.30	1.27	0.55	0.46	0.95	0.53	0.53
Control Delay	82.9	86.0	28.6	189.2	36.6	12.3	186.3	36.3	15.9	85.0	49.4	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.9	86.0	28.6	189.2	36.6	12.3	186.3	36.3	15.9	85.0	49.4	35.4
LOS	F	F	C	F	D	B	F	D	B	F	D	D
Approach Delay		75.9			58.7			76.8			54.0	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	91	-608	233	-181	293	38	-225	192	60	121	222	162
Queue Length 95th (ft)	m#139	#713	m316	m#159	m263	m34	#331	236	140	m#190	260	m242
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	243	1766	664	271	1806	647	352	1485	571	298	1405	545
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	1.08	0.67	1.31	0.93	0.30	1.27	0.55	0.46	0.95	0.53	0.53

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 57 (48%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 67.3  
 Intersection Capacity Utilization 87.4%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2021 + Project  
 PM Peak Hour

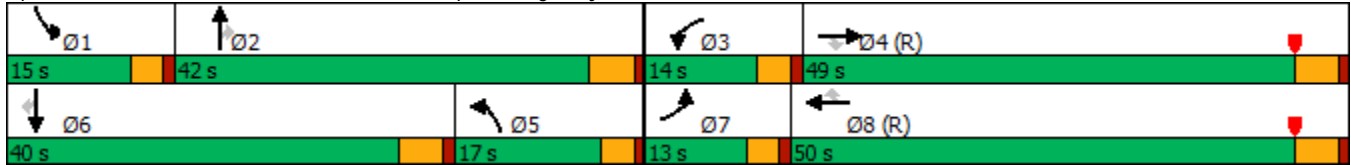
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2021 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	1986	202	487	2051	621	287	489	320	465	417	141
Future Volume (vph)	121	1986	202	487	2051	621	287	489	320	465	417	141
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				103			91			39
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	0.98	0.98	0.98	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95
Adj. Flow (vph)	123	2027	206	524	2205	668	309	526	344	489	439	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	2233	0	524	2205	668	309	526	344	489	587	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	1	5	2	3	1		6
Permitted Phases						8			2			



Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2021 + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	10.0	10.0	40.0	
Total Split (s)	10.0	45.0		17.0	52.0	16.0	18.0	42.0	17.0	16.0	40.0	
Total Split (%)	8.3%	37.5%		14.2%	43.3%	13.3%	15.0%	35.0%	14.2%	13.3%	33.3%	
Maximum Green (s)	6.0	40.0		13.0	47.0	12.0	14.0	37.0	13.0	12.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			30.0			30.0			28.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	6.0	40.0		13.0	47.0	60.0	14.0	37.0	55.0	12.0	35.0	
Actuated g/C Ratio	0.05	0.33		0.11	0.39	0.50	0.12	0.31	0.46	0.10	0.29	
v/c Ratio	0.76	1.11		1.49	1.17	0.83	0.82	0.51	0.47	1.50	0.61	
Control Delay	76.2	70.8		258.8	107.4	17.5	69.5	36.1	18.4	279.7	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.2	70.8		258.8	107.4	17.5	69.5	36.1	18.4	279.7	37.1	
LOS	E	E		F	F	B	E	D	B	F	D	
Approach Delay		71.1			113.1			39.7			147.4	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	44	~556		~288	~740	174	122	175	130	~271	192	
Queue Length 95th (ft)	m45	m#509		m#304	m#789	m198	#191	231	213	#379	254	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2009		352	1887	801	379	1033	736	325	968	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.76	1.11		1.49	1.17	0.83	0.82	0.51	0.47	1.50	0.61	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.50  
 Intersection Signal Delay: 94.5  
 Intersection Capacity Utilization 91.9%  
 Analysis Period (min) 15

Intersection LOS: F  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

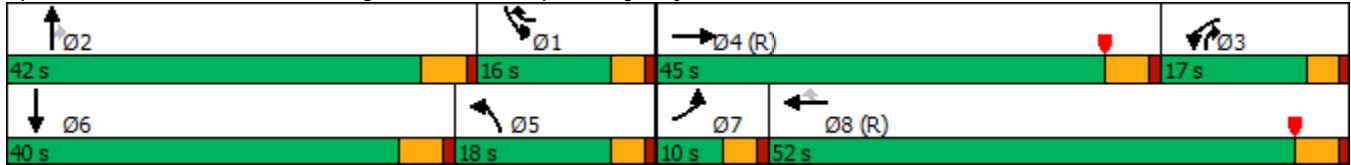
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



*APPENDIX D-XIII*

**YEAR 2040 TRAFFIC CONDITIONS  
– ICU METHODOLOGY**

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	61	172	71	181	428	96	174	1166	215	83	1262	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	172	71	181	428	96	174	1166	215	83	1262	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	43	18	45	107	24	44	292	54	21	316	12
Total Analysis Volume [veh/h]	61	172	71	181	428	96	174	1166	215	83	1262	46
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.07	0.07	0.11	0.15	0.15	0.10	0.27	0.27	0.05	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.599											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	46	151	68	233	410	29	33	1125	104	155	1365	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	151	68	233	410	29	33	1125	104	155	1365	140
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	38	17	58	103	7	8	281	26	39	341	35
Total Analysis Volume [veh/h]	46	151	68	233	410	29	33	1125	104	155	1365	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.06	0.06	0.14	0.13	0.13	0.02	0.24	0.24	0.09	0.30	0.30
Intersection LOS	A											
Intersection V/C	0.584											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	231	372	166	135	939	327	169	1148	359	243	1371	159
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	372	166	135	939	327	169	1148	359	243	1371	159
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	93	42	34	235	82	42	287	90	61	343	40
Total Analysis Volume [veh/h]	231	372	166	135	939	327	169	1148	359	243	1371	159
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.11	0.10	0.08	0.28	0.19	0.10	0.23	0.21	0.14	0.30	0.30
Intersection LOS	C											
Intersection V/C	0.794											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	188	154	225	858	812	4	7	1102	298	588	1745	517
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	154	225	858	812	4	7	1102	298	588	1745	517
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	39	56	215	203	1	2	276	75	147	436	129
Total Analysis Volume [veh/h]	188	154	225	858	812	4	7	1102	298	588	1745	517
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.07	0.07	0.25	0.24	0.24	0.00	0.21	0.21	0.17	0.34	0.05
Intersection LOS	C											
Intersection V/C	0.755											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.806

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	1021	0	866	0	1514	578	208	1971	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1021	0	866	0	1514	578	208	1971	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	255	0	217	0	379	145	52	493	0
Total Analysis Volume [veh/h]	0	0	0	1021	0	866	0	1514	578	208	1971	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.30	0.00	0.37	0.00	0.31	0.31	0.06	0.39	0.00
Intersection LOS	D											
Intersection V/C	0.806											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐						⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	935	0	469	0	0	0	432	2239	0	0	1232	496
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	935	0	469	0	0	0	432	2239	0	0	1232	496
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	234	0	117	0	0	0	108	560	0	0	308	124
Total Analysis Volume [veh/h]	935	0	469	0	0	0	432	2239	0	0	1232	496
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.28	0.00	0.28	0.00	0.00	0.00	0.13	0.44	0.00	0.00	0.25	0.25
Intersection LOS	C											
Intersection V/C	0.765											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.226

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	331	53	62	571	8	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	331	53	62	571	8	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	13	16	143	2	3
Total Analysis Volume [veh/h]	331	53	62	571	8	13
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.11	0.04	0.17	0.00	0.01
Intersection LOS	A					
Intersection V/C	0.226					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.459

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	42	527	286	332	1044	60	34	57	35	334	85	242
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	527	286	332	1044	60	34	57	35	334	85	242
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	132	72	83	261	15	9	14	9	84	21	61
Total Analysis Volume [veh/h]	42	527	286	332	1044	60	34	57	35	334	85	242
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.16	0.16	0.10	0.22	0.22	0.02	0.05	0.05	0.10	0.05	0.04
Intersection LOS	A											
Intersection V/C	0.459											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.731

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	55	130	208	219	102	126	196	1693	67	85	1606	173
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	130	208	219	102	126	196	1693	67	85	1606	173
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	33	52	55	26	32	49	423	17	21	402	43
Total Analysis Volume [veh/h]	55	130	208	219	102	126	196	1693	67	85	1606	173
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.08	0.12	0.13	0.03	0.07	0.12	0.35	0.35	0.05	0.31	0.10
Intersection LOS	C											
Intersection V/C	0.731											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.741

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	3	28	33	320	15	191	168	2088	5	61	2053	300
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	28	33	320	15	191	168	2088	5	61	2053	300
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	8	80	4	48	42	522	1	15	513	75
Total Analysis Volume [veh/h]	3	28	33	320	15	191	168	2088	5	61	2053	300
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.09	0.10	0.11	0.10	0.41	0.41	0.04	0.46	0.46
Intersection LOS	C											
Intersection V/C	0.741											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	456	528	194	173	1072	210	185	1724	434	236	1703	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	456	528	194	173	1072	210	185	1724	434	236	1703	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	132	49	43	268	53	46	431	109	59	426	23
Total Analysis Volume [veh/h]	456	528	194	173	1072	210	185	1724	434	236	1703	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.10	0.11	0.05	0.32	0.12	0.05	0.34	0.26	0.07	0.33	0.05
Intersection LOS	E											
Intersection V/C	0.907											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	177	187	478	195	646	42	60	1832	310	568	1895	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	177	187	478	195	646	42	60	1832	310	568	1895	213
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	47	120	49	162	11	15	458	78	142	474	53
Total Analysis Volume [veh/h]	177	187	478	195	646	42	60	1832	310	568	1895	213
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.06	0.28	0.06	0.20	0.20	0.02	0.32	0.32	0.17	0.37	0.07
Intersection LOS	D											
Intersection V/C	0.871											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	699	0	591	0	1781	750	0	2059	229
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	699	0	591	0	1781	750	0	2059	229
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	175	0	148	0	445	188	0	515	57
Total Analysis Volume [veh/h]	0	0	0	699	0	591	0	1781	750	0	2059	229
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.21	0.00	0.25	0.00	0.35	0.00	0.00	0.40	0.00
Intersection LOS	C											
Intersection V/C	0.707											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1133	165	871	0	0	60	137	1734	631	0	1181	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1133	165	871	0	0	60	137	1734	631	0	1181	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	41	218	0	0	15	34	434	158	0	295	2
Total Analysis Volume [veh/h]	1133	165	871	0	0	60	137	1734	631	0	1181	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.22	0.32	0.32	0.00	0.00	0.02	0.08	0.34	0.00	0.00	0.17	0.17
Intersection LOS	C											
Intersection V/C	0.727											

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑ ↵			↵ ↑ ↵			↵ ↑ ↑ ↵			↵ ↑ ↑ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	184	351	132	121	224	247	109	1267	59	91	1704	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	351	132	121	224	247	109	1267	59	91	1704	165
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	88	33	30	56	62	27	317	15	23	426	41
Total Analysis Volume [veh/h]	184	351	132	121	224	247	109	1267	59	91	1704	165
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.14	0.14	0.07	0.14	0.14	0.06	0.26	0.26	0.05	0.37	0.37
Intersection LOS	C											
Intersection V/C	0.727											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	128	396	117	211	290	80	36	1434	70	49	1691	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	396	117	211	290	80	36	1434	70	49	1691	145
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	99	29	53	73	20	9	359	18	12	423	36
Total Analysis Volume [veh/h]	128	396	117	211	290	80	36	1434	70	49	1691	145
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.15	0.15	0.12	0.11	0.11	0.02	0.29	0.29	0.03	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.706											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	474	776	191	75	397	101	172	1484	406	226	1590	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	474	776	191	75	397	101	172	1484	406	226	1590	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	194	48	19	99	25	43	371	102	57	398	24
Total Analysis Volume [veh/h]	474	776	191	75	397	101	172	1484	406	226	1590	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.23	0.11	0.04	0.12	0.06	0.10	0.29	0.24	0.13	0.33	0.33
Intersection LOS	C											
Intersection V/C	0.754											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	333	584	471	574	347	10	15	1524	253	464	1491	1019
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	333	584	471	574	347	10	15	1524	253	464	1491	1019
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	146	118	144	87	3	4	381	63	116	373	255
Total Analysis Volume [veh/h]	333	584	471	574	347	10	15	1524	253	464	1491	1019
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.21	0.21	0.17	0.11	0.11	0.00	0.26	0.26	0.14	0.29	0.43
Intersection LOS	D											
Intersection V/C	0.861											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.801

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	591	0	867	0	1640	930	298	2082	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	591	0	867	0	1640	930	298	2082	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	148	0	217	0	410	233	75	521	0
Total Analysis Volume [veh/h]	0	0	0	591	0	867	0	1640	930	298	2082	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.29	0.00	0.38	0.38	0.09	0.41	0.00
Intersection LOS	D											
Intersection V/C	0.801											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.879

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵						↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	1083	0	605	0	0	0	588	1683	0	0	1376	668
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1083	0	605	0	0	0	588	1683	0	0	1376	668
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	271	0	151	0	0	0	147	421	0	0	344	167
Total Analysis Volume [veh/h]	1083	0	605	0	0	0	588	1683	0	0	1376	668
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.32	0.00	0.36	0.00	0.00	0.00	0.17	0.33	0.00	0.00	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.879											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		←		←↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	529	10	26	470	55	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	529	10	26	470	55	50
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	3	7	118	14	13
Total Analysis Volume [veh/h]	529	10	26	470	55	50
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.16	0.02	0.14	0.03	0.03
Intersection LOS	A					
Intersection V/C	0.256					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	86	791	369	368	710	76	81	139	23	436	148	505
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	791	369	368	710	76	81	139	23	436	148	505
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	198	92	92	178	19	20	35	6	109	37	126
Total Analysis Volume [veh/h]	86	791	369	368	710	76	81	139	23	436	148	505
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.23	0.23	0.11	0.15	0.15	0.05	0.10	0.10	0.13	0.09	0.19
Intersection LOS	B											
Intersection V/C	0.622											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.683

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	33	56	104	163	133	201	143	1810	37	194	1804	265
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	56	104	163	133	201	143	1810	37	194	1804	265
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	14	26	41	33	50	36	453	9	49	451	66
Total Analysis Volume [veh/h]	33	56	104	163	133	201	143	1810	37	194	1804	265
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.06	0.10	0.04	0.12	0.08	0.36	0.36	0.11	0.35	0.16
Intersection LOS	B											
Intersection V/C	0.683											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.772

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	5	7	6	422	30	246	164	2099	12	62	2086	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	7	6	422	30	246	164	2099	12	62	2086	340
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	2	106	8	62	41	525	3	16	522	85
Total Analysis Volume [veh/h]	5	7	6	422	30	246	164	2099	12	62	2086	340
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.12	0.13	0.14	0.10	0.41	0.41	0.04	0.48	0.48
Intersection LOS	C											
Intersection V/C	0.772											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	485	892	296	258	690	261	226	1822	411	405	1794	201
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	485	892	296	258	690	261	226	1822	411	405	1794	201
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	121	223	74	65	173	65	57	456	103	101	449	50
Total Analysis Volume [veh/h]	485	892	296	258	690	261	226	1822	411	405	1794	201
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.17	0.17	0.08	0.20	0.15	0.07	0.36	0.24	0.12	0.35	0.12
Intersection LOS	D											
Intersection V/C	0.872											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.928

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	336	507	406	488	438	148	127	2081	211	539	2207	652
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	507	406	488	438	148	127	2081	211	539	2207	652
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	127	102	122	110	37	32	520	53	135	552	163
Total Analysis Volume [veh/h]	336	507	406	488	438	148	127	2081	211	539	2207	652
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.15	0.24	0.14	0.17	0.17	0.04	0.34	0.34	0.16	0.43	0.24
Intersection LOS	E											
Intersection V/C	0.928											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.828

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	700	0	714	0	1885	1092	0	2552	534
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	700	0	714	0	1885	1092	0	2552	534
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	175	0	179	0	471	273	0	638	134
Total Analysis Volume [veh/h]	0	0	0	700	0	714	0	1885	1092	0	2552	534
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.21	0.00	0.28	0.00	0.37	0.00	0.00	0.50	0.00
Intersection LOS	D											
Intersection V/C	0.828											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.792

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1300	109	536	0	0	260	173	1934	542	0	1826	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1300	109	536	0	0	260	173	1934	542	0	1826	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	325	27	134	0	0	65	43	484	136	0	457	8
Total Analysis Volume [veh/h]	1300	109	536	0	0	260	173	1934	542	0	1826	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.29	0.29	0.00	0.00	0.08	0.10	0.38	0.00	0.00	0.27	0.27
Intersection LOS	C											
Intersection V/C	0.792											

*APPENDIX D-XIV*

**YEAR 2040 TRAFFIC CONDITIONS  
– HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2040  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	174	1166	215	83	1262	46	61	172	71	181	428	96
Future Volume (veh/h)	174	1166	215	83	1262	46	61	172	71	181	428	96
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	174	1166	215	83	1262	46	61	172	71	181	428	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	2291	422	103	1467	53	77	294	117	207	551	123
Arrive On Green	0.30	0.56	0.56	0.08	0.41	0.41	0.02	0.04	0.04	0.12	0.20	0.20
Sat Flow, veh/h	1688	4104	757	1688	4791	175	1688	2353	934	1688	2737	609
Grp Volume(v), veh/h	174	916	465	83	849	459	61	121	122	181	262	262
Grp Sat Flow(s),veh/h/ln	1688	1612	1636	1688	1612	1740	1688	1683	1604	1688	1683	1662
Q Serve(g_s), s	9.7	21.0	21.0	5.8	28.8	28.8	4.3	8.5	9.0	12.6	17.7	17.9
Cycle Q Clear(g_c), s	9.7	21.0	21.0	5.8	28.8	28.8	4.3	8.5	9.0	12.6	17.7	17.9
Prop In Lane	1.00		0.46	1.00		0.10	1.00		0.58	1.00		0.37
Lane Grp Cap(c), veh/h	500	1800	913	103	988	533	77	210	200	207	339	335
V/C Ratio(X)	0.35	0.51	0.51	0.80	0.86	0.86	0.79	0.58	0.61	0.87	0.77	0.78
Avail Cap(c_a), veh/h	500	1800	913	155	1048	566	141	393	374	267	519	513
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	16.4	16.4	54.4	33.2	33.2	58.5	54.4	54.6	51.7	45.3	45.4
Incr Delay (d2), s/veh	0.2	1.0	2.0	7.7	7.9	13.5	6.0	0.9	1.0	18.6	1.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	7.4	7.8	2.6	10.9	12.6	2.0	3.8	3.8	6.3	7.4	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	17.4	18.4	62.1	41.1	46.7	64.5	55.3	55.7	70.3	46.9	47.3
LnGrp LOS	C	B	B	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1555			1391			304			705	
Approach Delay, s/veh		19.5			44.2			57.3			53.1	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	72.0	17.7	20.0	40.6	41.7	8.5	29.2				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	11.0	46.0	19.0	28.0	18.0	* 39	10.0	37.0				
Max Q Clear Time (g_c+I1), s	7.8	23.0	14.6	11.0	11.7	30.8	6.3	19.9				
Green Ext Time (p_c), s	0.0	13.6	0.1	1.8	0.1	5.9	0.0	4.2				

Intersection Summary

HCM 6th Ctrl Delay	37.1
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
2: Berry Street & Lambert Road































Year 2040  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (veh/h)	33	1125	104	155	1365	140	46	151	68	233	410	29
Future Volume (veh/h)	33	1125	104	155	1365	140	46	151	68	233	410	29
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	33	1125	104	155	1365	140	46	151	68	233	410	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	2140	198	180	2523	259	58	220	95	259	685	48
Arrive On Green	0.01	0.16	0.16	0.11	0.57	0.57	0.03	0.10	0.10	0.15	0.21	0.21
Sat Flow, veh/h	1688	4506	416	1688	4457	457	1688	2291	986	1688	3190	225
Grp Volume(v), veh/h	33	805	424	155	988	517	46	109	110	233	216	223
Grp Sat Flow(s),veh/h/ln	1688	1612	1697	1688	1612	1690	1688	1683	1594	1688	1683	1731
Q Serve(g_s), s	2.3	27.5	27.6	10.8	23.0	23.0	3.2	7.5	8.0	16.3	13.8	14.0
Cycle Q Clear(g_c), s	2.3	27.5	27.6	10.8	23.0	23.0	3.2	7.5	8.0	16.3	13.8	14.0
Prop In Lane	1.00		0.25	1.00		0.27	1.00		0.62	1.00		0.13
Lane Grp Cap(c), veh/h	41	1532	806	180	1825	956	58	161	153	259	361	372
V/C Ratio(X)	0.81	0.53	0.53	0.86	0.54	0.54	0.79	0.68	0.72	0.90	0.60	0.60
Avail Cap(c_a), veh/h	56	1532	806	211	1825	956	127	352	333	309	534	550
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	0.45	0.45	0.45	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	38.2	38.2	52.7	16.3	16.3	57.5	52.4	52.7	49.9	42.4	42.5
Incr Delay (d2), s/veh	26.8	1.0	1.9	11.9	0.5	1.0	8.8	1.8	2.4	22.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	12.0	12.9	5.1	7.9	8.4	1.5	3.2	3.3	8.4	5.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.0	39.2	40.1	64.7	16.8	17.3	66.3	54.3	55.1	72.8	43.0	43.1
LnGrp LOS	F	D	D	E	B	B	E	D	E	E	D	D
Approach Vol, veh/h		1262			1660			265			672	
Approach Delay, s/veh		40.7			21.4			56.7			53.3	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.8	64.0	21.4	17.8	5.9	74.9	7.1	32.1				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	15.0	37.6	22.0	25.1	4.0	49.6	9.0	38.1				
Max Q Clear Time (g_c+I1), s	12.8	29.6	18.3	10.0	4.3	25.0	5.2	16.0				
Green Ext Time (p_c), s	0.0	5.6	0.1	1.5	0.0	15.5	0.0	3.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			35.7									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Year 2040  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	169	1148	359	243	1371	159	231	372	166	135	939	327
Future Volume (veh/h)	169	1148	359	243	1371	159	231	372	166	135	939	327
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	1148	359	243	1371	159	231	372	166	135	939	327
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1578	490	253	1617	188	246	978	436	141	1006	449
Arrive On Green	0.11	0.33	0.33	0.15	0.37	0.37	0.08	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1688	4837	1502	1688	4395	510	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	169	1148	359	243	1006	524	231	372	166	135	939	327
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1680	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	11.9	25.2	25.4	17.2	34.4	34.4	8.4	10.6	10.6	9.6	32.6	23.4
Cycle Q Clear(g_c), s	11.9	25.2	25.4	17.2	34.4	34.4	8.4	10.6	10.6	9.6	32.6	23.4
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1578	490	253	1187	618	246	978	436	141	1006	449
V/C Ratio(X)	0.92	0.73	0.73	0.96	0.85	0.85	0.94	0.38	0.38	0.96	0.93	0.73
Avail Cap(c_a), veh/h	183	1578	490	253	1187	618	246	982	438	141	1010	450
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)	0.73	0.73	0.73	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	35.7	35.8	50.6	34.8	34.8	55.2	34.0	34.0	54.8	40.9	37.7
Incr Delay (d2), s/veh	36.5	2.2	6.9	34.0	4.9	8.9	40.9	0.3	0.8	63.1	15.1	6.4
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	6.8	9.8	10.1	9.4	13.6	14.9	4.8	4.3	3.9	6.5	15.3	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.5	37.9	42.7	84.6	39.7	43.7	96.2	34.3	34.7	117.9	56.0	44.1
LnGrp LOS	F	D	D	F	D	D	F	C	C	F	E	D
Approach Vol, veh/h		1676			1773			769			1401	
Approach Delay, s/veh		44.1			47.1			53.0			59.2	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	44.2	14.0	39.8	17.0	49.2	13.0	40.8				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	18.0	39.0	10.0	35.0	13.0	44.0	9.0	36.0				
Max Q Clear Time (g_c+I1), s	19.2	27.4	11.6	12.6	13.9	36.4	10.4	34.6				
Green Ext Time (p_c), s	0.0	9.8	0.0	6.6	0.0	7.0	0.0	1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.0									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Year 2040  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (veh/h)	7	1102	298	588	1745	517	188	154	225	858	812	4
Future Volume (veh/h)	7	1102	298	588	1745	517	188	154	225	858	812	4
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	7	1102	298	588	1745	517	188	154	225	858	812	4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	1433	384	627	2345	1145	241	148	250	910	996	5
Arrive On Green	0.00	0.30	0.30	0.38	0.97	0.97	0.07	0.08	0.08	0.28	0.29	0.29
Sat Flow, veh/h	3274	4820	1291	3274	4837	1502	3375	1772	3003	3274	3435	17
Grp Volume(v), veh/h	7	1045	355	588	1745	517	188	154	225	858	398	418
Grp Sat Flow(s),veh/h/ln	1637	1524	1540	1637	1612	1502	1688	1772	1502	1637	1683	1769
Q Serve(g_s), s	0.3	25.0	25.3	20.8	4.7	1.8	6.6	10.0	8.9	30.8	26.4	26.4
Cycle Q Clear(g_c), s	0.3	25.0	25.3	20.8	4.7	1.8	6.6	10.0	8.9	30.8	26.4	26.4
Prop In Lane	1.00		0.84	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	13	1359	458	627	2345	1145	241	148	250	910	488	513
V/C Ratio(X)	0.55	0.77	0.78	0.94	0.74	0.45	0.78	1.04	0.90	0.94	0.82	0.82
Avail Cap(c_a), veh/h	55	1359	458	655	2345	1145	253	148	250	955	505	531
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.41	0.41	0.41	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.7	38.4	38.5	36.3	1.0	0.2	54.8	55.0	54.5	42.4	39.6	39.6
Incr Delay (d2), s/veh	8.4	2.7	8.1	10.5	0.9	0.5	12.4	85.9	31.0	16.3	9.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.3	10.2	7.1	0.7	0.3	3.2	7.9	4.4	14.1	11.8	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	41.1	46.6	46.9	1.9	0.7	67.2	140.9	85.5	58.7	48.6	48.2
LnGrp LOS	E	D	D	D	A	A	E	F	F	E	D	D
Approach Vol, veh/h		1407			2850			567			1674	
Approach Delay, s/veh		42.6			11.0			94.5			53.7	
Approach LOS		D			B			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	40.7	37.3	15.0	4.5	63.2	12.6	39.8				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	24.0	33.0	35.0	10.0	2.0	55.0	9.0	36.0				
Max Q Clear Time (g_c+I1), s	22.8	27.3	32.8	12.0	2.3	6.7	8.6	28.4				
Green Ext Time (p_c), s	0.2	4.5	0.6	0.0	0.0	30.7	0.0	4.0				

Intersection Summary

HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Year 2040  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1514	578	208	1971	0	0	0	0	1021	0	866
Future Volume (veh/h)	0	1514	578	208	1971	0	0	0	0	1021	0	866
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1596	523	208	1971	0				1290	0	577
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2121	599	246	2474	0				1396	0	621
Arrive On Green	0.00	0.80	0.80	0.15	1.00	0.00				0.41	0.00	0.41
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1596	523	208	1971	0				1290	0	577
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	18.2	27.8	7.4	0.0	0.0				43.5	0.0	43.9
Cycle Q Clear(g_c), s	0.0	18.2	27.8	7.4	0.0	0.0				43.5	0.0	43.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2121	599	246	2474	0				1396	0	621
V/C Ratio(X)	0.00	0.75	0.87	0.85	0.80	0.00				0.92	0.00	0.93
Avail Cap(c_a), veh/h	0	2121	599	246	2474	0				1448	0	644
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.42	0.42	0.48	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	10.1	50.3	0.0	0.0				33.4	0.0	33.5
Incr Delay (d2), s/veh	0.0	1.1	7.6	12.5	1.3	0.0				10.1	0.0	19.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	4.5	3.2	0.3	0.0				19.3	0.0	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	17.7	62.9	1.3	0.0				43.5	0.0	53.2
LnGrp LOS	A	B	B	E	A	A				D	A	D
Approach Vol, veh/h		2119			2179						1867	
Approach Delay, s/veh		12.1			7.2						46.5	
Approach LOS		B			A						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.5	52.4		54.1		65.9						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.0	46.0		51.5		59.5						
Max Q Clear Time (g_c+I1), s	9.4	29.8		45.9		2.0						
Green Ext Time (p_c), s	0.0	11.1		3.7		24.4						

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Year 2040  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔↔		↔			
Traffic Volume (veh/h)	432	2239	0	0	1232	496	935	0	469	0	0	0
Future Volume (veh/h)	432	2239	0	0	1232	496	935	0	469	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	432	2239	0	0	1328	432	935	0	469			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	632	2829	0	0	1883	532	1114	0	511			
Arrive On Green	0.39	1.00	0.00	0.00	0.35	0.35	0.34	0.00	0.34			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	432	2239	0	0	1328	432	935	0	469			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	13.2	0.0	0.0	0.0	25.8	31.3	31.6	0.0	36.0			
Cycle Q Clear(g_c), s	13.2	0.0	0.0	0.0	25.8	31.3	31.6	0.0	36.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	632	2829	0	0	1883	532	1114	0	511			
V/C Ratio(X)	0.68	0.79	0.00	0.00	0.71	0.81	0.84	0.00	0.92			
Avail Cap(c_a), veh/h	632	2829	0	0	1883	532	1187	0	544			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.22	0.22	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.8	0.0	0.0	0.0	33.4	35.1	36.6	0.0	38.0			
Incr Delay (d2), s/veh	0.7	0.5	0.0	0.0	2.3	12.7	5.3	0.0	20.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.1	0.0	0.0	11.0	12.8	13.3	0.0	15.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.5	0.0	0.0	35.6	47.9	41.8	0.0	58.0			
LnGrp LOS	C	A	A	A	D	D	D	A	E			
Approach Vol, veh/h		2671			1760			1404				
Approach Delay, s/veh		6.0			38.6			47.2				
Approach LOS		A			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		74.7			27.7	47.0		45.3				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		67.5			20.5	42.5		43.5				
Max Q Clear Time (g_c+I1), s		2.0			15.2	33.3		38.0				
Green Ext Time (p_c), s		32.7			0.8	6.2		2.9				

Intersection Summary

HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane

Year 2040  
 AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	13	331	53	62	571
Future Volume (veh/h)	8	13	331	53	62	571
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	8	13	331	53	62	571
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	50	44	2340	371	898	2706
Arrive On Green	0.03	0.03	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1688	1502	2999	461	999	3455
Grp Volume(v), veh/h	8	13	190	194	62	571
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1689	999	1683
Q Serve(g_s), s	0.3	0.5	1.5	1.5	0.9	2.4
Cycle Q Clear(g_c), s	0.3	0.5	1.5	1.5	2.4	2.4
Prop In Lane	1.00	1.00		0.27	1.00	
Lane Grp Cap(c), veh/h	50	44	1353	1358	898	2706
V/C Ratio(X)	0.16	0.29	0.14	0.14	0.07	0.21
Avail Cap(c_a), veh/h	591	526	1353	1358	898	2706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.25	0.25	0.74	0.74
Uniform Delay (d), s/veh	28.4	28.5	1.3	1.3	1.6	1.4
Incr Delay (d2), s/veh	1.5	3.6	0.1	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.9	32.1	1.4	1.4	1.7	1.5
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	21		384			633
Approach Delay, s/veh	31.3		1.4			1.5
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		53.2			53.2	6.8
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		3.5			4.4	2.5
Green Ext Time (p_c), s		2.1			4.0	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			2.1			
HCM 6th LOS			A			

# HCM 6th Signalized Intersection Summary

## 8: Brea Boulevard & Birch Street

Year 2040  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	34	57	35	334	85	242	42	527	286	332	1044	60
Future Volume (veh/h)	34	57	35	334	85	242	42	527	286	332	1044	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	34	57	35	334	85	242	42	527	286	332	1044	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	77	47	396	302	838	485	833	388	1269	1677	96
Arrive On Green	0.03	0.07	0.07	0.12	0.17	0.17	0.58	0.52	0.52	0.39	0.36	0.36
Sat Flow, veh/h	1688	1027	631	3274	1772	1502	1688	3225	1502	3274	4680	269
Grp Volume(v), veh/h	34	0	92	334	85	242	42	527	286	332	719	385
Grp Sat Flow(s),veh/h/ln	1688	0	1658	1637	1772	1502	1688	1612	1502	1637	1612	1724
Q Serve(g_s), s	2.4	0.0	6.5	12.0	5.0	1.6	1.3	14.1	17.8	8.3	22.1	22.1
Cycle Q Clear(g_c), s	2.4	0.0	6.5	12.0	5.0	1.6	1.3	14.1	17.8	8.3	22.1	22.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	57	0	124	396	302	838	485	833	388	1269	1156	618
V/C Ratio(X)	0.59	0.00	0.74	0.84	0.28	0.29	0.09	0.63	0.74	0.26	0.62	0.62
Avail Cap(c_a), veh/h	84	0	456	518	679	1158	485	833	388	1269	1156	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	0.0	54.4	51.6	43.4	6.8	18.4	24.9	25.8	25.0	31.8	31.8
Incr Delay (d2), s/veh	9.5	0.0	8.4	9.5	0.5	0.2	0.1	3.3	10.7	0.1	2.5	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.0	5.4	2.3	2.1	0.5	4.5	5.8	3.2	8.9	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	0.0	62.8	61.1	43.9	6.9	18.5	28.2	36.6	25.2	34.3	36.5
LnGrp LOS	E	A	E	E	D	A	B	C	D	C	C	D
Approach Vol, veh/h		126			661			855			1436	
Approach Delay, s/veh		63.9			39.1			30.5			32.8	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	50.5	36.0	19.5	14.0	38.5	48.0	8.1	25.4				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	31.0	19.0	* 33	7.0	43.0	6.0	46.0				
Max Q Clear Time (g_c+I1), s	10.3	19.8	14.0	8.5	3.3	24.1	4.4	7.0				
Green Ext Time (p_c), s	0.8	4.0	0.5	0.4	0.0	7.1	0.0	1.4				

### Intersection Summary

HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

### Notes

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

HCM 6th Signalized Intersection Summary  
 9: Puente Street & Imperial Highway

Year 2040  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖	↑	↖	↖	↑↑	↖
Traffic Volume (veh/h)	196	1693	67	85	1606	173	55	130	208	219	102	126
Future Volume (veh/h)	196	1693	67	85	1606	173	55	130	208	219	102	126
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	196	1693	67	85	1606	173	55	130	208	219	102	126
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	2579	102	105	2016	626	358	498	422	293	945	422
Arrive On Green	0.18	0.54	0.54	0.12	0.83	0.83	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1688	4774	189	1688	4837	1502	1153	1772	1502	1042	3367	1502
Grp Volume(v), veh/h	196	1143	617	85	1606	173	55	130	208	219	102	126
Grp Sat Flow(s),veh/h/ln	1688	1612	1738	1688	1612	1502	1153	1772	1502	1042	1683	1502
Q Serve(g_s), s	13.0	30.3	30.3	5.9	19.8	3.0	4.5	6.8	13.9	24.8	2.7	7.9
Cycle Q Clear(g_c), s	13.0	30.3	30.3	5.9	19.8	3.0	7.2	6.8	13.9	31.6	2.7	7.9
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1742	939	105	2016	626	358	498	422	293	945	422
V/C Ratio(X)	0.65	0.66	0.66	0.81	0.80	0.28	0.15	0.26	0.49	0.75	0.11	0.30
Avail Cap(c_a), veh/h	309	1742	939	183	2016	626	361	502	425	296	954	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.26	0.26	0.26	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	45.9	19.7	19.7	51.8	7.5	6.1	34.7	33.5	36.0	45.8	32.0	33.9
Incr Delay (d2), s/veh	4.7	1.9	3.6	3.9	0.9	0.3	0.2	0.3	0.9	6.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	10.9	12.2	2.4	2.8	0.9	1.3	2.9	5.0	6.8	1.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	21.6	23.2	55.7	8.4	6.4	34.9	33.8	36.9	52.4	32.0	34.1
LnGrp LOS	D	C	C	E	A	A	C	C	D	D	C	C
Approach Vol, veh/h		1956			1864			393			447	
Approach Delay, s/veh		25.0			10.4			35.6			42.6	
Approach LOS		C			B			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		38.7	11.5	69.8		38.7	26.3	55.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	13.0	59.0		34.0	22.0	* 50				
Max Q Clear Time (g_c+I1), s		15.9	7.9	32.3		33.6	15.0	21.8				
Green Ext Time (p_c), s		1.4	0.1	13.7		0.1	0.3	14.1				

Intersection Summary

HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary  
 10: Berry Street & Imperial Highway

Year 2040  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	168	2088	5	61	2053	300	3	28	33	320	15	191
Future Volume (veh/h)	168	2088	5	61	2053	300	3	28	33	320	15	191
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	168	2088	5	61	2053	300	3	28	33	331	0	191
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	3290	8	77	1852	266	8	70	66	309	0	138
Arrive On Green	0.09	0.22	0.22	0.03	0.29	0.29	0.04	0.04	0.04	0.09	0.00	0.09
Sat Flow, veh/h	1688	4983	12	1688	4273	613	171	1593	1502	3375	0	1502
Grp Volume(v), veh/h	168	1351	742	61	1540	813	31	0	33	331	0	191
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1662	1763	0	1502	1688	0	1502
Q Serve(g_s), s	11.3	45.6	45.6	4.3	52.0	52.0	2.1	0.0	2.6	11.0	0.0	11.0
Cycle Q Clear(g_c), s	11.3	45.6	45.6	4.3	52.0	52.0	2.1	0.0	2.6	11.0	0.0	11.0
Prop In Lane	1.00		0.01	1.00		0.37	0.10		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	446	2129	1168	77	1397	720	78	0	66	309	0	138
V/C Ratio(X)	0.38	0.63	0.63	0.79	1.10	1.13	0.40	0.00	0.50	1.07	0.00	1.39
Avail Cap(c_a), veh/h	446	2129	1168	84	1397	720	411	0	350	309	0	138
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.21	0.21	0.21	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	45.4	33.8	33.8	57.6	42.6	42.6	55.8	0.0	56.1	54.5	0.0	54.5
Incr Delay (d2), s/veh	0.4	1.1	1.9	9.5	48.8	62.2	3.3	0.0	5.7	70.7	0.0	212.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	19.8	22.1	2.0	30.4	34.0	1.0	0.0	1.1	7.6	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	34.9	35.7	67.1	91.4	104.8	59.1	0.0	61.8	125.2	0.0	267.0
LnGrp LOS	D	C	D	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2261			2414			64			522	
Approach Delay, s/veh		36.0			95.3			60.5			177.1	
Approach LOS		D			F			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	9.5	84.2		16.0	36.7	57.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		28.0	6.0	56.0		11.0	10.0	* 52				
Max Q Clear Time (g_c+I1), s		4.6	6.3	47.6		13.0	13.3	54.0				
Green Ext Time (p_c), s		0.2	0.0	6.8		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	77.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2040  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	185	1724	434	236	1703	90	456	528	194	173	1072	210
Future Volume (veh/h)	185	1724	434	236	1703	90	456	528	194	173	1072	210
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	185	1724	434	236	1703	90	456	528	194	173	1072	210
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	1653	513	204	1653	513	506	1733	538	288	982	438
Arrive On Green	0.04	0.23	0.23	0.06	0.34	0.34	0.15	0.36	0.36	0.12	0.39	0.39
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	185	1724	434	236	1703	90	456	528	194	173	1072	210
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	6.8	41.0	33.2	7.5	41.0	5.0	16.4	9.4	11.4	6.0	35.0	12.6
Cycle Q Clear(g_c), s	6.8	41.0	33.2	7.5	41.0	5.0	16.4	9.4	11.4	6.0	35.0	12.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	1653	513	204	1653	513	506	1733	538	288	982	438
V/C Ratio(X)	0.91	1.04	0.85	1.16	1.03	0.18	0.90	0.30	0.36	0.60	1.09	0.48
Avail Cap(c_a), veh/h	204	1653	513	204	1653	513	518	1733	538	300	982	438
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.52	0.52	0.52	0.39	0.39	0.39	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	57.2	46.3	43.2	56.3	39.5	27.7	49.8	27.7	28.4	51.0	36.7	29.9
Incr Delay (d2), s/veh	24.6	28.7	8.9	91.4	22.5	0.3	18.6	0.5	1.9	2.7	55.4	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	21.0	13.8	5.6	18.8	1.8	7.9	3.6	4.3	2.5	20.6	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.7	74.9	52.1	147.6	62.0	28.0	68.5	28.2	30.2	53.7	92.1	33.1
LnGrp LOS	F	F	D	F	F	C	E	C	C	D	F	C
Approach Vol, veh/h		2343			2029			1178			1455	
Approach Delay, s/veh		71.2			70.4			44.1			79.1	
Approach LOS		E			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	48.0	11.5	46.0	22.5	40.0	11.5	46.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	43.0	7.0	41.0	19.0	35.0	7.0	41.0				
Max Q Clear Time (g_c+I1), s	8.0	13.4	9.5	43.0	18.4	37.0	8.8	43.0				
Green Ext Time (p_c), s	0.1	4.3	0.0	0.0	0.1	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			68.1									
HCM 6th LOS			E									



HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2040  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↑		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔↔
Traffic Volume (veh/h)	60	1832	310	568	1895	213	177	187	478	195	646	42
Future Volume (veh/h)	60	1832	310	568	1895	213	177	187	478	195	646	42
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	60	1832	310	568	1895	213	177	187	478	195	646	42
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	515	1675	283	897	2096	738	229	1049	468	191	936	61
Arrive On Green	0.16	0.32	0.32	0.27	0.43	0.43	0.07	0.31	0.31	0.06	0.29	0.29
Sat Flow, veh/h	3274	5288	894	3274	4837	1502	3274	3367	1502	3274	3209	208
Grp Volume(v), veh/h	60	1583	559	568	1895	213	177	187	478	195	339	349
Grp Sat Flow(s),veh/h/ln	1637	1524	1611	1637	1612	1502	1637	1683	1502	1637	1683	1734
Q Serve(g_s), s	1.9	38.0	38.0	18.3	43.8	7.0	6.4	4.9	24.4	7.0	21.4	21.4
Cycle Q Clear(g_c), s	1.9	38.0	38.0	18.3	43.8	7.0	6.4	4.9	24.4	7.0	21.4	21.4
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	515	1448	510	897	2096	738	229	1049	468	191	491	506
V/C Ratio(X)	0.12	1.09	1.09	0.63	0.90	0.29	0.77	0.18	1.02	1.02	0.69	0.69
Avail Cap(c_a), veh/h	515	1448	510	897	2096	738	246	1049	468	191	491	506
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)	0.24	0.24	0.24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	41.0	41.0	38.2	31.7	11.3	54.9	30.1	17.6	56.5	37.7	37.7
Incr Delay (d2), s/veh	0.0	45.5	50.9	1.5	7.0	1.0	13.3	0.4	47.2	70.7	7.7	7.5
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	0.8	19.6	21.5	7.3	17.2	2.0	3.0	2.0	13.9	4.7	9.6	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	86.5	91.9	39.7	38.6	12.3	68.2	30.5	64.9	127.2	45.4	45.2
LnGrp LOS	D	F	F	D	D	B	E	C	F	F	D	D
Approach Vol, veh/h		2202			2676			842			883	
Approach Delay, s/veh		86.7			36.8			57.9			63.4	
Approach LOS		F			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	42.4	37.3	43.0	13.4	40.0	23.3	57.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0				
Max Green Setting (Gmax), s	7.0	37.0	20.0	38.0	9.0	* 35	6.0	52.0				
Max Q Clear Time (g_c+I1), s	9.0	26.4	20.3	40.0	8.4	23.4	3.9	45.8				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	3.1	0.0	5.2				

Intersection Summary

HCM 6th Ctrl Delay	59.7
HCM 6th LOS	E

Notes

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



# HCM 6th Signalized Intersection Summary

## 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (veh/h)	0	1781	2059	0	699	591
Future Volume (veh/h)	0	1781	2059	0	699	591
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1781	2059	0	849	430
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2338	2338	0	1181	526
Arrive On Green	0.00	0.48	0.48	0.00	0.35	0.35
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1781	2059	0	849	430
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	18.1	23.0	0.0	13.1	15.6
Cycle Q Clear(g_c), s	0.0	18.1	23.0	0.0	13.1	15.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2338	2338	0	1181	526
V/C Ratio(X)	0.00	0.76	0.88	0.00	0.72	0.82
Avail Cap(c_a), veh/h	0	2338	2338	0	1181	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.7	13.9	0.0	16.9	17.8
Incr Delay (d2), s/veh	0.0	2.4	5.2	0.0	3.8	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.3	7.1	0.0	5.1	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	19.1	0.0	20.7	31.0
LnGrp LOS	A	B	B	A	C	C
Approach Vol, veh/h		1781	2059		1279	
Approach Delay, s/veh		15.1	19.1		24.2	
Approach LOS		B	B		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				34.0	26.0	34.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				29.0	21.0	29.0
Max Q Clear Time (g_c+I1), s				20.1	17.6	25.0
Green Ext Time (p_c), s				6.7	1.8	3.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			19.0			
HCM 6th LOS			B			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↔	↗			↗↗
Traffic Volume (veh/h)	137	1734	0	0	1181	7	1133	165	871	0	0	60
Future Volume (veh/h)	137	1734	0	0	1181	7	1133	165	871	0	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	137	1734	0	0	1181	7	972	567	681	0	0	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	323	2338	0	0	1575	9	1463	768	651	0	0	0
Arrive On Green	0.19	0.48	0.00	0.00	0.25	0.25	0.43	0.43	0.43	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6548	37	3375	1772	1502			0
Grp Volume(v), veh/h	137	1734	0	0	857	331	972	567	681			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1765	1688	1772	1502			
Q Serve(g_s), s	8.6	34.6	0.0	0.0	20.8	20.8	27.5	32.0	52.0			
Cycle Q Clear(g_c), s	8.6	34.6	0.0	0.0	20.8	20.8	27.5	32.0	52.0			
Prop In Lane	1.00		0.00	0.00		0.02	1.00		1.00			
Lane Grp Cap(c), veh/h	323	2338	0	0	1143	441	1463	768	651			
V/C Ratio(X)	0.42	0.74	0.00	0.00	0.75	0.75	0.66	0.74	1.05			
Avail Cap(c_a), veh/h	323	2338	0	0	1143	441	1463	768	651			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	42.7	25.0	0.0	0.0	41.5	41.5	27.1	28.3	34.0			
Incr Delay (d2), s/veh	0.9	2.2	0.0	0.0	4.5	11.1	2.4	6.3	48.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	12.8	0.0	0.0	8.0	10.1	11.4	14.7	27.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	27.1	0.0	0.0	46.1	52.7	29.5	34.6	82.1			
LnGrp LOS	D	C	A	A	D	D	C	C	F			
Approach Vol, veh/h		1871			1188			2220				
Approach Delay, s/veh		28.3			47.9			46.9				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		57.0		63.0			28.0	35.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		52.0		47.0			13.0	* 30				
Max Q Clear Time (g_c+I1), s		54.0		36.6			10.6	22.8				
Green Ext Time (p_c), s		0.0		7.4			0.1	4.0				

Intersection Summary

HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	174	1166	215	83	1262	46	61	172	71	181	428	96
Future Volume (vph)	174	1166	215	83	1262	46	61	172	71	181	428	96
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.977			0.995			0.956			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4707	0	1676	4794	0	1676	3205	0	1676	3262	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4707	0	1676	4794	0	1676	3205	0	1676	3262	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			5			49			23	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	174	1166	215	83	1262	46	61	172	71	181	428	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	1381	0	83	1308	0	61	243	0	181	524	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	21.0	51.0		14.0	44.0		13.0	33.0		22.0	42.0	
Total Split (%)	17.5%	42.5%		11.7%	36.7%		10.8%	27.5%		18.3%	35.0%	
Maximum Green (s)	18.0	46.0		11.0	39.0		10.0	28.0		19.0	37.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	15.5	62.9		9.5	55.2		8.2	17.1		16.2	26.7	
Actuated g/C Ratio	0.13	0.52		0.08	0.46		0.07	0.14		0.14	0.22	
v/c Ratio	0.81	0.56		0.62	0.59		0.54	0.49		0.80	0.70	
Control Delay	76.9	22.2		76.0	7.8		57.9	37.7		75.3	46.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.9	22.2		76.0	7.8		57.9	37.7		75.3	46.1	
LOS	E	C		E	A		E	D		E	D	
Approach Delay		28.3			11.8			41.8			53.6	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	131	255		53	117		49	77		136	195	
Queue Length 95th (ft)	#223	387		m97	253		m90	111		#225	223	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	251	2485		156	2207		139	785		265	1021	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.69	0.56		0.53	0.59		0.44	0.31		0.68	0.51	

Intersection Summary

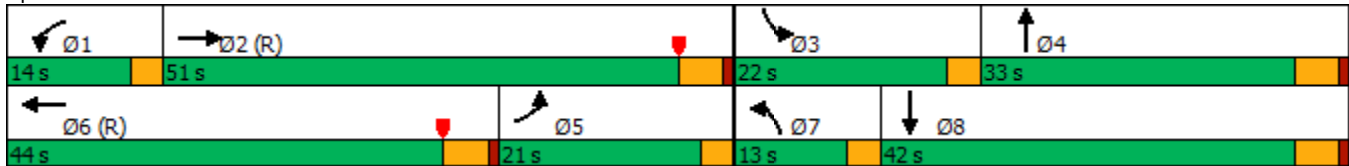
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 70 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2040  
 AM Peak Hour

Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 28.1	Intersection LOS: C
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	
Traffic Volume (vph)	33	1125	104	155	1365	140	46	151	68	233	410	29
Future Volume (vph)	33	1125	104	155	1365	140	46	151	68	233	410	29
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.987			0.986			0.953			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4755	0	1676	4750	0	1676	3195	0	1676	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4755	0	1676	4750	0	1676	3195	0	1676	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			17			55			6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	1125	104	155	1365	140	46	151	68	233	410	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	1229	0	155	1505	0	46	219	0	233	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	7.0	44.6		19.0	56.6		12.0	31.4		25.0	44.4	
Total Split (%)	5.8%	37.2%		15.8%	47.2%		10.0%	26.2%		20.8%	37.0%	
Maximum Green (s)	4.0	37.6		15.0	49.6		9.0	25.1		22.0	38.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	6.0	52.0		14.5	64.8		7.3	13.6		19.6	27.4	
Actuated g/C Ratio	0.05	0.43		0.12	0.54		0.06	0.11		0.16	0.23	
v/c Ratio	0.39	0.59		0.77	0.58		0.46	0.53		0.85	0.58	
Control Delay	74.1	23.4		81.3	7.8		53.2	53.7		75.9	43.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.1	23.4		81.3	7.8		53.2	53.7		75.9	43.4	
LOS	E	C		F	A		D	D		E	D	
Approach Delay		24.8			14.7			53.6			54.7	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	20	285		120	47		38	73		174	163	
Queue Length 95th (ft)	m#44	388		m130	m325		51	120		#291	186	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	84	2068		221	2574		125	711		307	1057	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.39	0.59		0.70	0.58		0.37	0.31		0.76	0.42	

Intersection Summary

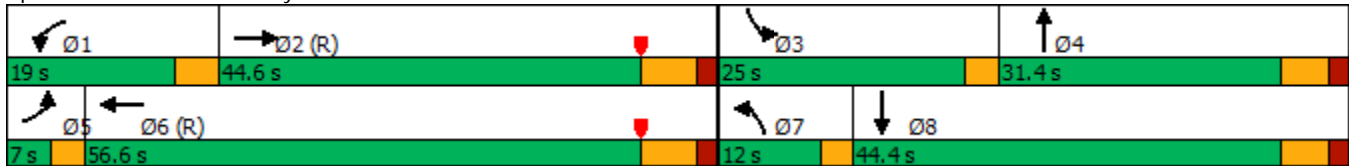
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 30.6 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2040  
 AM Peak Hour

Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 27.6	Intersection LOS: C
Intersection Capacity Utilization 74.2%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	































Splits and Phases: 2: Berry Street & Lambert Road





Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (vph)	169	1148	359	243	1371	159	231	372	166	135	939	327
Future Volume (vph)	169	1148	359	243	1371	159	231	372	166	135	939	327
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.984				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		19				166			235
Link Speed (mph)		45			45			35				35
Link Distance (ft)		3309			3979			1995				706
Travel Time (s)		50.1			60.3			38.9				13.8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	1148	359	243	1371	159	231	372	166	135	939	327
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	1148	359	243	1530	0	231	372	166	135	939	327
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117			117			117				117
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Detector 3 Position(ft)		234			234			234				234
Detector 3 Size(ft)		6			6			6				6
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3		8
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3		8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	44.0	44.0	22.0	49.0		13.0	40.0	40.0	14.0	41.0	41.0
Total Split (%)	14.2%	36.7%	36.7%	18.3%	40.8%		10.8%	33.3%	33.3%	11.7%	34.2%	34.2%
Maximum Green (s)	13.0	39.0	39.0	18.0	44.0		9.0	35.0	35.0	10.0	36.0	36.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.0	39.0	39.0	18.0	44.0		9.0	35.0	35.0	10.0	36.0	36.0
Actuated g/C Ratio	0.11	0.32	0.32	0.15	0.37		0.08	0.29	0.29	0.08	0.30	0.30
v/c Ratio	0.93	0.73	0.57	0.97	0.87		0.95	0.38	0.30	0.97	0.93	0.53
Control Delay	109.3	30.7	11.2	96.0	23.4		108.4	22.7	3.3	124.3	57.6	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.3	30.7	11.2	96.0	23.4		108.4	22.7	3.3	124.3	57.6	13.5
LOS	F	C	B	F	C		F	C	A	F	E	B
Approach Delay		34.5			33.3			44.3			53.8	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	112	311	149	166	365		84	108	2	106	372	53
Queue Length 95th (ft)	m#265	237	m30	m#337	451		#165	156	38	#236	#501	144
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	181	1565	628	251	1750		243	977	555	139	1005	614
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.73	0.57	0.97	0.87		0.95	0.38	0.30	0.97	0.93	0.53

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

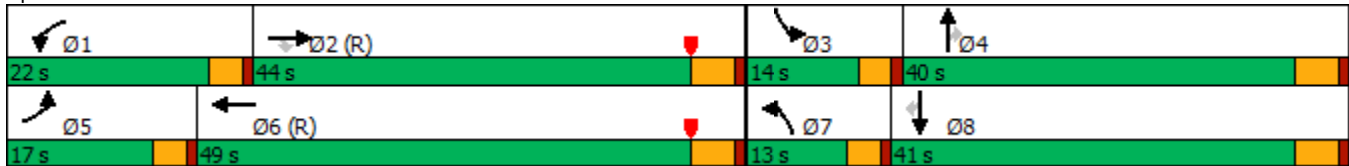
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2040  
 AM Peak Hour

Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 40.3	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1102	298	588	1745	517	188	154	225	858	812	4
Future Volume (vph)	7	1102	298	588	1745	517	188	154	225	858	812	4
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.968				0.850		0.939	0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5876	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5876	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						184		94	164			
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	1102	298	588	1745	517	188	154	225	858	812	4
Shared Lane Traffic (%)									47%			
Lane Group Flow (vph)	7	1400	0	588	1745	517	188	260	119	858	816	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	38.0		28.0	60.0	39.0	13.0	15.0	15.0	39.0	41.0	
Total Split (%)	5.0%	31.7%		23.3%	50.0%	32.5%	10.8%	12.5%	12.5%	32.5%	34.2%	
Maximum Green (s)	2.0	33.0		24.0	55.0	35.0	9.0	10.0	10.0	35.0	36.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.6	34.6		23.5	60.9	99.8	8.8	10.0	10.0	33.9	35.1	
Actuated g/C Ratio	0.02	0.29		0.20	0.51	0.83	0.07	0.08	0.08	0.28	0.29	
v/c Ratio	0.10	0.83		0.92	0.71	0.40	0.79	0.77	0.45	0.93	0.83	
Control Delay	76.3	21.3		68.9	12.9	1.2	77.5	50.2	8.3	59.6	48.3	
Queue Delay	0.0	0.9		0.0	0.9	0.8	0.0	0.1	0.0	0.0	0.0	
Total Delay	76.3	22.1		68.9	13.8	2.0	77.5	50.3	8.3	59.6	48.3	
LOS	E	C		E	B	A	E	D	A	E	D	
Approach Delay		22.4			23.0			50.5			54.1	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	3	215		208	166	20	75	69	0	329	307	
Queue Length 95th (ft)	m5	m209		m#294	m339	m35	#131	#134	25	#445	387	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	69	1694		652	2445	1290	243	337	264	948	1005	
Starvation Cap Reductn	0	0		0	382	453	0	0	0	0	0	
Spillback Cap Reductn	0	100		0	0	0	0	1	2	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.88		0.90	0.85	0.62	0.77	0.77	0.45	0.91	0.81	

Intersection Summary

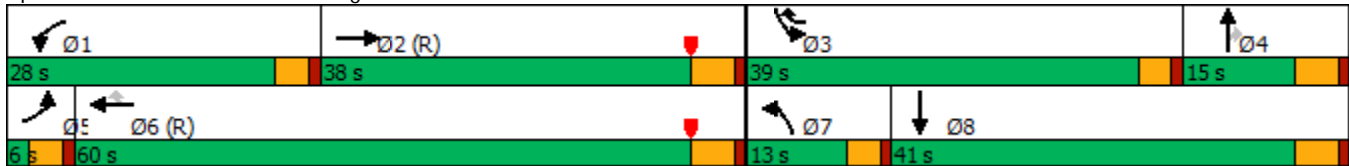
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Year 2040  
 AM Peak Hour

Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 33.3 Intersection LOS: C  
 Intersection Capacity Utilization 89.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1514	578	208	1971	0	0	0	0	1021	0	866
Future Volume (vph)	0	1514	578	208	1971	0	0	0	0	1021	0	866
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.990	0.850								0.937	0.850
Flt Protected				0.950						0.950	0.972	
Satd. Flow (prot)	0	4507	1290	3252	4818	0	0	0	0	1593	1463	1425
Flt Permitted				0.950						0.950	0.972	
Satd. Flow (perm)	0	4507	1290	3252	4818	0	0	0	0	1593	1463	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10	468								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1514	578	208	1971	0	0	0	0	1021	0	866
Shared Lane Traffic (%)			19%							36%		31%
Lane Group Flow (vph)	0	1624	468	208	1971	0	0	0	0	653	636	598
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		50.5	50.5	13.5	64.0					56.0	56.0	56.0
Total Split (%)		42.1%	42.1%	11.3%	53.3%					46.7%	46.7%	46.7%
Maximum Green (s)		46.0	46.0	9.0	59.5					51.5	51.5	51.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		46.0	46.0	9.0	59.5					51.5	51.5	51.5
Actuated g/C Ratio		0.38	0.38	0.08	0.50					0.43	0.43	0.43
v/c Ratio		0.94	0.60	0.86	0.83					0.96	0.97	0.93
Control Delay		37.4	6.7	80.9	18.8					59.2	58.8	52.6
Queue Delay		4.6	0.7	0.0	2.2					0.0	0.0	0.0
Total Delay		42.0	7.3	80.9	21.0					59.2	58.8	52.6
LOS		D	A	F	C					E	E	D
Approach Delay		34.2			26.7						57.0	
Approach LOS		C			C						E	
Queue Length 50th (ft)		250	65	87	445					505	486	423
Queue Length 95th (ft)		#482	m87	m#121	426					#768	#767	#678
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1733	783	243	2388					683	659	642
Starvation Cap Reductn		80	97	0	277					0	0	0
Spillback Cap Reductn		41	0	0	77					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.98	0.68	0.86	0.93					0.96	0.97	0.93

Intersection Summary

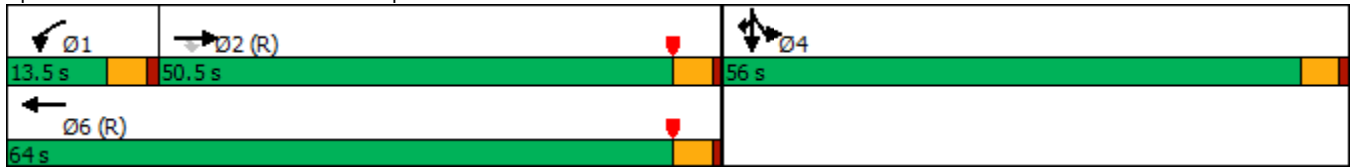
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 26 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 38.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 92.1%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.



Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	432	2239	0	0	1232	496	935	0	469	0	0	0
Future Volume (vph)	432	2239	0	0	1232	496	935	0	469	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.988	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12	387			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	432	2239	0	0	1232	496	935	0	469	0	0	0
Shared Lane Traffic (%)						22%						
Lane Group Flow (vph)	432	2239	0	0	1341	387	935	0	469	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	25.0	72.0			47.0	47.0	48.0		48.0			
Total Split (%)	20.8%	60.0%			39.2%	39.2%	40.0%		40.0%			
Maximum Green (s)	20.5	67.5			42.5	42.5	43.5		43.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	20.5	70.6			45.6	45.6	40.4		40.4			
Actuated g/C Ratio	0.17	0.59			0.38	0.38	0.34		0.34			
v/c Ratio	0.78	0.79			0.78	0.53	0.85		0.87			
Control Delay	46.6	15.8			37.0	5.6	45.5		49.8			
Queue Delay	0.0	0.9			1.0	0.0	0.0		0.0			
Total Delay	46.6	16.7			38.0	5.6	45.5		49.8			
LOS	D	B			D	A	D		D			
Approach Delay		21.6			30.8			47.0				
Approach LOS		C			C			D				
Queue Length 50th (ft)	168	279			358	0	337		297			
Queue Length 95th (ft)	m176	m296			431	83	413		#469			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	555	2835			1717	730	1178		578			
Starvation Cap Reductn	0	305			0	0	0		0			
Spillback Cap Reductn	0	0			161	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.78	0.88			0.86	0.53	0.79		0.81			

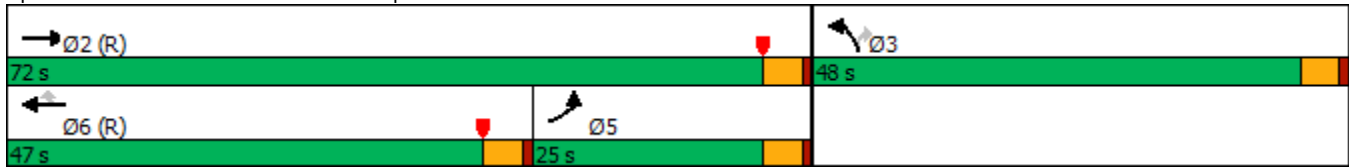
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 12.5 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 30.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 92.1%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.













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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	13	331	53	62	571
Future Volume (vph)	8	13	331	53	62	571
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.979			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3283	0	1676	3353
Flt Permitted	0.950				0.524	
Satd. Flow (perm)	1676	1500	3283	0	925	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		13	41			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	8	13	331	53	62	571
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	13	384	0	62	571
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040  
AM Peak Hour

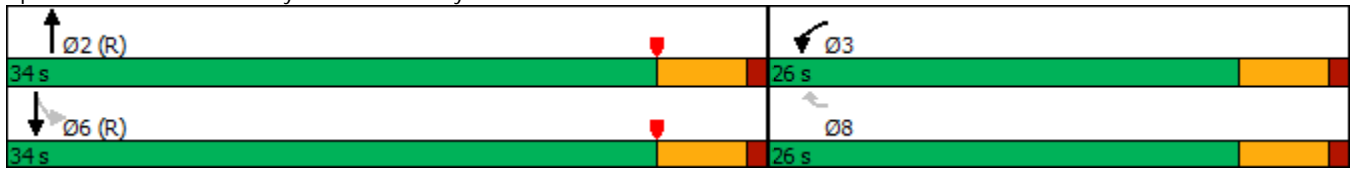


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	8.2	8.2	54.6		54.6	54.6
Actuated g/C Ratio	0.14	0.14	0.91		0.91	0.91
v/c Ratio	0.03	0.06	0.13		0.07	0.19
Control Delay	19.9	10.9	2.4		1.5	1.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	19.9	10.9	2.4		1.5	1.1
LOS	B	B	A		A	A
Approach Delay	14.3		2.4			1.1
Approach LOS	B		A			A
Queue Length 50th (ft)	3	0	0		0	0
Queue Length 95th (ft)	11	11	m48		m10	32
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	533	2991		842	3051
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.01	0.02	0.13		0.07	0.19

Intersection Summary




























Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	38 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.19
Intersection Signal Delay:	1.9
Intersection LOS:	A
Intersection Capacity Utilization:	33.9%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		  	  	
Traffic Volume (vph)	34	57	35	334	85	242	42	527	286	332	1044	60
Future Volume (vph)	34	57	35	334	85	242	42	527	286	332	1044	60
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.943				0.850		0.947			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1664	0	3252	1765	1500	1676	4562	0	3252	4779	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1664	0	3252	1765	1500	1676	4562	0	3252	4779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25				133		110			8	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	57	35	334	85	242	42	527	286	332	1044	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	92	0	334	85	242	42	813	0	332	1104	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						



Lanes, Volumes, Timings  
 8: Brea Boulevard & Birch Street

Year 2040  
 AM Peak Hour

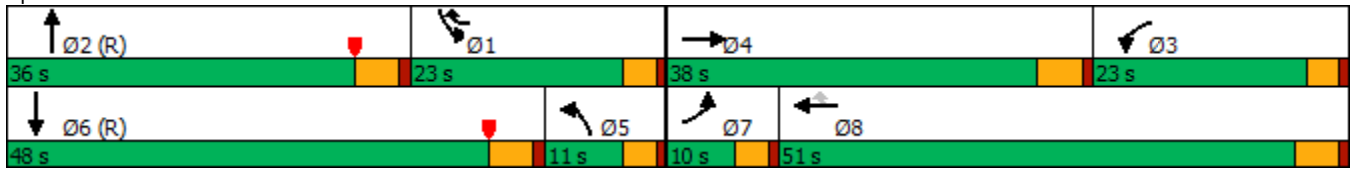


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	10.0	38.0		23.0	51.0	23.0	11.0	36.0		23.0	48.0	
Total Split (%)	8.3%	31.7%		19.2%	42.5%	19.2%	9.2%	30.0%		19.2%	40.0%	
Maximum Green (s)	6.0	33.0		19.0	46.0	19.0	7.0	31.0		19.0	43.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effect Green (s)	6.0	14.0		16.9	28.9	49.2	6.8	53.4		17.8	66.3	
Actuated g/C Ratio	0.05	0.12		0.14	0.24	0.41	0.06	0.44		0.15	0.55	
v/c Ratio	0.41	0.43		0.73	0.20	0.35	0.45	0.39		0.69	0.42	
Control Delay	70.2	38.8		59.1	35.6	8.1	54.1	7.6		40.4	11.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	70.2	38.8		59.1	35.6	8.1	54.1	7.6		40.4	11.6	
LOS	E	D		E	D	A	D	A		D	B	
Approach Delay		47.3			37.4			9.9			18.3	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)	26	50		128	57	48	34	30		125	83	
Queue Length 95th (ft)	61	83		177	78	58	m64	m45		m144	m217	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	83	475		516	676	693	97	2090		514	2645	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.41	0.19		0.65	0.13	0.35	0.43	0.39		0.65	0.42	

**Intersection Summary**

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 72 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 21.2 Intersection LOS: C  
 Intersection Capacity Utilization 56.1% ICU Level of Service B  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	1693	67	85	1606	173	55	130	208	219	102	126
Future Volume (vph)	196	1693	67	85	1606	173	55	130	208	219	102	126
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4789	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.688			0.620		
Satd. Flow (perm)	1676	4789	0	1676	4818	1500	1214	1765	1500	1094	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				173			208			126
Link Speed (mph)		45			45			40				40
Link Distance (ft)		713			2627			1029				2657
Travel Time (s)		10.8			39.8			17.5				45.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	196	1693	67	85	1606	173	55	130	208	219	102	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	1760	0	85	1606	173	55	130	208	219	102	126
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2				6
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	26.0	64.0		17.0	55.0	55.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	21.7%	53.3%		14.2%	45.8%	45.8%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	22.0	59.0		13.0	50.0	50.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effect Green (s)	22.0	69.8		10.8	56.4	56.4	27.6	27.6	27.6	27.6	27.6	27.6
Actuated g/C Ratio	0.18	0.58		0.09	0.47	0.47	0.23	0.23	0.23	0.23	0.23	0.23
v/c Ratio	0.64	0.63		0.57	0.71	0.22	0.20	0.32	0.41	0.87	0.13	0.29
Control Delay	55.9	20.0		65.1	7.0	0.6	36.5	39.0	7.0	61.1	24.2	5.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	20.0		65.1	7.0	0.6	36.5	39.0	7.0	61.1	24.2	5.0
LOS	E	C		E	A	A	D	D	A	E	C	A
Approach Delay		23.6			9.1			21.7			36.9	
Approach LOS		C			A			C			D	
Queue Length 50th (ft)	142	338		57	187	5	34	83	0	162	19	6
Queue Length 95th (ft)	224	448		m58	m122	m0	67	133	57	#268	37	19
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	307	2787		182	2264	796	343	500	574	309	950	515
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.63		0.47	0.71	0.22	0.16	0.26	0.36	0.71	0.11	0.24

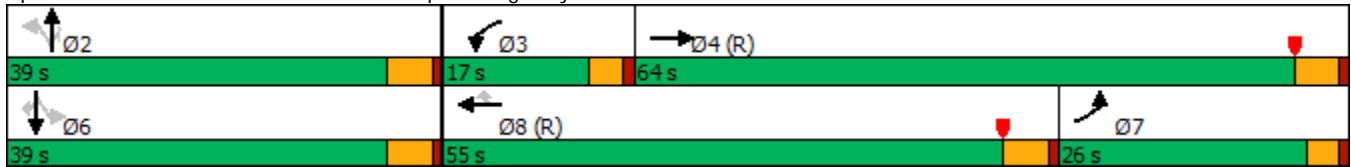
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 9 (8%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 18.9  
 Intersection Capacity Utilization 80.1%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↖		↗	↖	↗
Traffic Volume (vph)	168	2088	5	61	2053	300	3	28	33	320	15	191
Future Volume (vph)	168	2088	5	61	2053	300	3	28	33	320	15	191
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.981			0.923				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (prot)	1676	4818	0	1676	4726	0	0	3089	0	1593	1603	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (perm)	1676	4818	0	1676	4726	0	0	3089	0	1593	1603	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					28			33				191
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	168	2088	5	61	2053	300	3	28	33	320	15	191
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	168	2093	0	61	2353	0	0	64	0	166	169	191
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	14.0	61.0		10.0	57.0		33.0	33.0		16.0	16.0	16.0
Total Split (%)	11.7%	50.8%		8.3%	47.5%		27.5%	27.5%		13.3%	13.3%	13.3%
Maximum Green (s)	10.0	56.0		6.0	52.0		28.0	28.0		11.0	11.0	11.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		21.0	21.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	10.0	65.0		8.8	61.7		10.8	10.8		20.7	20.7	20.7
Actuated g/C Ratio	0.08	0.54		0.07	0.51		0.09	0.09		0.17	0.17	0.17
v/c Ratio	1.21	0.80		0.50	0.96		0.21	0.21		0.61	0.61	0.46
Control Delay	183.9	27.4		51.3	35.2		27.0	27.0		42.9	43.2	14.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	183.9	27.4		51.3	35.2		27.0	27.0		42.9	43.2	14.6
LOS	F	C		D	D		C	C		D	D	B
Approach Delay		39.1			35.6		27.0	27.0			32.7	
Approach LOS		D			D		C	C			C	
Queue Length 50th (ft)	~160	569		39	707		12	12		112	114	69
Queue Length 95th (ft)	m#306	#671		m48	m#803		28	28		#300	#304	97
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	139	2611		122	2443		746	746		274	276	416
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.21	0.80		0.50	0.96		0.09	0.09		0.61	0.61	0.46

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	86 (72%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.21
Intersection Signal Delay:	36.7
Intersection LOS:	D
Intersection Capacity Utilization:	86.9%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2040  
 AM Peak Hour

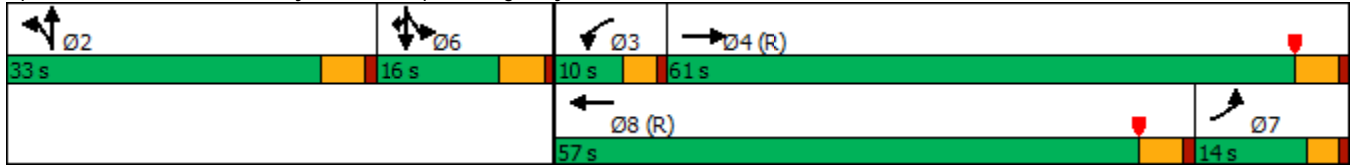
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: Berry Street & Imperial Highway





Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (vph)	185	1724	434	236	1703	90	456	528	194	173	1072	210
Future Volume (vph)	185	1724	434	236	1703	90	456	528	194	173	1072	210
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188			136			147			136
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	185	1724	434	236	1703	90	456	528	194	173	1072	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	1724	434	236	1703	90	456	528	194	173	1072	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	23.0	48.0	48.0	15.0	40.0	40.0
Total Split (%)	9.2%	38.3%	38.3%	9.2%	38.3%	38.3%	19.2%	40.0%	40.0%	12.5%	33.3%	33.3%
Maximum Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	7.0	41.3	41.3	7.0	41.3	41.3	18.7	43.0	43.0	10.7	35.0	35.0
Actuated g/C Ratio	0.06	0.34	0.34	0.06	0.34	0.34	0.16	0.36	0.36	0.09	0.29	0.29
v/c Ratio	0.98	1.04	0.68	1.25	1.03	0.15	0.90	0.31	0.31	0.60	1.10	0.39
Control Delay	102.1	60.8	17.9	162.7	40.2	0.8	71.7	28.4	9.2	46.9	90.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.1	60.8	17.9	162.7	40.2	0.8	71.7	28.4	9.2	46.9	90.1	10.4
LOS	F	E	B	F	D	A	E	C	A	D	F	B
Approach Delay		56.1			52.7			42.0			73.5	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	75	~548	246	~120	~383	1	180	106	24	70	~485	18
Queue Length 95th (ft)	m#122	#646	m368	m#152	#599	m2	#270	138	78	107	#605	64
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	189	1657	639	189	1657	605	514	1726	631	298	977	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	1.04	0.68	1.25	1.03	0.15	0.89	0.31	0.31	0.58	1.10	0.39

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	21 (18%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.25
Intersection Signal Delay:	56.3
Intersection LOS:	E
Intersection Capacity Utilization:	102.3%
ICU Level of Service:	G
Analysis Period (min):	15

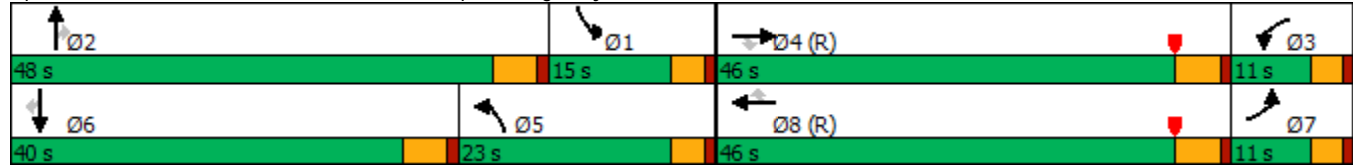
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2040  
 AM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2040  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1832	310	568	1895	213	177	187	478	195	646	42
Future Volume (vph)	60	1832	310	568	1895	213	177	187	478	195	646	42
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5937	0	3252	4818	1500	3252	3353	1500	3252	3323	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5937	0	3252	4818	1500	3252	3353	1500	3252	3323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				203			274		6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4135			486			892			1016	
Travel Time (s)		62.7			7.4			15.2			17.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	1832	310	568	1895	213	177	187	478	195	646	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	2142	0	568	1895	213	177	187	478	195	688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	43.0		24.0	57.0	11.0	13.0	42.0	42.0	11.0	40.0	
Total Split (%)	8.3%	35.8%		20.0%	47.5%	9.2%	10.8%	35.0%	35.0%	9.2%	33.3%	
Maximum Green (s)	6.0	38.0		20.0	52.0	7.0	9.0	37.0	37.0	7.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	38.0		20.0	54.0	62.8	9.0	37.0	37.0	7.0	35.0	
Actuated g/C Ratio	0.05	0.32		0.17	0.45	0.52	0.08	0.31	0.31	0.06	0.29	
v/c Ratio	0.37	1.12		1.05	0.87	0.24	0.73	0.18	0.73	1.03	0.71	
Control Delay	41.8	82.1		90.9	29.0	4.5	72.1	31.0	22.8	129.0	42.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.8	82.1		90.9	29.0	4.5	72.1	31.0	22.8	129.0	42.3	
LOS	D	F		F	C	A	E	C	C	F	D	
Approach Delay		81.0			40.2			35.0			61.5	
Approach LOS		F			D			C			E	
Queue Length 50th (ft)	25	~529		~248	442	29	70	55	143	~82	248	
Queue Length 95th (ft)	m29	m#515		m#323	468	m34	#120	85	281	#161	317	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1905		542	2167	881	243	1033	652	189	973	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	1.12		1.05	0.87	0.24	0.73	0.18	0.73	1.03	0.71	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	74 (62%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.12
Intersection Signal Delay:	56.0
Intersection LOS:	E
Intersection Capacity Utilization:	91.2%
ICU Level of Service:	F
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040  
 AM Peak Hour

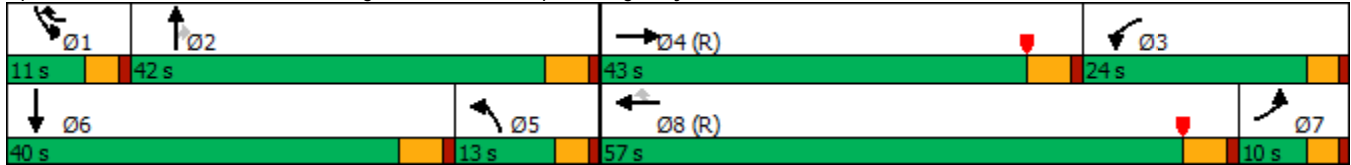
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1781	2059	0	699	591
Future Volume (vph)	0	1781	2059	0	699	591
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.969	0.850
Flt Protected					0.962	
Satd. Flow (prot)	0	4818	4818	0	3191	1365
Flt Permitted					0.962	
Satd. Flow (perm)	0	4818	4818	0	3191	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					3	3
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1781	2059	0	699	591
Shared Lane Traffic (%)						31%
Lane Group Flow (vph)	0	1781	2059	0	882	408
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		34.0	34.0		26.0	26.0
Total Split (%)		56.7%	56.7%		43.3%	43.3%
Maximum Green (s)		29.0	29.0		21.0	21.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		29.0	29.0		21.0	21.0
Actuated g/C Ratio		0.48	0.48		0.35	0.35
v/c Ratio		0.77	0.88		0.79	0.85
Control Delay		11.2	15.1		24.0	38.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		11.2	15.1		24.0	38.1
LOS		B	B		C	D
Approach Delay		11.2	15.1		28.4	
Approach LOS		B	B		C	
Queue Length 50th (ft)		124	109		143	146
Queue Length 95th (ft)		m113	m262		#212	#309
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2328	2328		1118	479
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.77	0.88		0.79	0.85

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 16 (27%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 17.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 122.9%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.



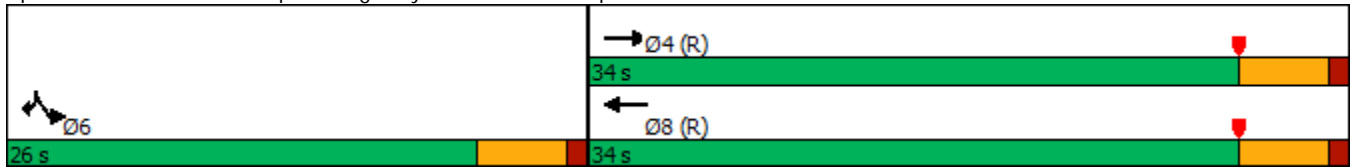
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 AM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	1734	0	0	1181	7	1133	165	871	0	0	60
Future Volume (vph)	137	1734	0	0	1181	7	1133	165	871	0	0	60
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.999			0.920	0.850			0.850
Flt Protected	0.950						0.950	0.991				
Satd. Flow (prot)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Flt Permitted	0.950						0.950	0.991				
Satd. Flow (perm)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			60	138			277
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	137	1734	0	0	1181	7	1133	165	871	0	0	60
Shared Lane Traffic (%)							10%		36%			
Lane Group Flow (vph)	137	1734	0	0	1188	0	1020	592	557	0	0	60
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	17.0	52.0			35.0		57.0	57.0	57.0			11.0
Total Split (%)	14.2%	43.3%			29.2%		47.5%	47.5%	47.5%			9.2%
Maximum Green (s)	13.0	47.0			30.0		52.0	52.0	52.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lead	Lead	Lead			Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	13.0	49.2			32.2		52.0	52.0	52.0			6.0
Actuated g/C Ratio	0.11	0.41			0.27		0.43	0.43	0.43			0.05
v/c Ratio	0.76	0.88			0.73		0.77	0.94	0.80			0.15
Control Delay	66.0	32.2			43.6		33.8	53.0	32.1			0.8
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	66.0	32.2			43.6		33.8	53.0	32.1			0.8
LOS	E	C			D		C	D	C			A
Approach Delay		34.7			43.6			38.6				0.8
Approach LOS		C			D			D				A
Queue Length 50th (ft)	99	411			250		362	460	302			0
Queue Length 95th (ft)	m137	#483			294		453	#744	477			0
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	181	1975			1628		1322	633	695			395
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.76	0.88			0.73		0.77	0.94	0.80			0.15

**Intersection Summary**

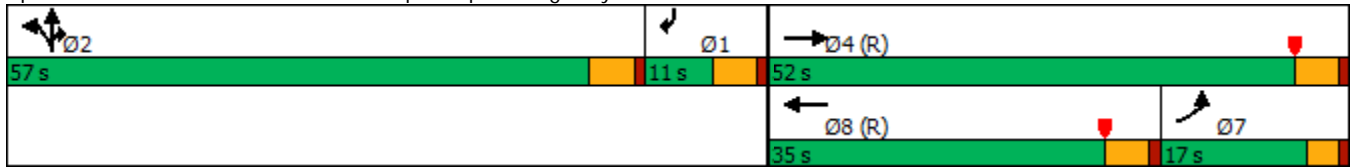
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 2 (2%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 37.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.7%  
 ICU Level of Service D  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖	↑↑		↗	↑↑	
Traffic Volume (veh/h)	109	1267	59	91	1704	165	184	351	132	121	224	247
Future Volume (veh/h)	109	1267	59	91	1704	165	184	351	132	121	224	247
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	109	1267	59	91	1704	165	184	351	132	121	224	247
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	2279	106	113	1853	179	211	560	207	145	326	291
Arrive On Green	0.12	0.48	0.48	0.07	0.41	0.41	0.04	0.08	0.08	0.09	0.19	0.19
Sat Flow, veh/h	1688	4737	221	1688	4486	433	1688	2405	890	1688	1683	1502
Grp Volume(v), veh/h	109	863	463	91	1224	645	184	244	239	121	224	247
Grp Sat Flow(s),veh/h/ln	1688	1612	1732	1688	1612	1694	1688	1683	1612	1688	1683	1502
Q Serve(g_s), s	7.3	22.7	22.7	6.4	43.1	43.3	13.0	16.9	17.3	8.5	14.9	19.0
Cycle Q Clear(g_c), s	7.3	22.7	22.7	6.4	43.1	43.3	13.0	16.9	17.3	8.5	14.9	19.0
Prop In Lane	1.00		0.13	1.00		0.26	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	199	1551	833	113	1332	700	211	392	375	145	326	291
V/C Ratio(X)	0.55	0.56	0.56	0.81	0.92	0.92	0.87	0.62	0.64	0.83	0.69	0.85
Avail Cap(c_a), veh/h	199	1551	833	183	1344	706	225	407	390	211	393	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.54	0.54	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	22.1	22.1	55.2	33.3	33.4	56.6	50.3	50.5	54.0	45.0	46.7
Incr Delay (d2), s/veh	1.8	1.4	2.7	2.8	6.9	12.2	25.0	1.8	2.2	11.5	2.5	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	8.4	9.3	2.7	17.1	19.0	7.4	7.8	7.7	4.0	6.3	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	23.5	24.7	58.0	40.2	45.5	81.6	52.1	52.7	65.5	47.5	60.0
LnGrp LOS	D	C	C	E	D	D	F	D	D	E	D	E
Approach Vol, veh/h		1435			1960			667			592	
Approach Delay, s/veh		26.0			42.8			60.5			56.4	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	62.7	13.3	32.9	19.2	54.6	18.0	28.3				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	13.0	47.0	15.0	29.0	10.0	* 50	16.0	28.0				
Max Q Clear Time (g_c+I1), s	8.4	24.7	10.5	19.3	9.3	45.3	15.0	21.0				
Green Ext Time (p_c), s	0.0	12.7	0.1	2.8	0.0	4.3	0.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

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

# HCM 6th Signalized Intersection Summary

## 2: Berry Street & Lambert Road

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	36	1434	70	49	1691	145	128	396	117	211	290	80
Future Volume (veh/h)	36	1434	70	49	1691	145	128	396	117	211	290	80
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	36	1434	70	49	1691	145	128	396	117	211	290	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	2216	108	62	2213	189	154	476	139	236	612	166
Arrive On Green	0.03	0.47	0.47	0.04	0.49	0.49	0.03	0.06	0.06	0.14	0.23	0.23
Sat Flow, veh/h	1688	4725	231	1688	4538	388	1688	2569	751	1688	2618	709
Grp Volume(v), veh/h	36	979	525	49	1201	635	128	258	255	211	185	185
Grp Sat Flow(s),veh/h/ln	1688	1612	1730	1688	1612	1702	1688	1683	1637	1688	1683	1644
Q Serve(g_s), s	2.5	27.8	27.8	3.5	36.5	36.6	9.1	18.2	18.5	14.7	11.3	11.7
Cycle Q Clear(g_c), s	2.5	27.8	27.8	3.5	36.5	36.6	9.1	18.2	18.5	14.7	11.3	11.7
Prop In Lane	1.00		0.13	1.00		0.23	1.00		0.46	1.00		0.43
Lane Grp Cap(c), veh/h	45	1513	812	62	1572	830	154	312	303	236	393	384
V/C Ratio(X)	0.81	0.65	0.65	0.79	0.76	0.77	0.83	0.83	0.84	0.89	0.47	0.48
Avail Cap(c_a), veh/h	70	1513	812	98	1572	830	239	352	342	267	393	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.26	0.26	0.26	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.1	24.3	24.3	57.4	25.1	25.1	57.3	54.4	54.6	50.7	39.6	39.7
Incr Delay (d2), s/veh	12.0	1.7	3.2	2.3	1.0	1.8	7.5	12.1	13.9	25.5	0.3	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	1.2	10.3	11.4	1.5	13.1	14.1	4.3	9.2	9.3	7.8	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	26.0	27.5	59.6	26.0	26.9	64.7	66.5	68.5	76.2	39.9	40.1
LnGrp LOS	E	C	C	E	C	C	E	E	E	E	D	D
Approach Vol, veh/h		1540			1885			641			581	
Approach Delay, s/veh		27.5			27.2			67.0			53.1	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	63.3	19.8	28.5	6.2	65.5	14.0	34.3				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	7.0	48.6	19.0	25.1	5.0	51.6	17.0	27.1				
Max Q Clear Time (g_c+I1), s	5.5	29.8	16.7	20.5	4.5	38.6	11.1	13.7				
Green Ext Time (p_c), s	0.0	12.8	0.1	1.7	0.0	10.9	0.1	2.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.0									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘↗	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	172	1484	406	226	1590	95	474	776	191	75	397	101
Future Volume (veh/h)	172	1484	406	226	1590	95	474	776	191	75	397	101
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	172	1484	406	226	1590	95	474	776	191	75	397	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1731	537	239	1826	109	491	993	443	94	675	301
Arrive On Green	0.11	0.36	0.36	0.14	0.39	0.39	0.15	0.29	0.29	0.06	0.20	0.20
Sat Flow, veh/h	1688	4837	1502	1688	4668	279	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	172	1484	406	226	1098	587	474	776	191	75	397	101
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1722	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	12.1	34.1	28.6	15.9	37.7	37.8	17.3	25.3	12.3	5.3	12.8	6.9
Cycle Q Clear(g_c), s	12.1	34.1	28.6	15.9	37.7	37.8	17.3	25.3	12.3	5.3	12.8	6.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1731	537	239	1261	673	491	993	443	94	675	301
V/C Ratio(X)	0.94	0.86	0.76	0.95	0.87	0.87	0.97	0.78	0.43	0.80	0.59	0.34
Avail Cap(c_a), veh/h	183	1731	537	239	1261	673	491	1094	488	113	814	363
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)	0.64	0.64	0.64	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	35.7	33.9	51.0	33.7	33.7	50.7	38.8	34.2	56.0	43.5	41.1
Incr Delay (d2), s/veh	37.2	3.8	6.3	32.4	5.6	9.9	31.6	3.7	0.9	23.4	1.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	13.3	11.1	8.7	14.9	16.7	9.1	10.8	4.6	2.8	5.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.3	39.5	40.2	83.4	39.3	43.6	82.3	42.5	35.1	79.4	44.6	42.0
LnGrp LOS	F	D	D	F	D	D	F	D	D	E	D	D
Approach Vol, veh/h		2062			1911			1441			573	
Approach Delay, s/veh		43.9			45.9			54.6			48.7	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	47.9	10.7	40.4	17.0	51.9	22.0	29.1				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	38.0	8.0	39.0	13.0	42.0	18.0	29.0				
Max Q Clear Time (g_c+I1), s	17.9	36.1	7.3	27.3	14.1	39.8	19.3	14.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	8.0	0.0	2.1	0.0	5.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			47.6									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (veh/h)	15	1524	253	464	1491	1019	333	584	471	574	347	10
Future Volume (veh/h)	15	1524	253	464	1491	1019	333	584	471	574	347	10
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	15	1524	253	464	1491	1019	333	763	352	574	347	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1765	293	409	2173	964	392	709	300	630	923	27
Arrive On Green	0.01	0.33	0.33	0.25	0.90	0.90	0.12	0.20	0.20	0.19	0.28	0.28
Sat Flow, veh/h	3274	5305	880	3274	4837	1502	3375	3544	1502	3274	3342	96
Grp Volume(v), veh/h	15	1313	464	464	1491	1019	333	763	352	574	174	183
Grp Sat Flow(s),veh/h/ln	1637	1524	1613	1637	1612	1502	1688	1772	1502	1637	1683	1755
Q Serve(g_s), s	0.5	32.3	32.3	15.0	9.8	53.9	11.6	24.0	24.0	20.6	10.0	10.1
Cycle Q Clear(g_c), s	0.5	32.3	32.3	15.0	9.8	53.9	11.6	24.0	24.0	20.6	10.0	10.1
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	27	1521	537	409	2173	964	392	709	300	630	465	485
V/C Ratio(X)	0.55	0.86	0.86	1.13	0.69	1.06	0.85	1.08	1.17	0.91	0.38	0.38
Avail Cap(c_a), veh/h	55	1521	537	409	2173	964	534	709	300	709	465	485
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	0.43	0.55	0.55	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	37.5	37.5	45.0	3.8	13.4	52.0	48.0	48.0	47.5	35.1	35.1
Incr Delay (d2), s/veh	2.7	3.1	8.1	76.4	1.0	38.6	7.2	56.3	107.0	14.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	11.9	13.4	9.4	1.6	26.6	5.2	15.9	17.7	9.4	4.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	40.6	45.6	121.4	4.8	52.0	59.2	104.3	155.0	61.6	35.2	35.3
LnGrp LOS	E	D	D	F	A	F	E	F	F	E	D	D
Approach Vol, veh/h		1792			2974			1448			931	
Approach Delay, s/veh		42.0			39.2			106.2			51.5	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	44.9	27.1	29.0	5.0	58.9	17.9	38.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	37.0	26.0	24.0	2.0	50.0	19.0	31.0				
Max Q Clear Time (g_c+I1), s	17.0	34.3	22.6	26.0	2.5	55.9	13.6	12.1				
Green Ext Time (p_c), s	0.0	2.4	0.5	0.0	0.0	0.0	0.3	2.8				

Intersection Summary

HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1640	930	298	2082	0	0	0	0	591	0	867
Future Volume (veh/h)	0	1640	930	298	2082	0	0	0	0	591	0	867
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	2071	642	298	2082	0				394	0	1078
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2379	672	336	2842	0				570	0	1014
Arrive On Green	0.00	0.90	0.90	0.20	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5316	1502	3274	4997	0				1688	0	3003
Grp Volume(v), veh/h	0	2071	642	298	2082	0				394	0	1078
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	22.2	37.2	10.6	0.0	0.0				24.2	0.0	40.5
Cycle Q Clear(g_c), s	0.0	22.2	37.2	10.6	0.0	0.0				24.2	0.0	40.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2379	672	336	2842	0				570	0	1014
V/C Ratio(X)	0.00	0.87	0.96	0.89	0.73	0.00				0.69	0.00	1.06
Avail Cap(c_a), veh/h	0	2379	672	336	2842	0				570	0	1014
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.29	0.29	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.6	5.4	47.0	0.0	0.0				34.4	0.0	39.8
Incr Delay (d2), s/veh	0.0	1.4	10.8	3.0	0.2	0.0				3.6	0.0	46.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	4.0	3.9	0.0	0.0				10.4	0.0	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.1	16.2	50.0	0.2	0.0				37.9	0.0	86.5
LnGrp LOS	A	A	B	D	A	A				D	A	F
Approach Vol, veh/h		2713			2380						1472	
Approach Delay, s/veh		8.5			6.4						73.5	
Approach LOS		A			A						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.8	58.2		45.0		75.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	12.3	53.7		40.5		70.5						
Max Q Clear Time (g_c+I1), s	12.6	39.2		42.5		2.0						
Green Ext Time (p_c), s	0.0	12.3		0.0		28.8						

Intersection Summary

























HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Year 2040  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	588	1683	0	0	1376	668	1083	0	605	0	0	0
Future Volume (veh/h)	588	1683	0	0	1376	668	1083	0	605	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	600	1717	0	0	1679	532	1152	0	644			
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	587	2665	0	0	1776	502	1225	0	562			
Arrive On Green	0.36	1.00	0.00	0.00	0.33	0.33	0.37	0.00	0.37			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	600	1717	0	0	1679	532	1152	0	644			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	21.5	0.0	0.0	0.0	36.9	40.1	40.8	0.0	44.9			
Cycle Q Clear(g_c), s	21.5	0.0	0.0	0.0	36.9	40.1	40.8	0.0	44.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	587	2665	0	0	1776	502	1225	0	562			
V/C Ratio(X)	1.02	0.64	0.00	0.00	0.95	1.06	0.94	0.00	1.15			
Avail Cap(c_a), veh/h	587	2665	0	0	1776	502	1225	0	562			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.13	0.13	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	38.5	0.0	0.0	0.0	38.9	40.0	36.3	0.0	37.5			
Incr Delay (d2), s/veh	19.7	0.2	0.0	0.0	11.8	57.1	13.9	0.0	85.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0	0.0	17.2	22.0	18.3	0.0	29.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	0.2	0.0	0.0	50.7	97.0	50.1	0.0	122.7			
LnGrp LOS	F	A	A	A	D	F	D	A	F			
Approach Vol, veh/h		2317			2211			1796				
Approach Delay, s/veh		15.2			61.8			76.2				
Approach LOS		B			E			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.6			26.0	44.6		49.4				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		66.1			21.5	40.1		44.9				
Max Q Clear Time (g_c+I1), s		2.0			23.5	42.1		46.9				
Green Ext Time (p_c), s		19.4			0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					48.8							
HCM 6th LOS					D							
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
 7: Berry Street & Mercury Lane

Year 2040  
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	55	50	529	10	26	470
Future Volume (veh/h)	55	50	529	10	26	470
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	55	50	529	10	26	470
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	139	124	2537	48	730	2527
Arrive On Green	0.08	0.08	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1688	1502	3468	64	866	3455
Grp Volume(v), veh/h	55	50	263	276	26	470
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1760	866	1683
Q Serve(g_s), s	1.9	1.9	2.8	2.8	0.5	2.4
Cycle Q Clear(g_c), s	1.9	1.9	2.8	2.8	3.3	2.4
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	139	124	1264	1322	730	2527
V/C Ratio(X)	0.39	0.40	0.21	0.21	0.04	0.19
Avail Cap(c_a), veh/h	563	501	1264	1322	730	2527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.85	0.85
Uniform Delay (d), s/veh	26.1	26.1	2.2	2.2	2.7	2.2
Incr Delay (d2), s/veh	1.8	2.1	0.0	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.7	0.3	0.3	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.9	28.2	2.2	2.2	2.8	2.3
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	105		539			496
Approach Delay, s/veh	28.1		2.2			2.3
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		50.0			50.0	10.0
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		30.0			30.0	20.0
Max Q Clear Time (g_c+I1), s		4.8			5.3	3.9
Green Ext Time (p_c), s		3.1			3.1	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			4.7			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	81	139	23	436	148	505	86	791	369	368	710	76
Future Volume (veh/h)	81	139	23	436	148	505	86	791	369	368	710	76
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	81	139	23	436	148	505	86	791	369	368	710	76
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	170	28	489	377	773	454	888	412	990	1369	145
Arrive On Green	0.06	0.11	0.11	0.15	0.21	0.21	0.54	0.55	0.55	0.30	0.31	0.31
Sat Flow, veh/h	1688	1482	245	3274	1772	1502	1688	3230	1497	3274	4440	472
Grp Volume(v), veh/h	81	0	162	436	148	505	86	790	370	368	514	272
Grp Sat Flow(s),veh/h/ln	1688	0	1728	1637	1772	1502	1688	1612	1502	1637	1612	1687
Q Serve(g_s), s	5.7	0.0	11.0	15.7	8.6	5.7	3.1	25.9	26.2	10.6	15.7	15.9
Cycle Q Clear(g_c), s	5.7	0.0	11.0	15.7	8.6	5.7	3.1	25.9	26.2	10.6	15.7	15.9
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	102	0	199	489	377	773	454	887	413	990	994	520
V/C Ratio(X)	0.80	0.00	0.82	0.89	0.39	0.65	0.19	0.89	0.90	0.37	0.52	0.52
Avail Cap(c_a), veh/h	169	0	475	518	591	954	454	887	413	990	994	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	51.9	50.1	40.6	9.9	21.0	25.4	25.5	32.9	34.1	34.2
Incr Delay (d2), s/veh	13.2	0.0	7.9	16.8	0.7	1.1	0.1	10.0	19.4	0.2	1.9	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	5.2	7.5	3.8	6.1	1.2	8.0	8.6	4.2	6.4	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	0.0	59.8	66.9	41.3	11.0	21.1	35.4	44.9	33.1	36.1	37.9
LnGrp LOS	E	A	E	E	D	B	C	D	D	C	D	D
Approach Vol, veh/h		243			1089			1246			1154	
Approach Delay, s/veh		62.8			37.5			37.2			35.6	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.3	38.0	22.9	18.8	36.3	42.0	11.2	30.5				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	33.0	19.0	* 33	13.0	37.0	12.0	40.0				
Max Q Clear Time (g_c+I1), s	12.6	28.2	17.7	13.0	5.1	17.9	7.7	10.6				
Green Ext Time (p_c), s	0.6	3.0	0.3	0.8	0.1	4.9	0.1	2.9				

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
 9: Puente Street & Imperial Highway

Year 2040  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖	↑	↖	↖	↑↑	↖
Traffic Volume (veh/h)	143	1810	37	194	1804	265	33	56	104	163	133	201
Future Volume (veh/h)	143	1810	37	194	1804	265	33	56	104	163	133	201
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	143	1810	37	194	1804	265	33	56	104	163	133	201
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	2764	56	221	2298	713	220	330	280	256	627	280
Arrive On Green	0.21	0.57	0.57	0.13	0.47	0.47	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1688	4879	100	1688	4837	1502	1046	1772	1502	1226	3367	1502
Grp Volume(v), veh/h	143	1196	651	194	1804	265	33	56	104	163	133	201
Grp Sat Flow(s),veh/h/ln	1688	1612	1754	1688	1612	1502	1046	1772	1502	1226	1683	1502
Q Serve(g_s), s	8.7	30.7	30.7	13.5	37.5	13.5	3.3	3.2	7.3	15.5	4.0	15.1
Cycle Q Clear(g_c), s	8.7	30.7	30.7	13.5	37.5	13.5	7.3	3.2	7.3	18.6	4.0	15.1
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	1827	994	221	2298	713	220	330	280	256	627	280
V/C Ratio(X)	0.40	0.65	0.66	0.88	0.79	0.37	0.15	0.17	0.37	0.64	0.21	0.72
Avail Cap(c_a), veh/h	361	1827	994	267	2298	713	321	502	425	375	954	425
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	0.09	0.09	0.09	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	40.5	17.9	17.9	51.2	26.4	20.1	44.5	41.0	42.7	48.9	41.4	45.9
Incr Delay (d2), s/veh	0.7	1.8	3.4	2.9	0.3	0.1	0.3	0.2	0.8	1.6	0.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	10.8	12.2	5.7	13.4	4.5	0.9	1.4	2.7	4.8	1.7	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	19.8	21.3	54.1	26.6	20.2	44.8	41.3	43.5	50.5	41.5	48.0
LnGrp LOS	D	B	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1990			2263			193			497	
Approach Delay, s/veh		21.8			28.2			43.1			47.1	
Approach LOS		C			C			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.3	19.7	73.0		27.3	30.7	62.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	19.0	53.0		34.0	15.0	* 57				
Max Q Clear Time (g_c+I1), s		9.3	15.5	32.7		20.6	10.7	39.5				
Green Ext Time (p_c), s		0.7	0.2	12.3		1.7	0.1	12.1				

Intersection Summary

HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2040  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↘	↖	↗
Traffic Volume (veh/h)	164	2099	12	62	2086	340	5	7	6	422	30	246
Future Volume (veh/h)	164	2099	12	62	2086	340	5	7	6	422	30	246
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	164	2099	12	62	2086	340	5	7	6	443	0	246
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	524	2275	13	468	1788	285	21	29	25	281	0	125
Arrive On Green	0.31	0.46	0.46	0.55	0.85	0.85	0.02	0.02	0.02	0.08	0.00	0.08
Sat Flow, veh/h	1688	4963	28	1688	4206	670	914	1282	1103	3375	0	1502
Grp Volume(v), veh/h	164	1364	747	62	1588	838	9	0	9	443	0	246
Grp Sat Flow(s),veh/h/ln	1688	1612	1767	1688	1612	1651	1726	0	1573	1688	0	1502
Q Serve(g_s), s	8.9	47.6	47.7	2.1	51.0	51.0	0.6	0.0	0.6	10.0	0.0	10.0
Cycle Q Clear(g_c), s	8.9	47.6	47.7	2.1	51.0	51.0	0.6	0.0	0.6	10.0	0.0	10.0
Prop In Lane	1.00		0.02	1.00		0.41	0.53		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	524	1478	810	468	1371	702	39	0	35	281	0	125
V/C Ratio(X)	0.31	0.92	0.92	0.13	1.16	1.19	0.24	0.00	0.24	1.58	0.00	1.97
Avail Cap(c_a), veh/h	524	1478	810	468	1371	702	432	0	393	281	0	125
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.10	0.10	0.10	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	31.6	30.5	30.5	19.8	9.0	9.0	57.6	0.0	57.6	55.0	0.0	55.0
Incr Delay (d2), s/veh	0.2	8.0	13.1	0.0	72.3	88.9	3.2	0.0	3.4	275.1	0.0	461.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	18.8	21.7	0.8	16.9	20.6	0.3	0.0	0.3	14.9	0.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	38.5	43.7	19.8	81.3	97.9	60.8	0.0	61.1	330.1	0.0	516.9
LnGrp LOS	C	D	D	B	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2275			2488			18			689	
Approach Delay, s/veh		39.7			85.4			60.9			396.8	
Approach LOS		D			F			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.7	37.3	60.0		15.0	41.3	56.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		30.0	6.0	55.0		10.0	10.0	51.0				
Max Q Clear Time (g_c+I1), s		2.6	4.1	49.7		12.0	10.9	53.0				
Green Ext Time (p_c), s		0.0	0.0	4.6		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	105.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2040  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	226	1822	411	405	1794	201	485	892	296	258	690	261
Future Volume (veh/h)	226	1822	411	405	1794	201	485	892	296	258	690	261
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	226	1822	411	405	1794	201	485	892	296	258	690	261
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1693	526	300	1814	563	382	1492	463	327	982	438
Arrive On Green	0.04	0.23	0.23	0.09	0.38	0.38	0.12	0.31	0.31	0.20	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	226	1822	411	405	1794	201	485	892	296	258	690	261
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	8.0	42.0	30.8	11.0	44.2	11.6	14.0	18.8	20.4	9.0	17.4	13.3
Cycle Q Clear(g_c), s	8.0	42.0	30.8	11.0	44.2	11.6	14.0	18.8	20.4	9.0	17.4	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	1693	526	300	1814	563	382	1492	463	327	982	438
V/C Ratio(X)	1.04	1.08	0.78	1.35	0.99	0.36	1.27	0.60	0.64	0.79	0.70	0.60
Avail Cap(c_a), veh/h	218	1693	526	300	1814	563	382	1492	463	327	982	438
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.47	0.47	0.47	0.09	0.09	0.09	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	57.3	45.9	41.6	54.5	37.3	27.1	53.0	35.2	35.8	46.8	21.3	20.5
Incr Delay (d2), s/veh	51.2	40.3	5.5	159.4	4.3	0.2	140.6	1.8	6.6	10.3	3.5	5.0
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	4.9	23.4	12.4	11.1	17.1	4.0	13.1	7.4	8.0	3.8	5.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.5	86.2	47.1	213.9	41.5	27.2	193.6	37.0	42.4	57.1	24.9	25.4
LnGrp LOS	F	F	D	F	D	C	F	D	D	E	C	C
Approach Vol, veh/h		2459			2400			1673			1209	
Approach Delay, s/veh		81.7			69.4			83.3			31.9	
Approach LOS		F			E			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	15.0	47.0	18.0	40.0	12.0	50.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	11.0	42.0	14.0	35.0	8.0	45.0				
Max Q Clear Time (g_c+I1), s	11.0	22.4	13.0	44.0	16.0	19.4	10.0	46.2				
Green Ext Time (p_c), s	0.1	6.0	0.0	0.0	0.0	5.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			70.5									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2040  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↑		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔↔
Traffic Volume (veh/h)	127	2081	211	539	2207	652	336	507	406	488	438	148
Future Volume (veh/h)	127	2081	211	539	2207	652	336	507	406	488	438	148
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	127	2081	211	539	2207	652	336	507	406	488	438	148
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1936	196	355	1935	738	355	1038	463	300	722	242
Arrive On Green	0.05	0.34	0.34	0.11	0.40	0.40	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3274	5667	574	3274	4837	1502	3274	3367	1502	3274	2477	829
Grp Volume(v), veh/h	127	1678	614	539	2207	652	336	507	406	488	296	290
Grp Sat Flow(s),veh/h/ln	1637	1524	1669	1637	1612	1502	1637	1683	1502	1637	1683	1623
Q Serve(g_s), s	4.6	41.0	41.0	13.0	48.0	35.8	12.2	14.7	30.8	11.0	18.2	18.5
Cycle Q Clear(g_c), s	4.6	41.0	41.0	13.0	48.0	35.8	12.2	14.7	30.8	11.0	18.2	18.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	164	1562	570	355	1935	738	355	1038	463	300	491	473
V/C Ratio(X)	0.78	1.07	1.08	1.52	1.14	0.88	0.95	0.49	0.88	1.63	0.60	0.61
Avail Cap(c_a), veh/h	164	1562	570	355	1935	738	355	1038	463	300	491	473
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)	0.14	0.14	0.14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	39.5	39.5	53.5	36.0	27.4	53.2	33.8	39.3	54.5	36.5	36.6
Incr Delay (d2), s/veh	3.3	35.7	39.8	247.9	70.1	14.4	34.3	1.6	20.3	296.6	5.4	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	19.7	22.2	17.4	30.2	13.8	6.6	6.1	13.5	16.8	8.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.7	75.2	79.3	301.4	106.1	41.9	87.4	35.4	59.6	351.1	42.0	42.4
LnGrp LOS	E	F	F	F	F	D	F	D	E	F	D	D
Approach Vol, veh/h		2419			3398			1249			1074	
Approach Delay, s/veh		75.4			124.7			57.3			182.5	
Approach LOS		E			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	42.0	17.0	46.0	17.0	40.0	10.0	53.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	37.0	13.0	41.0	13.0	35.0	6.0	48.0				
Max Q Clear Time (g_c+I1), s	13.0	32.8	15.0	43.0	14.2	20.5	6.6	50.0				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			107.4									
HCM 6th LOS			F									



HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↑↑↑	↑
Traffic Volume (veh/h)	0	1885	2552	0	700	714
Future Volume (veh/h)	0	1885	2552	0	700	714
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1885	2552	0	926	471
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2741	2741	0	1181	526
Arrive On Green	0.00	0.57	0.57	0.00	0.35	0.35
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1885	2552	0	926	471
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	33.2	58.1	0.0	29.5	35.6
Cycle Q Clear(g_c), s	0.0	33.2	58.1	0.0	29.5	35.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2741	2741	0	1181	526
V/C Ratio(X)	0.00	0.69	0.93	0.00	0.78	0.90
Avail Cap(c_a), veh/h	0	2741	2741	0	1181	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.5	23.8	0.0	34.9	36.9
Incr Delay (d2), s/veh	0.0	1.4	7.2	0.0	5.2	20.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.6	21.4	0.0	12.8	15.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.9	31.0	0.0	40.2	57.5
LnGrp LOS	A	B	C	A	D	E
Approach Vol, veh/h		1885	2552		1397	
Approach Delay, s/veh		19.9	31.0		46.0	
Approach LOS		B	C		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				73.0	47.0	73.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				68.0	42.0	68.0
Max Q Clear Time (g_c+I1), s				35.2	37.6	60.1
Green Ext Time (p_c), s				17.7	2.4	7.3
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			31.0			
HCM 6th LOS			C			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↕	↗			↗↗
Traffic Volume (veh/h)	173	1934	0	0	1826	30	1300	109	536	0	0	260
Future Volume (veh/h)	173	1934	0	0	1826	30	1300	109	536	0	0	260
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	173	1934	0	0	1826	30	1511	0	394	0	0	260
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	323	2661	0	0	1971	32	1856	0	551	0	0	0
Arrive On Green	0.19	0.55	0.00	0.00	0.32	0.32	0.37	0.00	0.37	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6471	102	5063	0	1502			0
Grp Volume(v), veh/h	173	1934	0	0	1341	515	1511	0	394			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1754	1688	0	1502			
Q Serve(g_s), s	11.1	36.0	0.0	0.0	34.1	34.1	32.3	0.0	27.0			
Cycle Q Clear(g_c), s	11.1	36.0	0.0	0.0	34.1	34.1	32.3	0.0	27.0			
Prop In Lane	1.00		0.00	0.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	323	2661	0	0	1448	555	1856	0	551			
V/C Ratio(X)	0.53	0.73	0.00	0.00	0.93	0.93	0.81	0.00	0.72			
Avail Cap(c_a), veh/h	323	2661	0	0	1448	555	1856	0	551			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.7	20.2	0.0	0.0	39.7	39.7	34.3	0.0	32.6			
Incr Delay (d2), s/veh	1.7	1.8	0.0	0.0	11.6	23.8	4.0	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.7	12.7	0.0	0.0	13.7	17.6	13.8	0.0	10.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	22.0	0.0	0.0	51.3	63.4	38.4	0.0	40.4			
LnGrp LOS	D	C	A	A	D	E	D	A	D			
Approach Vol, veh/h		2107			1856			1905				
Approach Delay, s/veh		23.9			54.6			38.8				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		49.0		71.0			28.0	43.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		44.0		55.0			13.0	* 38				
Max Q Clear Time (g_c+I1), s		34.3		38.0			13.1	36.1				
Green Ext Time (p_c), s		5.7		11.9			0.0	1.7				

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	109	1267	59	91	1704	165	184	351	132	121	224	247
Future Volume (vph)	109	1267	59	91	1704	165	184	351	132	121	224	247
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.987			0.959			0.921	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4755	0	1676	3215	0	1676	3088	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4755	0	1676	3215	0	1676	3088	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			16			43			165	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	109	1267	59	91	1704	165	184	351	132	121	224	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1326	0	91	1869	0	184	483	0	121	471	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	13.0	52.0		16.0	55.0		19.0	34.0		18.0	33.0	
Total Split (%)	10.8%	43.3%		13.3%	45.8%		15.8%	28.3%		15.0%	27.5%	
Maximum Green (s)	10.0	47.0		13.0	50.0		16.0	29.0		15.0	28.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	9.6	59.2		10.4	60.0		15.2	22.2		12.3	19.2	
Actuated g/C Ratio	0.08	0.49		0.09	0.50		0.13	0.18		0.10	0.16	
v/c Ratio	0.82	0.56		0.63	0.78		0.87	0.77		0.71	0.74	
Control Delay	95.2	24.1		71.6	14.0		88.8	45.5		73.7	37.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	95.2	24.1		71.6	14.0		88.8	45.5		73.7	37.6	
LOS	F	C		E	B		F	D		E	D	
Approach Delay		29.5			16.6			57.5			45.0	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	84	258		59	301		146	141		91	121	
Queue Length 95th (ft)	#182	366		m81	#619		m#268	181		154	165	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	139	2363		181	2383		223	809		209	847	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.78	0.56		0.50	0.78		0.83	0.60		0.58	0.56	

Intersection Summary

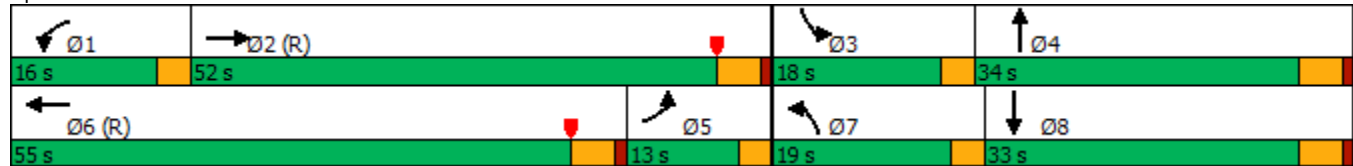
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2040  
 PM Peak Hour

Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 30.1	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	36	1434	70	49	1691	145	128	396	117	211	290	80
Future Volume (vph)	36	1434	70	49	1691	145	128	396	117	211	290	80
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.988			0.966			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4760	0	1676	3239	0	1676	3246	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4760	0	1676	3239	0	1676	3246	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			14			29			27	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	1434	70	49	1691	145	128	396	117	211	290	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	1504	0	49	1836	0	128	513	0	211	370	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	8.0	55.6		11.0	58.6		20.0	31.4		22.0	33.4	
Total Split (%)	6.7%	46.3%		9.2%	48.8%		16.7%	26.2%		18.3%	27.8%	
Maximum Green (s)	5.0	48.6		7.0	51.6		17.0	25.1		19.0	27.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.5	55.2		6.6	58.9		13.1	22.1		17.4	26.5	
Actuated g/C Ratio	0.05	0.46		0.06	0.49		0.11	0.18		0.14	0.22	
v/c Ratio	0.47	0.68		0.54	0.78		0.70	0.83		0.87	0.50	
Control Delay	84.9	20.0		83.6	15.1		73.4	51.4		81.9	40.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	84.9	20.0		83.6	15.1		73.4	51.4		81.9	40.2	
LOS	F	C		F	B		E	D		F	D	
Approach Delay		21.5			16.9			55.8			55.3	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)	21	389		41	137		90	195		159	120	
Queue Length 95th (ft)	m47	475		m45	m147		128	255		#283	172	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	77	2205		100	2344		237	700		265	768	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.68		0.49	0.78		0.54	0.73		0.80	0.48	

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 26.6 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2040  
 PM Peak Hour

Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 28.6	Intersection LOS: C
Intersection Capacity Utilization 85.2%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road

Ø1	Ø2 (R)	Ø3	Ø4
11 s	55.6 s	22 s	31.4 s
Ø5	Ø6 (R)	Ø7	Ø8
8 s	58.6 s	20 s	33.4 s



Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘↗	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	172	1484	406	226	1590	95	474	776	191	75	397	101
Future Volume (vph)	172	1484	406	226	1590	95	474	776	191	75	397	101
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			321		8				154			127
Link Speed (mph)		45		45			35			35		35
Link Distance (ft)		3309		3979			1995			706		
Travel Time (s)		50.1		60.3			38.9			13.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	172	1484	406	226	1590	95	474	776	191	75	397	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	1484	406	226	1685	0	474	776	191	75	397	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	43.0	43.0	21.0	47.0		22.0	44.0	44.0	12.0	34.0	34.0
Total Split (%)	14.2%	35.8%	35.8%	17.5%	39.2%		18.3%	36.7%	36.7%	10.0%	28.3%	28.3%
Maximum Green (s)	13.0	38.0	38.0	17.0	42.0		18.0	39.0	39.0	8.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.2	40.5	40.5	17.1	44.3		18.0	38.9	38.9	7.6	26.5	26.5
Actuated g/C Ratio	0.11	0.34	0.34	0.14	0.37		0.15	0.32	0.32	0.06	0.22	0.22
v/c Ratio	0.93	0.91	0.57	0.95	0.95		0.97	0.71	0.32	0.71	0.54	0.24
Control Delay	94.0	41.6	13.1	107.3	35.5		72.4	34.4	7.8	89.2	43.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.0	41.6	13.1	107.3	35.5		72.4	34.4	7.8	89.2	43.7	4.7
LOS	F	D	B	F	D		E	C	A	F	D	A
Approach Delay		40.4			44.0			43.4			42.8	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	119	416	166	147	-480		198	285	37	58	140	0
Queue Length 95th (ft)	m#249	#527	m265	#326	#597		#296	374	m98	#132	190	28
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	184	1624	718	238	1769		487	1089	591	111	810	458
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.91	0.57	0.95	0.95		0.97	0.71	0.32	0.68	0.49	0.22

Intersection Summary

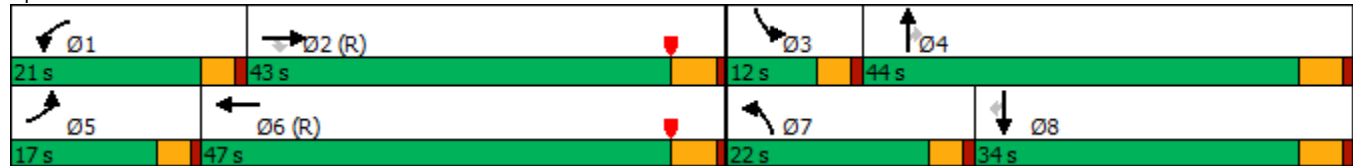
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2040  
 PM Peak Hour

Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 42.5	Intersection LOS: D
Intersection Capacity Utilization 86.7%	ICU Level of Service E
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (vph)	15	1524	253	464	1491	1019	333	584	471	574	347	10
Future Volume (vph)	15	1524	253	464	1491	1019	333	584	471	574	347	10
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.979				0.850		0.969	0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5943	0	3252	4818	1500	3252	3112	1365	3252	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5943	0	3252	4818	1500	3252	3112	1365	3252	3340	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						55		22	181			2
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	1524	253	464	1491	1019	333	584	471	574	347	10
Shared Lane Traffic (%)									32%			
Lane Group Flow (vph)	15	1777	0	464	1491	1019	333	735	320	574	357	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	42.0		19.0	55.0	30.0	23.0	29.0	29.0	30.0	36.0	
Total Split (%)	5.0%	35.0%		15.8%	45.8%	25.0%	19.2%	24.2%	24.2%	25.0%	30.0%	
Maximum Green (s)	2.0	37.0		15.0	50.0	26.0	19.0	24.0	24.0	26.0	31.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	37.0		15.0	53.6	84.6	16.1	24.0	24.0	26.0	33.9	
Actuated g/C Ratio	0.02	0.31		0.12	0.45	0.70	0.13	0.20	0.20	0.22	0.28	
v/c Ratio	0.28	0.97		1.14	0.69	0.95	0.76	1.15	0.77	0.82	0.38	
Control Delay	89.5	25.7		129.1	19.6	30.1	61.8	126.0	32.7	55.2	36.4	
Queue Delay	0.0	15.8		0.0	1.1	34.2	0.0	0.0	0.2	0.0	0.0	
Total Delay	89.5	41.5		129.1	20.7	64.4	61.8	126.0	32.8	55.2	36.4	
LOS	F	D		F	C	E	E	F	C	E	D	
Approach Delay		41.9			52.6			89.1			48.0	
Approach LOS		D			D			F			D	
Queue Length 50th (ft)	6	161		~213	263	656	129	~360	114	219	117	
Queue Length 95th (ft)	m8	#472		m#298	m356	m#1031	176	#492	#264	#290	166	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1832		406	2152	1073	514	640	417	704	944	
Starvation Cap Reductn	0	0		0	395	127	0	0	0	0	0	
Spillback Cap Reductn	0	115		0	0	0	0	0	3	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	1.03		1.14	0.85	1.08	0.65	1.15	0.77	0.82	0.38	

Intersection Summary

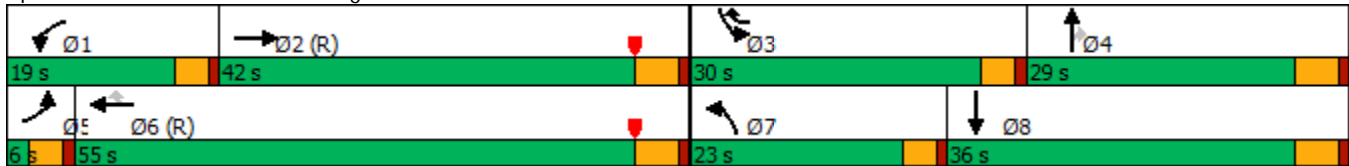
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 38 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Year 2040  
 PM Peak Hour

Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 56.4	Intersection LOS: E
Intersection Capacity Utilization 103.1%	ICU Level of Service G
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: State College Boulevard & Lambert Road



Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1640	930	298	2082	0	0	0	0	591	0	867
Future Volume (vph)	0	1640	930	298	2082	0	0	0	0	591	0	867
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.973	0.850								0.876	0.850
Flt Protected				0.950						0.950	0.991	
Satd. Flow (prot)	0	4430	1290	3252	4818	0	0	0	0	1593	1394	1425
Flt Permitted				0.950						0.950	0.991	
Satd. Flow (perm)	0	4430	1290	3252	4818	0	0	0	0	1593	1394	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46	577								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1640	930	298	2082	0	0	0	0	591	0	867
Shared Lane Traffic (%)			38%							14%		46%
Lane Group Flow (vph)	0	1993	577	298	2082	0	0	0	0	508	482	468
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		58.2	58.2	16.8	75.0					45.0	45.0	45.0
Total Split (%)		48.5%	48.5%	14.0%	62.5%					37.5%	37.5%	37.5%
Maximum Green (s)		53.7	53.7	12.3	70.5					40.5	40.5	40.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		53.7	53.7	12.5	70.7					40.3	40.3	40.3
Actuated g/C Ratio		0.45	0.45	0.10	0.59					0.34	0.34	0.34
v/c Ratio		0.99	0.64	0.88	0.73					0.95	0.96	0.91
Control Delay		31.3	3.9	59.4	7.7					68.0	65.9	56.9
Queue Delay		6.3	0.7	0.0	1.6					0.0	0.3	0.1
Total Delay		37.6	4.6	59.4	9.4					68.0	66.2	57.1
LOS		D	A	E	A					E	E	E
Approach Delay		30.2			15.6						63.9	
Approach LOS		C			B						E	
Queue Length 50th (ft)		240	26	117	280					401	362	327
Queue Length 95th (ft)		m#309	m18	m114	m250					#629	#604	#544
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		2009	896	337	2838					537	506	517
Starvation Cap Reductn		49	100	0	538					0	0	0
Spillback Cap Reductn		0	0	0	170					0	1	1
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.02	0.72	0.88	0.91					0.95	0.95	0.91

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 43.7 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 32.5 Intersection LOS: C  
 Intersection Capacity Utilization 94.9% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.



Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	588	1683	0	0	1376	668	1083	0	605	0	0	0
Future Volume (vph)	588	1683	0	0	1376	668	1083	0	605	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.980	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4462	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4462	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					23	480			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	600	1717	0	0	1433	696	1152	0	644	0	0	0
Shared Lane Traffic (%)						31%						
Lane Group Flow (vph)	600	1717	0	0	1649	480	1152	0	644	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	26.0	70.6			44.6	44.6	49.4		49.4			
Total Split (%)	21.7%	58.8%			37.2%	37.2%	41.2%		41.2%			
Maximum Green (s)	21.5	66.1			40.1	40.1	44.9		44.9			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	21.5	66.1			40.1	40.1	44.9		44.9			
Actuated g/C Ratio	0.18	0.55			0.33	0.33	0.37		0.37			
v/c Ratio	1.03	0.65			1.09	0.64	0.95		1.08			
Control Delay	68.1	11.1			91.3	7.0	52.8		94.7			
Queue Delay	0.0	0.4			0.0	0.0	0.0		0.0			
Total Delay	68.1	11.4			91.3	7.0	52.8		94.7			
LOS	E	B			F	A	D		F			
Approach Delay		26.1			72.3			67.8				
Approach LOS		C			E			E				
Queue Length 50th (ft)	~256	146			-556	0	441		~531			
Queue Length 95th (ft)	m#271	m150			#661	102	#584		#763			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	582	2653			1506	750	1216		595			
Starvation Cap Reductn	0	394			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.03	0.76			1.09	0.64	0.95		1.08			

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	28.1 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	53.9
Intersection LOS:	D
Intersection Capacity Utilization:	94.9%
ICU Level of Service:	F
Analysis Period (min):	15

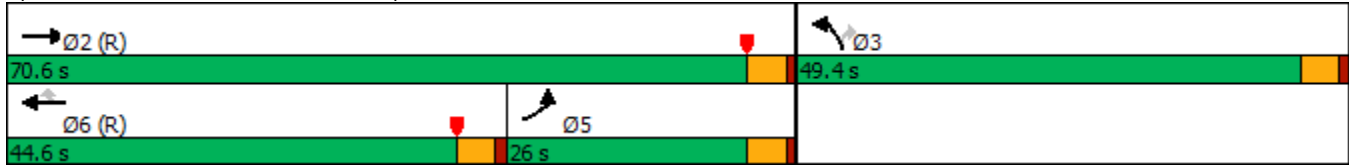
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 6: SR-57 NB Ramps & Lambert Road

Year 2040  
 PM Peak Hour












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	55	50	529	10	26	470
Future Volume (vph)	55	50	529	10	26	470
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3343	0	1676	3353
Flt Permitted	0.950				0.451	
Satd. Flow (perm)	1676	1500	3343	0	796	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		50	4			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	55	50	529	10	26	470
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	50	539	0	26	470
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040  
PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	25.0	25.0	35.0		35.0	35.0
Total Split (%)	41.7%	41.7%	58.3%		58.3%	58.3%
Maximum Green (s)	20.0	20.0	30.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	9.0	8.9	47.5		47.5	47.5
Actuated g/C Ratio	0.15	0.15	0.79		0.79	0.79
v/c Ratio	0.22	0.19	0.20		0.04	0.18
Control Delay	22.6	8.2	6.2		2.6	2.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	22.6	8.2	6.2		2.6	2.0
LOS	C	A	A		A	A
Approach Delay	15.7		6.2			2.0
Approach LOS	B		A			A
Queue Length 50th (ft)	18	0	63		2	26
Queue Length 95th (ft)	37	21	m67		m7	45
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	558	533	2645		629	2652
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.10	0.09	0.20		0.04	0.18

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	45 (75%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.22
Intersection Signal Delay:	5.2
Intersection LOS:	A
Intersection Capacity Utilization:	36.1%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	139	23	436	148	505	86	791	369	368	710	76
Future Volume (vph)	81	139	23	436	148	505	86	791	369	368	710	76
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.979				0.850		0.952			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1728	0	3252	1765	1500	1676	4586	0	3252	4745	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1728	0	3252	1765	1500	1676	4586	0	3252	4745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				118		97			16	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	81	139	23	436	148	505	86	791	369	368	710	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	162	0	436	148	505	86	1160	0	368	786	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	16.0	38.0		23.0	45.0	21.0	17.0	38.0		21.0	42.0	
Total Split (%)	13.3%	31.7%		19.2%	37.5%	17.5%	14.2%	31.7%		17.5%	35.0%	
Maximum Green (s)	12.0	33.0		19.0	40.0	17.0	13.0	33.0		17.0	37.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	10.2	18.3		20.1	30.3	49.1	11.8	46.6		17.0	54.0	
Actuated g/C Ratio	0.08	0.15		0.17	0.25	0.41	0.10	0.39		0.14	0.45	
v/c Ratio	0.57	0.60		0.80	0.33	0.74	0.52	0.63		0.80	0.37	
Control Delay	68.1	53.1		59.8	38.0	23.8	44.1	8.4		62.6	23.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.1	53.1		59.8	38.0	23.8	44.1	8.4		62.6	23.9	
LOS	E	D		E	D	C	D	A		E	C	
Approach Delay		58.1			40.2			10.9			36.2	
Approach LOS		E			D			B			D	
Queue Length 50th (ft)	61	116		166	98	196	71	42		150	141	
Queue Length 95th (ft)	113	159		#253	137	217	m112	m127		m#203	m184	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	167	480		558	588	683	181	1839		460	2143	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.49	0.34		0.78	0.25	0.74	0.48	0.63		0.80	0.37	

Intersection Summary

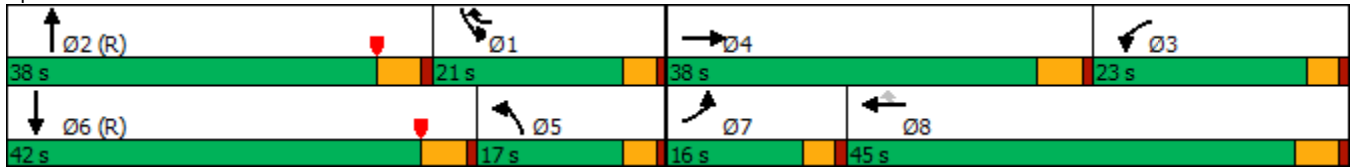
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 30.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 73.7%  
 ICU Level of Service D  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕↕↕		↙	↕↕↕	↙	↙	↕	↙	↙	↕↕	↙
Traffic Volume (vph)	143	1810	37	194	1804	265	33	56	104	163	133	201
Future Volume (vph)	143	1810	37	194	1804	265	33	56	104	163	133	201
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4803	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.668			0.720		
Satd. Flow (perm)	1676	4803	0	1676	4818	1500	1179	1765	1500	1271	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				265			104			201
Link Speed (mph)		45			45			40				40
Link Distance (ft)		713			2627			1029				2657
Travel Time (s)		10.8			39.8			17.5				45.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	143	1810	37	194	1804	265	33	56	104	163	133	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	1847	0	194	1804	265	33	56	104	163	133	201
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2				6
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	19.0	58.0		23.0	62.0	62.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	15.8%	48.3%		19.2%	51.7%	51.7%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	15.0	53.0		19.0	57.0	57.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	15.0	66.1		18.0	69.1	69.1	21.9	21.9	21.9	21.9	21.9	21.9
Actuated g/C Ratio	0.12	0.55		0.15	0.58	0.58	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.68	0.70		0.77	0.65	0.27	0.15	0.17	0.29	0.71	0.22	0.46
Control Delay	67.7	23.4		58.3	3.8	0.2	39.1	39.4	8.7	59.5	39.4	16.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	23.4		58.3	3.8	0.2	39.1	39.4	8.7	59.5	39.4	16.3
LOS	E	C		E	A	A	D	D	A	E	D	B
Approach Delay		26.5			8.0			22.8			36.6	
Approach LOS		C			A			C			D	
Queue Length 50th (ft)	108	367		126	91	0	22	37	0	129	51	25
Queue Length 95th (ft)	#195	535		m116	m134	m0	46	66	42	188	75	100
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	209	2648		275	2775	976	334	500	499	360	950	569
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.70		0.71	0.65	0.27	0.10	0.11	0.21	0.45	0.14	0.35

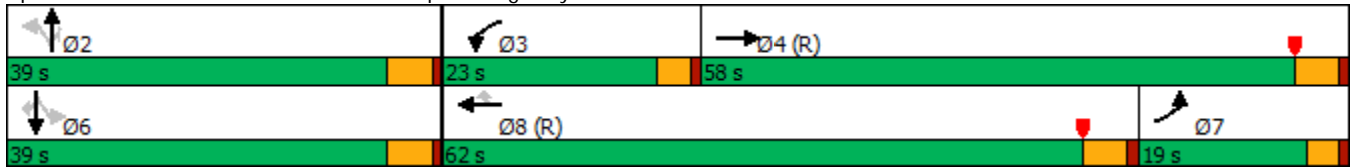
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 74 (62%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 95  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 18.9 Intersection LOS: B  
 Intersection Capacity Utilization 79.5% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↖		↗	↖	↗
Traffic Volume (vph)	164	2099	12	62	2086	340	5	7	6	422	30	246
Future Volume (vph)	164	2099	12	62	2086	340	5	7	6	422	30	246
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.979			0.950				0.850
Flt Protected	0.950			0.950				0.986		0.950	0.958	
Satd. Flow (prot)	1676	4813	0	1676	4716	0	0	3141	0	1593	1606	1500
Flt Permitted	0.950			0.950				0.986		0.950	0.958	
Satd. Flow (perm)	1676	4813	0	1676	4716	0	0	3141	0	1593	1606	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			32			6				246
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	164	2099	12	62	2086	340	5	7	6	422	30	246
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	164	2111	0	62	2426	0	0	18	0	224	228	246
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	14.0	60.0		10.0	56.0		35.0	35.0		15.0	15.0	15.0
Total Split (%)	11.7%	50.0%		8.3%	46.7%		29.2%	29.2%		12.5%	12.5%	12.5%
Maximum Green (s)	10.0	55.0		6.0	51.0		30.0	30.0		10.0	10.0	10.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		21.0	21.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	10.0	62.5		6.0	56.5		10.5	10.5		30.7	30.7	30.7
Actuated g/C Ratio	0.08	0.52		0.05	0.47		0.09	0.09		0.26	0.26	0.26
v/c Ratio	1.18	0.84		0.75	1.09		0.06	0.06		0.55	0.56	0.43
Control Delay	172.0	22.5		51.6	64.6		34.3	34.3		54.9	54.9	20.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	172.0	22.5		51.6	64.6		34.3	34.3		54.9	54.9	20.8
LOS	F	C		D	E		C	C		D	D	C
Approach Delay		33.3			64.2		34.3	34.3			42.9	
Approach LOS		C			E		C	C			D	
Queue Length 50th (ft)	~155	510		45	282		4	4		174	177	44
Queue Length 95th (ft)	m#276	#703		m48	m#769		14	14		#424	#431	115
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	139	2505		83	2235		789	789		407	410	566
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.18	0.84		0.75	1.09		0.02	0.02		0.55	0.56	0.43

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	23 (19%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.18
Intersection Signal Delay:	48.6
Intersection LOS:	D
Intersection Capacity Utilization:	91.6%
ICU Level of Service:	F
Analysis Period (min):	15

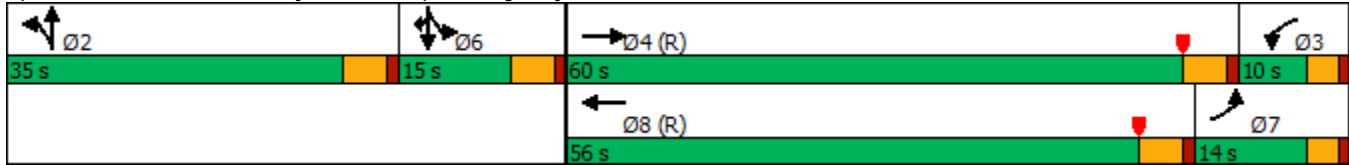
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2040  
 PM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway





Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (vph)	226	1822	411	405	1794	201	485	892	296	258	690	261
Future Volume (vph)	226	1822	411	405	1794	201	485	892	296	258	690	261
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			171			115			148			142
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	226	1822	411	405	1794	201	485	892	296	258	690	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	1822	411	405	1794	201	485	892	296	258	690	261
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	12.0	47.0	47.0	15.0	50.0	50.0	18.0	42.0	42.0	16.0	40.0	40.0
Total Split (%)	10.0%	39.2%	39.2%	12.5%	41.7%	41.7%	15.0%	35.0%	35.0%	13.3%	33.3%	33.3%
Maximum Green (s)	8.0	42.0	42.0	11.0	45.0	45.0	14.0	37.0	37.0	12.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effect Green (s)	8.0	42.0	42.0	11.0	45.0	45.0	14.0	37.0	37.0	12.0	35.0	35.0
Actuated g/C Ratio	0.07	0.35	0.35	0.09	0.38	0.38	0.12	0.31	0.31	0.10	0.29	0.29
v/c Ratio	1.05	1.08	0.65	1.36	0.99	0.32	1.28	0.60	0.52	0.79	0.71	0.49
Control Delay	111.3	91.6	35.2	192.4	24.6	2.9	187.4	37.3	20.3	55.1	33.0	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.3	91.6	35.2	192.4	24.6	2.9	187.4	37.3	20.3	55.1	33.0	10.4
LOS	F	F	D	F	C	A	F	D	C	E	C	B
Approach Delay		84.0			51.1			77.8			32.8	
Approach LOS		F			D			E			C	
Queue Length 50th (ft)	~95	~563	145	~219	298	7	~245	214	91	96	295	59
Queue Length 95th (ft)	m#138	#662	m255	m#191	m208	m6	#353	261	181	m#155	179	m31
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	216	1686	636	298	1806	634	379	1485	564	325	977	538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.08	0.65	1.36	0.99	0.32	1.28	0.60	0.52	0.79	0.71	0.49

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 8 (7%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.36  
 Intersection Signal Delay: 64.5  
 Intersection Capacity Utilization 99.1%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

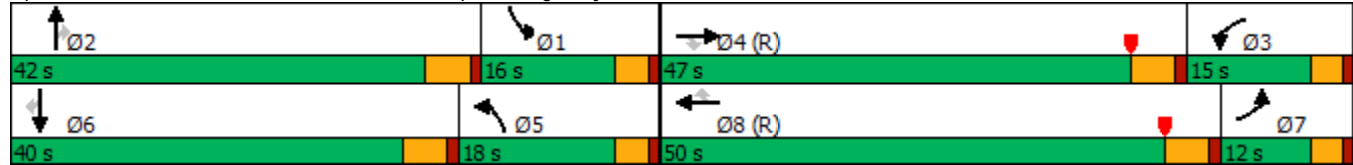
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2040  
 PM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	2081	211	539	2207	652	336	507	406	488	438	148
Future Volume (vph)	127	2081	211	539	2207	652	336	507	406	488	438	148
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				111			146			39
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	127	2081	211	539	2207	652	336	507	406	488	438	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	2292	0	539	2207	652	336	507	406	488	586	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	46.0		17.0	53.0	15.0	17.0	42.0	42.0	15.0	40.0	
Total Split (%)	8.3%	38.3%		14.2%	44.2%	12.5%	14.2%	35.0%	35.0%	12.5%	33.3%	
Maximum Green (s)	6.0	41.0		13.0	48.0	11.0	13.0	37.0	37.0	11.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effect Green (s)	6.0	41.0		13.0	48.0	64.0	13.0	37.0	37.0	11.0	35.0	
Actuated g/C Ratio	0.05	0.34		0.11	0.40	0.53	0.11	0.31	0.31	0.09	0.29	
v/c Ratio	0.78	1.11		1.53	1.15	0.77	0.95	0.49	0.72	1.64	0.61	
Control Delay	56.4	68.6		280.1	101.8	21.7	91.2	35.8	31.5	336.2	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.4	68.6		280.1	101.8	21.7	91.2	35.8	31.5	336.2	37.1	
LOS	E	E		F	F	C	F	D	C	F	D	
Approach Delay		67.9			114.7			49.3			173.0	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	54	~568		~301	~730	251	135	167	182	~281	192	
Queue Length 95th (ft)	m57	m#527		m#343	m#821	m294	#228	222	307	#389	254	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2059		352	1927	851	352	1033	563	298	968	
Starvation Cap Reductn	0	0		0	0	2	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.78	1.11		1.53	1.15	0.77	0.95	0.49	0.72	1.64	0.61	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.64  
 Intersection Signal Delay: 98.5  
 Intersection Capacity Utilization 96.3%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040  
 PM Peak Hour

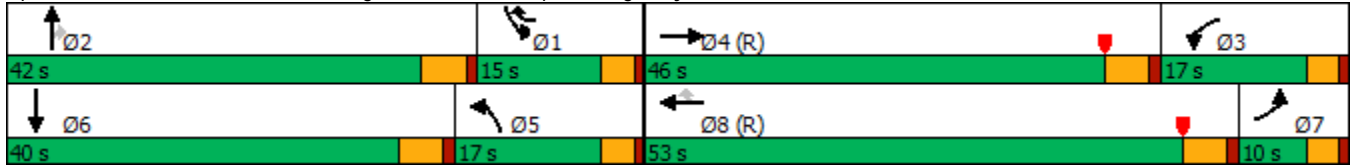
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1885	2552	0	700	714
Future Volume (vph)	0	1885	2552	0	700	714
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.958	0.850
Flt Protected					0.965	
Satd. Flow (prot)	0	4818	4818	0	3165	1365
Flt Permitted					0.965	
Satd. Flow (perm)	0	4818	4818	0	3165	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	2
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1885	2552	0	700	714
Shared Lane Traffic (%)						38%
Lane Group Flow (vph)	0	1885	2552	0	971	443
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		73.0	73.0		47.0	47.0
Total Split (%)		60.8%	60.8%		39.2%	39.2%
Maximum Green (s)		68.0	68.0		42.0	42.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		68.0	68.0		42.0	42.0
Actuated g/C Ratio		0.57	0.57		0.35	0.35
v/c Ratio		0.69	0.93		0.88	0.92
Control Delay		6.0	15.4		46.7	64.3
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		6.0	15.4		46.7	64.3
LOS		A	B		D	E
Approach Delay		6.0	15.4		52.2	
Approach LOS		A	B		D	
Queue Length 50th (ft)		150	363		360	358
Queue Length 95th (ft)		m116	m400		#462	#586
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2730	2730		1109	479
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.69	0.93		0.88	0.92

**Intersection Summary**

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 96 (80%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 21.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 145.8%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.



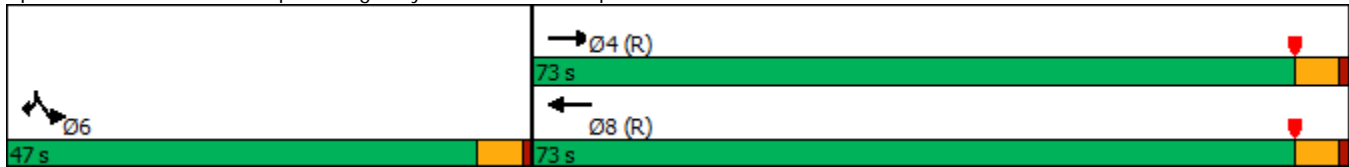
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	1934	0	0	1826	30	1300	109	536	0	0	260
Future Volume (vph)	173	1934	0	0	1826	30	1300	109	536	0	0	260
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.998			0.976	0.850			0.850
Flt Protected	0.950						0.950	0.970				
Satd. Flow (prot)	1676	4818	0	0	6058	0	3051	1437	1425	0	0	2640
Flt Permitted	0.950						0.950	0.970				
Satd. Flow (perm)	1676	4818	0	0	6058	0	3051	1437	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			9	120			252
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	173	1934	0	0	1826	30	1300	109	536	0	0	260
Shared Lane Traffic (%)							24%		15%			
Lane Group Flow (vph)	173	1934	0	0	1856	0	988	501	456	0	0	260
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	17.0	60.0			43.0		49.0	49.0	49.0			11.0
Total Split (%)	14.2%	50.0%			35.8%		40.8%	40.8%	40.8%			9.2%
Maximum Green (s)	13.0	55.0			38.0		44.0	44.0	44.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lag	Lag	Lag			Lead
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	13.0	55.0			38.0		44.0	44.0	44.0			6.0
Actuated g/C Ratio	0.11	0.46			0.32		0.37	0.37	0.37			0.05
v/c Ratio	0.96	0.88			0.97		0.88	0.94	0.76			0.70
Control Delay	88.5	20.3			54.5		46.3	63.9	33.9			18.5
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	88.5	20.3			54.5		46.3	63.9	33.9			18.5
LOS	F	C			D		D	E	C			B
Approach Delay		25.9			54.5			47.9				18.5
Approach LOS		C			D			D				B
Queue Length 50th (ft)	131	385			409		390	426	245			3
Queue Length 95th (ft)	m#236	421			#496		#517	#684	392			50
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	181	2208			1920		1118	532	598			371
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.96	0.88			0.97		0.88	0.94	0.76			0.70

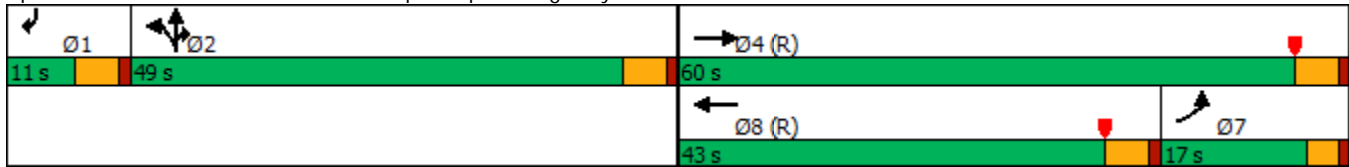
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 80 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 41.1 Intersection LOS: D  
 Intersection Capacity Utilization 81.7% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



*APPENDIX D-XV*

**YEAR 2040 PLUS PROJECT  
TRAFFIC CONDITIONS – ICU METHODOLOGY**

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↵			↵ ↵			↵ ↵ ↵			↵ ↵ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	61	172	71	181	428	96	174	1167	215	83	1265	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	172	71	181	428	96	174	1167	215	83	1265	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	43	18	45	107	24	44	292	54	21	316	12
Total Analysis Volume [veh/h]	61	172	71	181	428	96	174	1167	215	83	1265	46
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.07	0.07	0.11	0.15	0.15	0.10	0.27	0.27	0.05	0.26	0.26
Intersection LOS	A											
Intersection V/C	0.599											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	49	151	76	233	410	29	33	1125	105	158	1365	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	151	76	233	410	29	33	1125	105	158	1365	140
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	38	19	58	103	7	8	281	26	40	341	35
Total Analysis Volume [veh/h]	49	151	76	233	410	29	33	1125	105	158	1365	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.07	0.07	0.14	0.13	0.13	0.02	0.24	0.24	0.09	0.30	0.30
Intersection LOS	A											
Intersection V/C	0.588											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	231	372	166	135	939	327	169	1156	359	243	1374	159
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	372	166	135	939	327	169	1156	359	243	1374	159
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	93	42	34	235	82	42	289	90	61	344	40
Total Analysis Volume [veh/h]	231	372	166	135	939	327	169	1156	359	243	1374	159
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.11	0.10	0.08	0.28	0.19	0.10	0.23	0.21	0.14	0.30	0.30
Intersection LOS	C											
Intersection V/C	0.794											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T T			T T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	188	154	225	858	812	4	7	1110	298	588	1748	517
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	154	225	858	812	4	7	1110	298	588	1748	517
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	39	56	215	203	1	2	278	75	147	437	129
Total Analysis Volume [veh/h]	188	154	225	858	812	4	7	1110	298	588	1748	517
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.07	0.07	0.25	0.24	0.24	0.00	0.21	0.21	0.17	0.34	0.05
Intersection LOS	C											
Intersection V/C	0.757											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				⇐⇐⇐			⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	1021	0	868	0	1522	578	208	1972	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1021	0	868	0	1522	578	208	1972	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	255	0	217	0	381	145	52	493	0
Total Analysis Volume [veh/h]	0	0	0	1021	0	868	0	1522	578	208	1972	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.30	0.00	0.37	0.00	0.31	0.31	0.06	0.39	0.00
Intersection LOS	D											
Intersection V/C	0.807											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐						⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	935	0	469	0	0	0	438	2241	0	0	1233	496
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	935	0	469	0	0	0	438	2241	0	0	1233	496
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	234	0	117	0	0	0	110	560	0	0	308	124
Total Analysis Volume [veh/h]	935	0	469	0	0	0	438	2241	0	0	1233	496
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.28	0.00	0.28	0.00	0.00	0.00	0.13	0.44	0.00	0.00	0.25	0.25
Intersection LOS	C											
Intersection V/C	0.765											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.235

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	331	60	66	571	29	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	331	60	66	571	29	24
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	15	17	143	7	6
Total Analysis Volume [veh/h]	331	60	66	571	29	24
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.12	0.04	0.17	0.02	0.01
Intersection LOS	A					
Intersection V/C	0.235					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	42	527	288	332	1044	60	34	57	35	335	85	242
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	527	288	332	1044	60	34	57	35	335	85	242
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	132	72	83	261	15	9	14	9	84	21	61
Total Analysis Volume [veh/h]	42	527	288	332	1044	60	34	57	35	335	85	242
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.16	0.16	0.10	0.22	0.22	0.02	0.05	0.05	0.10	0.05	0.04
Intersection LOS	A											
Intersection V/C	0.460											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	55	130	208	219	102	126	196	1695	67	85	1611	173
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	130	208	219	102	126	196	1695	67	85	1611	173
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	33	52	55	26	32	49	424	17	21	403	43
Total Analysis Volume [veh/h]	55	130	208	219	102	126	196	1695	67	85	1611	173
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.08	0.12	0.13	0.03	0.07	0.12	0.35	0.35	0.05	0.32	0.10
Intersection LOS	C											
Intersection V/C	0.732											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	3	28	33	336	15	196	170	2088	5	61	2053	306
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	28	33	336	15	196	170	2088	5	61	2053	306
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	7	8	84	4	49	43	522	1	15	513	77
Total Analysis Volume [veh/h]	3	28	33	336	15	196	170	2088	5	61	2053	306
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.10	0.10	0.12	0.10	0.41	0.41	0.04	0.46	0.46
Intersection LOS	C											
Intersection V/C	0.747											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.909

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	457	528	194	173	1072	211	187	1735	437	236	1707	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	457	528	194	173	1072	211	187	1735	437	236	1707	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	132	49	43	268	53	47	434	109	59	427	23
Total Analysis Volume [veh/h]	457	528	194	173	1072	211	187	1735	437	236	1707	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.10	0.11	0.05	0.32	0.12	0.06	0.34	0.26	0.07	0.33	0.05
Intersection LOS	E											
Intersection V/C	0.909											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	178	187	478	195	646	42	60	1842	312	568	1898	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	187	478	195	646	42	60	1842	312	568	1898	213
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	47	120	49	162	11	15	461	78	142	475	53
Total Analysis Volume [veh/h]	178	187	478	195	646	42	60	1842	312	568	1898	213
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.06	0.28	0.06	0.20	0.20	0.02	0.32	0.32	0.17	0.37	0.07
Intersection LOS	D											
Intersection V/C	0.872											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	699	0	591	0	1784	756	0	2062	229
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	699	0	591	0	1784	756	0	2062	229
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	175	0	148	0	446	189	0	516	57
Total Analysis Volume [veh/h]	0	0	0	699	0	591	0	1784	756	0	2062	229
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.21	0.00	0.25	0.00	0.35	0.00	0.00	0.40	0.00
Intersection LOS	C											
Intersection V/C	0.707											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1135	165	871	0	0	60	137	1737	631	0	1182	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1135	165	871	0	0	60	137	1737	631	0	1182	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	284	41	218	0	0	15	34	434	158	0	296	2
Total Analysis Volume [veh/h]	1135	165	871	0	0	60	137	1737	631	0	1182	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.22	0.32	0.32	0.00	0.00	0.02	0.08	0.34	0.00	0.00	0.17	0.17
Intersection LOS	C											
Intersection V/C	0.728											

**Intersection Level Of Service Report**  
**Intersection 1: Puente Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

**Intersection Setup**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	184	351	132	121	224	247	109	1270	59	91	1706	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	351	132	121	224	247	109	1270	59	91	1706	165
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	88	33	30	56	62	27	318	15	23	427	41
Total Analysis Volume [veh/h]	184	351	132	121	224	247	109	1270	59	91	1706	165
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.14	0.14	0.07	0.14	0.14	0.06	0.26	0.26	0.05	0.37	0.37
Intersection LOS	C											
Intersection V/C	0.728											

**Intersection Level Of Service Report**  
**Intersection 2: Berry Street at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

**Intersection Setup**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Berry Street			Berry Street			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	130	396	122	211	290	80	36	1434	73	57	1691	145
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	396	122	211	290	80	36	1434	73	57	1691	145
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	99	31	53	73	20	9	359	18	14	423	36
Total Analysis Volume [veh/h]	130	396	122	211	290	80	36	1434	73	57	1691	145
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.15	0.15	0.12	0.11	0.11	0.02	0.30	0.30	0.03	0.36	0.36
Intersection LOS	C											
Intersection V/C	0.708											

**Intersection Level Of Service Report**  
**Intersection 3: Brea Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	474	776	191	75	397	101	172	1489	406	226	1598	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	474	776	191	75	397	101	172	1489	406	226	1598	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	194	48	19	99	25	43	372	102	57	400	24
Total Analysis Volume [veh/h]	474	776	191	75	397	101	172	1489	406	226	1598	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.23	0.11	0.04	0.12	0.06	0.10	0.29	0.24	0.13	0.33	0.33
Intersection LOS	C											
Intersection V/C	0.755											

**Intersection Level Of Service Report**  
**Intersection 4: State College Boulevard at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.861

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	333	584	471	574	347	10	15	1529	253	464	1499	1019
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	333	584	471	574	347	10	15	1529	253	464	1499	1019
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	146	118	144	87	3	4	382	63	116	375	255
Total Analysis Volume [veh/h]	333	584	471	574	347	10	15	1529	253	464	1499	1019
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.21	0.21	0.17	0.11	0.11	0.00	0.26	0.26	0.14	0.29	0.43
Intersection LOS	D											
Intersection V/C	0.861											

**Intersection Level Of Service Report**  
**Intersection 5: SR-57 SB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.803

**Intersection Setup**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			SR-57 SB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	0	0	0	591	0	873	0	1645	930	298	2084	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	591	0	873	0	1645	930	298	2084	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	148	0	218	0	411	233	75	521	0
Total Analysis Volume [veh/h]	0	0	0	591	0	873	0	1645	930	298	2084	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	0	0	1	0	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.00	0.29	0.00	0.38	0.38	0.09	0.41	0.00
Intersection LOS	D											
Intersection V/C	0.803											

**Intersection Level Of Service Report**  
**Intersection 6: SR-57 NB Ramps at Lambert Road**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.881

**Intersection Setup**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐						⇐			⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

**Volumes**

Name	SR-57 NB Ramps			SR-57 NB Ramps			Lambert Road			Lambert Road		
Base Volume Input [veh/h]	1083	0	605	0	0	0	592	1684	0	0	1378	668
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1083	0	605	0	0	0	592	1684	0	0	1378	668
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	271	0	151	0	0	0	148	421	0	0	345	167
Total Analysis Volume [veh/h]	1083	0	605	0	0	0	592	1684	0	0	1378	668
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Permiss	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	5	0	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.32	0.00	0.36	0.00	0.00	0.00	0.17	0.33	0.00	0.00	0.30	0.30
Intersection LOS	D											
Intersection V/C	0.881											

**Intersection Level Of Service Report  
Intersection 7: Berry Street at Mercury Lane**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.277

**Intersection Setup**

Name	Berry Street		Berry Street		Mercury Lane	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑		↵ ↑		↵↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Berry Street		Berry Street		Mercury Lane	
Base Volume Input [veh/h]	529	31	37	470	69	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	529	31	37	470	69	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	8	9	118	17	14
Total Analysis Volume [veh/h]	529	31	37	470	69	57
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	2	0	0	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.16	0.16	0.02	0.14	0.04	0.03
Intersection LOS	A					
Intersection V/C	0.277					

**Intersection Level Of Service Report**  
**Intersection 8: Brea Boulevard at Birch Street**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.622

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Birch Street			Birch Street		
Base Volume Input [veh/h]	86	791	370	368	710	76	81	139	23	438	148	505
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	791	370	368	710	76	81	139	23	438	148	505
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	198	93	92	178	19	20	35	6	110	37	126
Total Analysis Volume [veh/h]	86	791	370	368	710	76	81	139	23	438	148	505
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.23	0.23	0.11	0.15	0.15	0.05	0.10	0.10	0.13	0.09	0.19
Intersection LOS	B											
Intersection V/C	0.622											

**Intersection Level Of Service Report**  
**Intersection 9: Puente Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.684

**Intersection Setup**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Puente Street			Puente Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	33	56	104	163	133	201	143	1815	37	194	1807	265
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	56	104	163	133	201	143	1815	37	194	1807	265
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	14	26	41	33	50	36	454	9	49	452	66
Total Analysis Volume [veh/h]	33	56	104	163	133	201	143	1815	37	194	1807	265
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.03	0.06	0.10	0.04	0.12	0.08	0.36	0.36	0.11	0.35	0.16
Intersection LOS	B											
Intersection V/C	0.684											

**Intersection Level Of Service Report**  
**Intersection 10: Berry Street at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

**Intersection Setup**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name	Berry Street			Berry Street			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	5	7	6	433	30	249	169	2099	12	62	2086	356
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	7	6	433	30	249	169	2099	12	62	2086	356
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	2	108	8	62	42	525	3	16	522	89
Total Analysis Volume [veh/h]	5	7	6	433	30	249	169	2099	12	62	2086	356
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	0	2	0	0	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.13	0.14	0.15	0.10	0.41	0.41	0.04	0.48	0.48
Intersection LOS	C											
Intersection V/C	0.780											

**Intersection Level Of Service Report**  
**Intersection 11: Brea Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

**Intersection Setup**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Brea Boulevard			Brea Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	488	892	296	258	690	263	227	1829	413	405	1805	201
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	488	892	296	258	690	263	227	1829	413	405	1805	201
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	122	223	74	65	173	66	57	457	103	101	451	50
Total Analysis Volume [veh/h]	488	892	296	258	690	263	227	1829	413	405	1805	201
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.17	0.17	0.08	0.20	0.15	0.07	0.36	0.24	0.12	0.35	0.12
Intersection LOS	D											
Intersection V/C	0.874											

**Intersection Level Of Service Report**

**Intersection 12: State College Boulevard at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.929

**Intersection Setup**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	State College Boulevard			State College Boulevard			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	338	507	406	488	438	148	127	2087	212	539	2217	652
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	338	507	406	488	438	148	127	2087	212	539	2217	652
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	127	102	122	110	37	32	522	53	135	554	163
Total Analysis Volume [veh/h]	338	507	406	488	438	148	127	2087	212	539	2217	652
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal group	5	2	0	1	6	0	3	8	0	7	4	4
Auxiliary Signal Groups												1,4
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.15	0.24	0.14	0.17	0.17	0.04	0.34	0.34	0.16	0.43	0.24
Intersection LOS	E											
Intersection V/C	0.929											

**Intersection Level Of Service Report**  
**Intersection 13: SR-57 SB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.830

**Intersection Setup**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↵↵↵			↵			↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			No			No		

**Volumes**

Name	SR-57 SB Ramps			Imperial Highway			Imperial Highway					
Base Volume Input [veh/h]	0	0	0	700	0	714	0	1887	1096	0	2562	534
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	700	0	714	0	1887	1096	0	2562	534
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	175	0	179	0	472	274	0	641	134
Total Analysis Volume [veh/h]	0	0	0	700	0	714	0	1887	1096	0	2562	534
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Split	Permiss	Split	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal group	0	0	0	1	0	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.21	0.00	0.28	0.00	0.37	0.00	0.00	0.50	0.00
Intersection LOS	D											
Intersection V/C	0.830											

**Intersection Level Of Service Report**  
**Intersection 14: SR-57 NB Ramps at Imperial Highway**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

**Intersection Setup**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

**Volumes**

Name	SR-57 NB Ramps			Shopping Center			Imperial Highway			Imperial Highway		
Base Volume Input [veh/h]	1306	109	536	0	0	260	173	1936	542	0	1829	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1306	109	536	0	0	260	173	1936	542	0	1829	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	327	27	134	0	0	65	43	484	136	0	457	8
Total Analysis Volume [veh/h]	1306	109	536	0	0	260	173	1936	542	0	1829	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Cycle Length [s]	100
Lost time [s]	5.00

**Phasing & Timing**

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Unsigna	Permiss	Permiss	Permiss
Signal group	0	2	0	0	0	6	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-

**Movement, Approach, & Intersection Results**

























V/C, Movement V/C Ratio	0.26	0.29	0.29	0.00	0.00	0.08	0.10	0.38	0.00	0.00	0.27	0.27
Intersection LOS	C											
Intersection V/C	0.793											

*APPENDIX D-XVI*

**YEAR 2040 PLUS PROJECT  
TRAFFIC CONDITIONS – HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	174	1167	215	83	1265	46	61	172	71	181	428	96
Future Volume (veh/h)	174	1167	215	83	1265	46	61	172	71	181	428	96
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	174	1167	215	83	1265	46	61	172	71	181	428	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	2291	422	103	1469	53	77	294	117	207	551	123
Arrive On Green	0.30	0.56	0.56	0.08	0.41	0.41	0.02	0.04	0.04	0.12	0.20	0.20
Sat Flow, veh/h	1688	4105	756	1688	4791	174	1688	2353	934	1688	2737	609
Grp Volume(v), veh/h	174	917	465	83	851	460	61	121	122	181	262	262
Grp Sat Flow(s),veh/h/ln	1688	1612	1636	1688	1612	1741	1688	1683	1604	1688	1683	1662
Q Serve(g_s), s	9.7	21.1	21.1	5.8	28.9	28.9	4.3	8.5	9.0	12.6	17.7	17.9
Cycle Q Clear(g_c), s	9.7	21.1	21.1	5.8	28.9	28.9	4.3	8.5	9.0	12.6	17.7	17.9
Prop In Lane	1.00		0.46	1.00		0.10	1.00		0.58	1.00		0.37
Lane Grp Cap(c), veh/h	500	1800	913	103	989	534	77	210	200	207	339	335
V/C Ratio(X)	0.35	0.51	0.51	0.80	0.86	0.86	0.79	0.58	0.61	0.87	0.77	0.78
Avail Cap(c_a), veh/h	500	1800	913	155	1048	566	141	393	374	267	519	513
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	16.4	16.4	54.4	33.2	33.2	58.5	54.4	54.6	51.7	45.3	45.4
Incr Delay (d2), s/veh	0.2	1.0	2.0	7.7	7.9	13.6	6.0	0.9	1.0	18.6	1.6	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	7.4	7.8	2.6	10.9	12.6	2.0	3.8	3.8	6.3	7.4	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	17.4	18.4	62.1	41.1	46.8	64.5	55.3	55.7	70.3	46.9	47.3
LnGrp LOS	C	B	B	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1556			1394			304			705	
Approach Delay, s/veh		19.5			44.2			57.3			53.1	
Approach LOS		B			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	72.0	17.7	20.0	40.5	41.8	8.5	29.2				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	11.0	46.0	19.0	28.0	18.0	* 39	10.0	37.0				
Max Q Clear Time (g_c+I1), s	7.8	23.1	14.6	11.0	11.7	30.9	6.3	19.9				
Green Ext Time (p_c), s	0.0	13.6	0.1	1.8	0.1	5.9	0.0	4.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				37.1								
HCM 6th LOS				D								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

# HCM 6th Signalized Intersection Summary

## 2: Berry Street & Lambert Road

Year 2040 + Project  
AM Peak Hour

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (veh/h)	33	1125	105	158	1365	140	49	151	76	233	410	29
Future Volume (veh/h)	33	1125	105	158	1365	140	49	151	76	233	410	29
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	33	1125	105	158	1365	140	49	151	76	233	410	29
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	2116	197	183	2508	257	62	219	105	259	688	48
Arrive On Green	0.01	0.16	0.16	0.11	0.56	0.56	0.04	0.10	0.10	0.15	0.22	0.22
Sat Flow, veh/h	1688	4501	420	1688	4457	457	1688	2207	1058	1688	3190	225
Grp Volume(v), veh/h	33	806	424	158	988	517	49	113	114	233	216	223
Grp Sat Flow(s),veh/h/ln	1688	1612	1696	1688	1612	1690	1688	1683	1582	1688	1683	1731
Q Serve(g_s), s	2.3	27.6	27.6	11.1	23.2	23.2	3.5	7.8	8.4	16.3	13.8	13.9
Cycle Q Clear(g_c), s	2.3	27.6	27.6	11.1	23.2	23.2	3.5	7.8	8.4	16.3	13.8	13.9
Prop In Lane	1.00		0.25	1.00		0.27	1.00		0.67	1.00		0.13
Lane Grp Cap(c), veh/h	41	1516	797	183	1815	951	62	167	157	259	363	373
V/C Ratio(X)	0.81	0.53	0.53	0.86	0.54	0.54	0.79	0.68	0.73	0.90	0.59	0.60
Avail Cap(c_a), veh/h	56	1516	797	211	1815	951	127	352	331	309	534	550
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	0.45	0.45	0.45	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	38.5	38.5	52.6	16.5	16.5	57.3	52.2	52.5	49.9	42.3	42.4
Incr Delay (d2), s/veh	26.8	1.0	2.0	12.5	0.5	1.0	8.2	1.8	2.4	22.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	12.1	12.9	5.2	8.0	8.5	1.6	3.3	3.4	8.4	5.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.0	39.6	40.5	65.1	17.1	17.6	65.5	54.0	54.9	72.8	42.9	43.0
LnGrp LOS	F	D	D	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		1263			1663			276			672	
Approach Delay, s/veh		41.1			21.8			56.4			53.3	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	63.4	21.4	18.2	5.9	74.5	7.4	32.2				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	15.0	37.6	22.0	25.1	4.0	49.6	9.0	38.1				
Max Q Clear Time (g_c+I1), s	13.1	29.6	18.3	10.4	4.3	25.2	5.5	15.9				
Green Ext Time (p_c), s	0.0	5.6	0.1	1.5	0.0	15.4	0.0	3.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.0									
HCM 6th LOS			D									


























HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	169	1156	359	243	1374	159	231	372	166	135	939	327
Future Volume (veh/h)	169	1156	359	243	1374	159	231	372	166	135	939	327
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	1156	359	243	1374	159	231	372	166	135	939	327
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1578	490	253	1618	187	246	978	436	141	1006	449
Arrive On Green	0.11	0.33	0.33	0.15	0.37	0.37	0.08	0.29	0.29	0.08	0.30	0.30
Sat Flow, veh/h	1688	4837	1502	1688	4397	509	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	169	1156	359	243	1008	525	231	372	166	135	939	327
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1680	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	11.9	25.4	25.4	17.2	34.5	34.5	8.4	10.6	10.6	9.6	32.6	23.4
Cycle Q Clear(g_c), s	11.9	25.4	25.4	17.2	34.5	34.5	8.4	10.6	10.6	9.6	32.6	23.4
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1578	490	253	1187	618	246	978	436	141	1006	449
V/C Ratio(X)	0.92	0.73	0.73	0.96	0.85	0.85	0.94	0.38	0.38	0.96	0.93	0.73
Avail Cap(c_a), veh/h	183	1578	490	253	1187	618	246	982	438	141	1010	450
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)	0.73	0.73	0.73	0.62	0.62	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	35.8	35.8	50.6	34.9	34.9	55.2	34.0	34.0	54.8	40.9	37.7
Incr Delay (d2), s/veh	36.5	2.2	6.9	34.0	4.9	9.0	40.9	0.3	0.8	63.1	15.1	6.4
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	6.8	9.9	10.1	9.4	13.6	14.9	4.8	4.3	3.9	6.5	15.3	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.5	38.0	42.7	84.6	39.8	43.9	96.2	34.3	34.7	117.9	56.0	44.1
LnGrp LOS	F	D	D	F	D	D	F	C	C	F	E	D
Approach Vol, veh/h		1684			1776			769			1401	
Approach Delay, s/veh		44.2			47.1			53.0			59.2	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	44.2	14.0	39.8	17.0	49.2	13.0	40.8				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	18.0	39.0	10.0	35.0	13.0	44.0	9.0	36.0				
Max Q Clear Time (g_c+I1), s	19.2	27.4	11.6	12.6	13.9	36.5	10.4	34.6				
Green Ext Time (p_c), s	0.0	9.8	0.0	6.6	0.0	6.9	0.0	1.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.1									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary  
4: State College Boulevard & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1110	298	588	1748	517	188	154	225	858	812	4
Future Volume (veh/h)	7	1110	298	588	1748	517	188	154	225	858	812	4
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	7	1110	298	588	1748	517	188	154	225	858	812	4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	13	1436	382	627	2345	1145	241	148	250	910	996	5
Arrive On Green	0.00	0.30	0.30	0.38	0.97	0.97	0.07	0.08	0.08	0.28	0.29	0.29
Sat Flow, veh/h	3274	4828	1284	3274	4837	1502	3375	1772	3003	3274	3435	17
Grp Volume(v), veh/h	7	1050	358	588	1748	517	188	154	225	858	398	418
Grp Sat Flow(s),veh/h/ln	1637	1524	1541	1637	1612	1502	1688	1772	1502	1637	1683	1769
Q Serve(g_s), s	0.3	25.2	25.5	20.8	4.7	1.8	6.6	10.0	8.9	30.8	26.4	26.4
Cycle Q Clear(g_c), s	0.3	25.2	25.5	20.8	4.7	1.8	6.6	10.0	8.9	30.8	26.4	26.4
Prop In Lane	1.00		0.83	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	13	1359	458	627	2345	1145	241	148	250	910	488	513
V/C Ratio(X)	0.55	0.77	0.78	0.94	0.75	0.45	0.78	1.04	0.90	0.94	0.82	0.82
Avail Cap(c_a), veh/h	55	1359	458	655	2345	1145	253	148	250	955	505	531
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	0.41	0.41	0.41	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.7	38.5	38.6	36.3	1.0	0.2	54.8	55.0	54.5	42.4	39.6	39.6
Incr Delay (d2), s/veh	8.4	2.8	8.3	10.5	0.9	0.5	12.4	85.9	31.0	16.3	9.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.4	10.3	7.1	0.7	0.3	3.2	7.9	4.4	14.1	11.8	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	41.3	46.8	46.9	1.9	0.7	67.2	140.9	85.5	58.7	48.6	48.2
LnGrp LOS	E	D	D	D	A	A	E	F	F	E	D	D
Approach Vol, veh/h		1415			2853			567			1674	
Approach Delay, s/veh		42.8			11.0			94.5			53.7	
Approach LOS		D			B			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	40.7	37.3	15.0	4.5	63.2	12.6	39.8				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	24.0	33.0	35.0	10.0	2.0	55.0	9.0	36.0				
Max Q Clear Time (g_c+I1), s	22.8	27.5	32.8	12.0	2.3	6.7	8.6	28.4				
Green Ext Time (p_c), s	0.2	4.4	0.6	0.0	0.0	30.7	0.0	4.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
5: SR-57 SB Ramps & Lambert Road

Year 2040 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1522	578	208	1972	0	0	0	0	1021	0	868
Future Volume (veh/h)	0	1522	578	208	1972	0	0	0	0	1021	0	868
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	1602	525	208	1972	0				1291	0	579
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2117	598	246	2471	0				1398	0	622
Arrive On Green	0.00	0.80	0.80	0.15	1.00	0.00				0.41	0.00	0.41
Sat Flow, veh/h	0	5316	1502	3274	4997	0				3375	0	1502
Grp Volume(v), veh/h	0	1602	525	208	1972	0				1291	0	579
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	18.5	28.4	7.4	0.0	0.0				43.5	0.0	44.1
Cycle Q Clear(g_c), s	0.0	18.5	28.4	7.4	0.0	0.0				43.5	0.0	44.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2117	598	246	2471	0				1398	0	622
V/C Ratio(X)	0.00	0.76	0.88	0.85	0.80	0.00				0.92	0.00	0.93
Avail Cap(c_a), veh/h	0	2117	598	246	2471	0				1448	0	644
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.41	0.41	0.48	0.48	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.2	10.2	50.3	0.0	0.0				33.3	0.0	33.5
Incr Delay (d2), s/veh	0.0	1.1	7.8	12.5	1.4	0.0				10.0	0.0	19.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	4.6	3.2	0.3	0.0				19.3	0.0	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.3	18.0	62.9	1.4	0.0				43.3	0.0	53.4
LnGrp LOS	A	B	B	E	A	A				D	A	D
Approach Vol, veh/h		2127			2180						1870	
Approach Delay, s/veh		12.2			7.2						46.4	
Approach LOS		B			A						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.5	52.3		54.2		65.8						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.0	46.0		51.5		59.5						
Max Q Clear Time (g_c+I1), s	9.4	30.4		46.1		2.0						
Green Ext Time (p_c), s	0.0	10.9		3.6		24.4						

Intersection Summary



























HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.













HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  	 	 		 			
Traffic Volume (veh/h)	438	2241	0	0	1233	496	935	0	469	0	0	0
Future Volume (veh/h)	438	2241	0	0	1233	496	935	0	469	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	438	2241	0	0	1329	432	935	0	469			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	632	2829	0	0	1883	532	1114	0	511			
Arrive On Green	0.39	1.00	0.00	0.00	0.35	0.35	0.34	0.00	0.34			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	438	2241	0	0	1329	432	935	0	469			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	13.5	0.0	0.0	0.0	25.8	31.3	31.6	0.0	36.0			
Cycle Q Clear(g_c), s	13.5	0.0	0.0	0.0	25.8	31.3	31.6	0.0	36.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	632	2829	0	0	1883	532	1114	0	511			
V/C Ratio(X)	0.69	0.79	0.00	0.00	0.71	0.81	0.84	0.00	0.92			
Avail Cap(c_a), veh/h	632	2829	0	0	1883	532	1187	0	544			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.22	0.22	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.9	0.0	0.0	0.0	33.4	35.1	36.6	0.0	38.0			
Incr Delay (d2), s/veh	0.7	0.5	0.0	0.0	2.3	12.7	5.3	0.0	20.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.4	0.1	0.0	0.0	11.0	12.8	13.3	0.0	15.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.5	0.0	0.0	35.6	47.9	41.8	0.0	58.0			
LnGrp LOS	C	A	A	A	D	D	D	A	E			
Approach Vol, veh/h		2679			1761			1404				
Approach Delay, s/veh		6.1			38.6			47.2				
Approach LOS		A			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		74.7			27.7	47.0		45.3				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		67.5			20.5	42.5		43.5				
Max Q Clear Time (g_c+I1), s		2.0			15.5	33.3		38.0				
Green Ext Time (p_c), s		32.7			0.7	6.2		2.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay					25.8							
HCM 6th LOS					C							
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary  
7: Berry Street & Mercury Lane

Year 2040 + Project  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	24	331	60	66	571
Future Volume (veh/h)	29	24	331	60	66	571
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	29	24	331	60	66	571
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	99	88	2209	396	859	2608
Arrive On Green	0.06	0.06	0.77	0.77	0.77	0.77
Sat Flow, veh/h	1688	1502	2941	511	993	3455
Grp Volume(v), veh/h	29	24	194	197	66	571
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1680	993	1683
Q Serve(g_s), s	1.0	0.9	1.8	1.8	1.1	2.8
Cycle Q Clear(g_c), s	1.0	0.9	1.8	1.8	2.9	2.8
Prop In Lane	1.00	1.00		0.30	1.00	
Lane Grp Cap(c), veh/h	99	88	1304	1301	859	2608
V/C Ratio(X)	0.29	0.27	0.15	0.15	0.08	0.22
Avail Cap(c_a), veh/h	591	526	1304	1301	859	2608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.22	0.22	0.74	0.74
Uniform Delay (d), s/veh	27.0	27.0	1.7	1.7	2.1	1.8
Incr Delay (d2), s/veh	1.6	1.6	0.1	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.1	0.1	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.7	28.7	1.8	1.8	2.2	2.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	53		391			637
Approach Delay, s/veh	28.7		1.8			2.0
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		51.5			51.5	8.5
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		29.0			29.0	21.0
Max Q Clear Time (g_c+I1), s		3.8			4.9	3.0
Green Ext Time (p_c), s		2.2			4.0	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			3.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2040 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	34	57	35	335	85	242	42	527	288	332	1044	60
Future Volume (veh/h)	34	57	35	335	85	242	42	527	288	332	1044	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	34	57	35	335	85	242	42	527	288	332	1044	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	77	47	397	302	838	485	833	388	1268	1677	96
Arrive On Green	0.03	0.07	0.07	0.12	0.17	0.17	0.57	0.52	0.52	0.39	0.36	0.36
Sat Flow, veh/h	1688	1027	631	3274	1772	1502	1688	3225	1502	3274	4680	269
Grp Volume(v), veh/h	34	0	92	335	85	242	42	527	288	332	719	385
Grp Sat Flow(s),veh/h/ln	1688	0	1658	1637	1772	1502	1688	1612	1502	1637	1612	1724
Q Serve(g_s), s	2.4	0.0	6.5	12.0	5.0	1.6	1.3	14.1	18.0	8.3	22.1	22.1
Cycle Q Clear(g_c), s	2.4	0.0	6.5	12.0	5.0	1.6	1.3	14.1	18.0	8.3	22.1	22.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	57	0	124	397	302	838	485	833	388	1268	1156	618
V/C Ratio(X)	0.59	0.00	0.74	0.84	0.28	0.29	0.09	0.63	0.74	0.26	0.62	0.62
Avail Cap(c_a), veh/h	84	0	456	518	679	1157	485	833	388	1268	1156	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	0.0	54.4	51.6	43.4	6.8	18.5	24.9	25.9	25.1	31.8	31.8
Incr Delay (d2), s/veh	9.5	0.0	8.4	9.5	0.5	0.2	0.1	3.2	10.9	0.1	2.5	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	3.0	5.5	2.3	2.1	0.5	4.5	5.8	3.2	8.9	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	0.0	62.8	61.1	43.9	6.9	18.5	28.2	36.8	25.2	34.3	36.5
LnGrp LOS	E	A	E	E	D	A	B	C	D	C	C	D
Approach Vol, veh/h		126			662			857			1436	
Approach Delay, s/veh		63.9			39.1			30.6			32.8	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	50.5	36.0	19.6	14.0	38.5	48.0	8.1	25.5				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	31.0	19.0	* 33	7.0	43.0	6.0	46.0				
Max Q Clear Time (g_c+I1), s	10.3	20.0	14.0	8.5	3.3	24.1	4.4	7.0				
Green Ext Time (p_c), s	0.8	4.0	0.5	0.4	0.0	7.1	0.0	1.4				

Intersection Summary



























HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary  
9: Puente Street & Imperial Highway

Year 2040 + Project  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	196	1695	67	85	1611	173	55	130	208	219	102	126
Future Volume (veh/h)	196	1695	67	85	1611	173	55	130	208	219	102	126
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	196	1695	67	85	1611	173	55	130	208	219	102	126
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	2579	102	105	2016	626	358	498	422	293	945	422
Arrive On Green	0.18	0.54	0.54	0.12	0.83	0.83	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1688	4774	189	1688	4837	1502	1153	1772	1502	1042	3367	1502
Grp Volume(v), veh/h	196	1145	617	85	1611	173	55	130	208	219	102	126
Grp Sat Flow(s),veh/h/ln	1688	1612	1738	1688	1612	1502	1153	1772	1502	1042	1683	1502
Q Serve(g_s), s	13.0	30.4	30.4	5.9	19.9	3.0	4.5	6.8	13.9	24.8	2.7	7.9
Cycle Q Clear(g_c), s	13.0	30.4	30.4	5.9	19.9	3.0	7.2	6.8	13.9	31.6	2.7	7.9
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1742	939	105	2016	626	358	498	422	293	945	422
V/C Ratio(X)	0.65	0.66	0.66	0.81	0.80	0.28	0.15	0.26	0.49	0.75	0.11	0.30
Avail Cap(c_a), veh/h	309	1742	939	183	2016	626	361	502	425	296	954	425
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.22	0.22	0.22	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	45.9	19.7	19.7	51.8	7.5	6.1	34.7	33.5	36.0	45.8	32.0	33.9
Incr Delay (d2), s/veh	4.7	2.0	3.6	3.3	0.8	0.2	0.2	0.3	0.9	6.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	10.9	12.2	2.4	2.8	0.9	1.3	2.9	5.0	6.8	1.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	21.6	23.3	55.1	8.3	6.3	34.9	33.8	36.9	52.4	32.0	34.1
LnGrp LOS	D	C	C	E	A	A	C	C	D	D	C	C
Approach Vol, veh/h		1958			1869			393			447	
Approach Delay, s/veh		25.0			10.2			35.6			42.6	
Approach LOS		C			B			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		38.7	11.5	69.8		38.7	26.3	55.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	13.0	59.0		34.0	22.0	* 50				
Max Q Clear Time (g_c+I1), s		15.9	7.9	32.4		33.6	15.0	21.9				
Green Ext Time (p_c), s		1.4	0.1	13.7		0.1	0.3	14.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.7									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↖
Traffic Volume (veh/h)	170	2088	5	61	2053	306	3	28	33	336	15	196
Future Volume (veh/h)	170	2088	5	61	2053	306	3	28	33	336	15	196
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	170	2088	5	61	2053	306	3	28	33	347	0	196
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	3290	8	77	1846	270	8	70	66	309	0	138
Arrive On Green	0.09	0.22	0.22	0.03	0.29	0.29	0.04	0.04	0.04	0.09	0.00	0.09
Sat Flow, veh/h	1688	4983	12	1688	4261	624	171	1593	1502	3375	0	1502
Grp Volume(v), veh/h	170	1351	742	61	1545	814	31	0	33	347	0	196
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1660	1763	0	1502	1688	0	1502
Q Serve(g_s), s	11.4	45.6	45.6	4.3	52.0	52.0	2.1	0.0	2.6	11.0	0.0	11.0
Cycle Q Clear(g_c), s	11.4	45.6	45.6	4.3	52.0	52.0	2.1	0.0	2.6	11.0	0.0	11.0
Prop In Lane	1.00		0.01	1.00		0.38	0.10		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	446	2129	1168	77	1397	719	78	0	66	309	0	138
V/C Ratio(X)	0.38	0.63	0.63	0.79	1.11	1.13	0.40	0.00	0.50	1.12	0.00	1.42
Avail Cap(c_a), veh/h	446	2129	1168	84	1397	719	411	0	350	309	0	138
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.21	0.21	0.21	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	45.5	33.8	33.8	57.6	42.6	42.6	55.8	0.0	56.1	54.5	0.0	54.5
Incr Delay (d2), s/veh	0.4	1.1	1.9	9.5	50.0	63.8	3.3	0.0	5.7	87.8	0.0	227.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	19.8	22.1	2.0	30.7	34.3	1.0	0.0	1.1	8.4	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	34.9	35.7	67.1	92.6	106.4	59.1	0.0	61.8	142.3	0.0	281.8
LnGrp LOS	D	C	D	E	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2263			2420			64			543	
Approach Delay, s/veh		36.0			96.6			60.5			192.7	
Approach LOS		D			F			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	9.5	84.2		16.0	36.7	57.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		28.0	6.0	56.0		11.0	10.0	* 52				
Max Q Clear Time (g_c+I1), s		4.6	6.3	47.6		13.0	13.4	54.0				
Green Ext Time (p_c), s		0.2	0.0	6.8		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	80.1
HCM 6th LOS	F


































Notes

User approved volume balancing among the lanes for turning movement.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 		
Traffic Volume (veh/h)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Future Volume (veh/h)	187	1735	437	236	1707	90	457	528	194	173	1072	211
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	187	1735	437	236	1707	90	457	528	194	173	1072	211
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	1653	513	203	1653	513	507	1733	538	288	982	438
Arrive On Green	0.04	0.23	0.23	0.06	0.34	0.34	0.15	0.36	0.36	0.12	0.39	0.39
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	187	1735	437	236	1707	90	457	528	194	173	1072	211
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	6.8	41.0	33.5	7.4	41.0	5.0	16.5	9.4	11.4	6.0	35.0	12.7
Cycle Q Clear(g_c), s	6.8	41.0	33.5	7.4	41.0	5.0	16.5	9.4	11.4	6.0	35.0	12.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	1653	513	203	1653	513	507	1733	538	288	982	438
V/C Ratio(X)	0.92	1.05	0.85	1.16	1.03	0.18	0.90	0.30	0.36	0.60	1.09	0.48
Avail Cap(c_a), veh/h	203	1653	513	203	1653	513	518	1733	538	300	982	438
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.50	0.50	0.50	0.39	0.39	0.39	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	57.2	46.3	43.4	56.3	39.5	27.7	49.8	27.7	28.4	51.0	36.7	29.9
Incr Delay (d2), s/veh	26.4	30.8	8.9	93.2	23.3	0.3	18.7	0.5	1.9	2.7	55.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	21.4	13.9	5.6	18.9	1.8	7.9	3.6	4.3	2.5	20.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.6	77.0	52.2	149.5	62.8	28.0	68.5	28.2	30.2	53.6	92.0	33.1
LnGrp LOS	F	F	D	F	F	C	E	C	C	D	F	C
Approach Vol, veh/h		2359			2033			1179			1456	
Approach Delay, s/veh		73.0			71.3			44.2			78.9	
Approach LOS		E			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	48.0	11.4	46.0	22.6	40.0	11.4	46.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	43.0	7.0	41.0	19.0	35.0	7.0	41.0				
Max Q Clear Time (g_c+I1), s	8.0	13.4	9.4	43.0	18.5	37.0	8.8	43.0				
Green Ext Time (p_c), s	0.1	4.3	0.0	0.0	0.1	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			68.9									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑		↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖↗
Traffic Volume (veh/h)	60	1842	312	568	1898	213	178	187	478	195	646	42
Future Volume (veh/h)	60	1842	312	568	1898	213	178	187	478	195	646	42
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	60	1842	312	568	1898	213	178	187	478	195	646	42
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	547	1674	283	929	2096	738	230	1050	468	191	936	61
Arrive On Green	0.17	0.32	0.32	0.28	0.43	0.43	0.07	0.31	0.31	0.06	0.29	0.29
Sat Flow, veh/h	3274	5288	895	3274	4837	1502	3274	3367	1502	3274	3209	208
Grp Volume(v), veh/h	60	1592	562	568	1898	213	178	187	478	195	339	349
Grp Sat Flow(s),veh/h/ln	1637	1524	1611	1637	1612	1502	1637	1683	1502	1637	1683	1734
Q Serve(g_s), s	1.9	38.0	38.0	18.0	43.9	7.0	6.4	4.9	24.5	7.0	21.4	21.4
Cycle Q Clear(g_c), s	1.9	38.0	38.0	18.0	43.9	7.0	6.4	4.9	24.5	7.0	21.4	21.4
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	547	1448	510	929	2096	738	230	1050	468	191	491	506
V/C Ratio(X)	0.11	1.10	1.10	0.61	0.91	0.29	0.77	0.18	1.02	1.02	0.69	0.69
Avail Cap(c_a), veh/h	547	1448	510	929	2096	738	246	1050	468	191	491	506
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)	0.22	0.22	0.22	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	41.0	41.0	37.2	31.7	11.5	54.9	30.1	17.7	56.5	37.7	37.7
Incr Delay (d2), s/veh	0.0	47.8	52.8	1.2	7.1	1.0	13.5	0.4	46.9	70.7	7.7	7.5
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	0.7	20.0	21.8	7.1	17.3	1.9	3.0	2.0	13.9	4.7	9.6	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.4	88.8	93.8	38.4	38.8	12.5	68.4	30.5	64.6	127.2	45.4	45.2
LnGrp LOS	D	F	F	D	D	B	E	C	F	F	D	D
Approach Vol, veh/h		2214			2679			843			883	
Approach Delay, s/veh		88.8			36.6			57.8			63.4	
Approach LOS		F			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	42.4	38.5	43.0	13.4	40.0	24.5	57.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0				
Max Green Setting (Gmax), s	7.0	37.0	20.0	38.0	9.0	* 35	6.0	52.0				
Max Q Clear Time (g_c+I1), s	9.0	26.5	20.0	40.0	8.4	23.4	3.9	45.9				
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	3.1	0.0	5.1				

Intersection Summary

HCM 6th Ctrl Delay	60.3
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (veh/h)	0	1784	2062	0	699	591
Future Volume (veh/h)	0	1784	2062	0	699	591
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1784	2062	0	849	430
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2338	2338	0	1181	526
Arrive On Green	0.00	0.48	0.48	0.00	0.35	0.35
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1784	2062	0	849	430
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	18.1	23.0	0.0	13.1	15.6
Cycle Q Clear(g_c), s	0.0	18.1	23.0	0.0	13.1	15.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2338	2338	0	1181	526
V/C Ratio(X)	0.00	0.76	0.88	0.00	0.72	0.82
Avail Cap(c_a), veh/h	0	2338	2338	0	1181	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.7	14.0	0.0	16.9	17.8
Incr Delay (d2), s/veh	0.0	2.4	5.2	0.0	3.8	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.3	7.2	0.0	5.1	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	19.2	0.0	20.7	31.0
LnGrp LOS	A	B	B	A	C	C
Approach Vol, veh/h		1784	2062		1279	
Approach Delay, s/veh		15.1	19.2		24.2	
Approach LOS		B	B		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				34.0	26.0	34.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				29.0	21.0	29.0
Max Q Clear Time (g_c+I1), s				20.1	17.6	25.0
Green Ext Time (p_c), s				6.7	1.8	3.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			19.0			
HCM 6th LOS			B			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑↑			↑↑↑		↵↵	↕	↵			↵↵
Traffic Volume (veh/h)	137	1737	0	0	1182	7	1135	165	871	0	0	60
Future Volume (veh/h)	137	1737	0	0	1182	7	1135	165	871	0	0	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	137	1737	0	0	1182	7	974	568	681	0	0	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	323	2338	0	0	1575	9	1463	768	651	0	0	0
Arrive On Green	0.19	0.48	0.00	0.00	0.25	0.25	0.43	0.43	0.43	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6548	37	3375	1772	1502			0
Grp Volume(v), veh/h	137	1737	0	0	858	331	974	568	681			0.0
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1765	1688	1772	1502			
Q Serve(g_s), s	8.6	34.7	0.0	0.0	20.8	20.8	27.6	32.1	52.0			
Cycle Q Clear(g_c), s	8.6	34.7	0.0	0.0	20.8	20.8	27.6	32.1	52.0			
Prop In Lane	1.00		0.00	0.00		0.02	1.00		1.00			
Lane Grp Cap(c), veh/h	323	2338	0	0	1143	441	1463	768	651			
V/C Ratio(X)	0.42	0.74	0.00	0.00	0.75	0.75	0.67	0.74	1.05			
Avail Cap(c_a), veh/h	323	2338	0	0	1143	441	1463	768	651			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	42.7	25.0	0.0	0.0	41.5	41.5	27.1	28.4	34.0			
Incr Delay (d2), s/veh	0.9	2.2	0.0	0.0	4.6	11.2	2.4	6.3	48.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	12.8	0.0	0.0	8.0	10.1	11.4	14.7	27.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	27.2	0.0	0.0	46.1	52.7	29.5	34.7	82.1			
LnGrp LOS	D	C	A	A	D	D	C	C	F			
Approach Vol, veh/h		1874			1189			2223				
Approach Delay, s/veh		28.4			47.9			46.9				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		57.0		63.0			28.0	35.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		52.0		47.0			13.0	* 30				
Max Q Clear Time (g_c+I1), s		54.0		36.7			10.6	22.8				
Green Ext Time (p_c), s		0.0		7.4			0.1	4.0				

Intersection Summary

HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	174	1167	215	83	1265	46	61	172	71	181	428	96
Future Volume (vph)	174	1167	215	83	1265	46	61	172	71	181	428	96
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.977			0.995			0.956			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4707	0	1676	4794	0	1676	3205	0	1676	3262	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4707	0	1676	4794	0	1676	3205	0	1676	3262	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			5			49			23	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	174	1167	215	83	1265	46	61	172	71	181	428	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	1382	0	83	1311	0	61	243	0	181	524	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	21.0	51.0		14.0	44.0		13.0	33.0		22.0	42.0	
Total Split (%)	17.5%	42.5%		11.7%	36.7%		10.8%	27.5%		18.3%	35.0%	
Maximum Green (s)	18.0	46.0		11.0	39.0		10.0	28.0		19.0	37.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	15.5	62.9		9.5	55.2		8.2	17.1		16.2	26.7	
Actuated g/C Ratio	0.13	0.52		0.08	0.46		0.07	0.14		0.14	0.22	
v/c Ratio	0.81	0.56		0.62	0.59		0.54	0.49		0.80	0.70	
Control Delay	76.9	22.2		76.0	7.9		57.7	37.9		75.3	46.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.9	22.2		76.0	7.9		57.7	37.9		75.3	46.1	
LOS	E	C		E	A		E	D		E	D	
Approach Delay		28.3			12.0			41.8			53.6	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	131	256		54	119		50	77		136	195	
Queue Length 95th (ft)	#223	387		m97	254		m90	111		#225	223	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	251	2485		156	2207		139	785		265	1021	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.69	0.56		0.53	0.59		0.44	0.31		0.68	0.51	

Intersection Summary

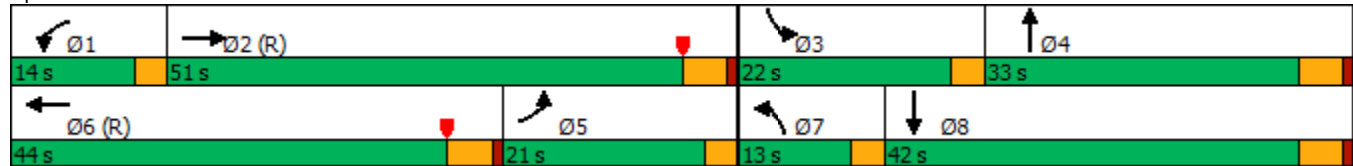
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 70 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2040 + Project  
 AM Peak Hour

Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 28.1	Intersection LOS: C
Intersection Capacity Utilization 71.3%	ICU Level of Service C
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕↕		↔	↕↕↕		↔	↕↕		↔	↕↕	
Traffic Volume (vph)	33	1125	105	158	1365	140	49	151	76	233	410	29
Future Volume (vph)	33	1125	105	158	1365	140	49	151	76	233	410	29
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.987			0.986			0.950			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4755	0	1676	4750	0	1676	3185	0	1676	3319	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4755	0	1676	4750	0	1676	3185	0	1676	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			17			67			6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	1125	105	158	1365	140	49	151	76	233	410	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	1230	0	158	1505	0	49	227	0	233	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	7.0	44.6		19.0	56.6		12.0	31.4		25.0	44.4	
Total Split (%)	5.8%	37.2%		15.8%	47.2%		10.0%	26.2%		20.8%	37.0%	
Maximum Green (s)	4.0	37.6		15.0	49.6		9.0	25.1		22.0	38.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	6.0	51.8		14.8	64.9		7.4	13.5		19.6	27.2	
Actuated g/C Ratio	0.05	0.43		0.12	0.54		0.06	0.11		0.16	0.23	
v/c Ratio	0.39	0.60		0.77	0.58		0.48	0.54		0.85	0.58	
Control Delay	74.2	23.6		80.9	7.8		53.9	51.4		75.9	43.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.2	23.6		80.9	7.8		53.9	51.4		75.9	43.6	
LOS	E	C		F	A		D	D		E	D	
Approach Delay		24.9			14.8			51.8			54.8	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	20	286		122	47		40	74		174	163	
Queue Length 95th (ft)	m#44	388		m131	m326		56	119		#291	186	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	84	2060		223	2575		125	719		307	1057	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.39	0.60		0.71	0.58		0.39	0.32		0.76	0.42	

Intersection Summary

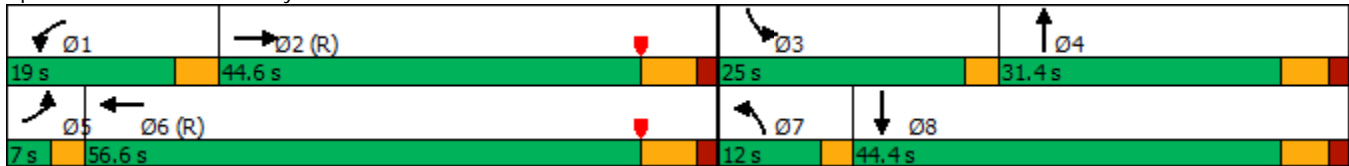
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 30.6 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2040 + Project  
 AM Peak Hour
























Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 74.4%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 2: Berry Street & Lambert Road



Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	1156	359	243	1374	159	231	372	166	135	939	327
Future Volume (vph)	169	1156	359	243	1374	159	231	372	166	135	939	327
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.984				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4741	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		19				166			235
Link Speed (mph)		45			45			35				35
Link Distance (ft)		3309			3979			1995				706
Travel Time (s)		50.1			60.3			38.9				13.8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	1156	359	243	1374	159	231	372	166	135	939	327
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	1156	359	243	1533	0	231	372	166	135	939	327
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117			117			117				117
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Detector 3 Position(ft)		234			234			234				234
Detector 3 Size(ft)		6			6			6				6
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	44.0	44.0	22.0	49.0		13.0	40.0	40.0	14.0	41.0	41.0
Total Split (%)	14.2%	36.7%	36.7%	18.3%	40.8%		10.8%	33.3%	33.3%	11.7%	34.2%	34.2%
Maximum Green (s)	13.0	39.0	39.0	18.0	44.0		9.0	35.0	35.0	10.0	36.0	36.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.0	39.0	39.0	18.0	44.0		9.0	35.0	35.0	10.0	36.0	36.0
Actuated g/C Ratio	0.11	0.32	0.32	0.15	0.37		0.08	0.29	0.29	0.08	0.30	0.30
v/c Ratio	0.93	0.74	0.57	0.97	0.88		0.95	0.38	0.30	0.97	0.93	0.53
Control Delay	109.4	30.9	11.1	95.9	23.4		108.4	22.7	3.3	124.3	57.6	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.4	30.9	11.1	95.9	23.4		108.4	22.7	3.3	124.3	57.6	13.5
LOS	F	C	B	F	C		F	C	A	F	E	B
Approach Delay		34.5			33.4			44.2			53.8	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	113	313	149	166	365		83	108	2	106	372	53
Queue Length 95th (ft)	m#269	241	m30	m#335	452		#165	155	38	#236	#501	144
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	181	1565	628	251	1750		243	977	555	139	1005	614
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.74	0.57	0.97	0.88		0.95	0.38	0.30	0.97	0.93	0.53

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 85 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 115

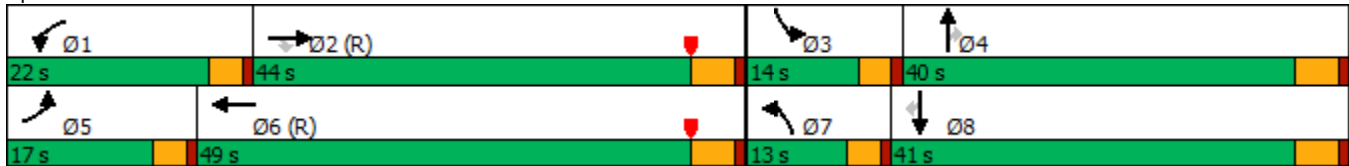
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2040 + Project  
 AM Peak Hour
























Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 40.3	Intersection LOS: D
Intersection Capacity Utilization 91.0%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1110	298	588	1748	517	188	154	225	858	812	4
Future Volume (vph)	7	1110	298	588	1748	517	188	154	225	858	812	4
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.968				0.850		0.939	0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5876	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5876	0	3252	4818	1500	3252	3016	1365	3252	3350	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						184		94	164			
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		3979		462			1416			1061		
Travel Time (s)		60.3		7.0			24.1			18.1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	1110	298	588	1748	517	188	154	225	858	812	4
Shared Lane Traffic (%)									47%			
Lane Group Flow (vph)	7	1408	0	588	1748	517	188	260	119	858	816	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1	3	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20	240	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		117		117			117			117		117
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Detector 3 Position(ft)		234		234			234			234		234
Detector 3 Size(ft)		6		6			6			6		6
Detector 3 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	38.0		28.0	60.0	39.0	13.0	15.0	15.0	39.0	41.0	
Total Split (%)	5.0%	31.7%		23.3%	50.0%	32.5%	10.8%	12.5%	12.5%	32.5%	34.2%	
Maximum Green (s)	2.0	33.0		24.0	55.0	35.0	9.0	10.0	10.0	35.0	36.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.6	34.6		23.5	60.9	99.8	8.8	10.0	10.0	33.9	35.1	
Actuated g/C Ratio	0.02	0.29		0.20	0.51	0.83	0.07	0.08	0.08	0.28	0.29	
v/c Ratio	0.10	0.83		0.92	0.71	0.40	0.79	0.77	0.45	0.93	0.83	
Control Delay	77.7	21.3		68.9	12.9	1.2	77.5	50.2	8.3	59.6	48.3	
Queue Delay	0.0	0.9		0.0	0.9	0.8	0.0	0.1	0.0	0.0	0.0	
Total Delay	77.7	22.2		68.9	13.8	2.0	77.5	50.3	8.3	59.6	48.3	
LOS	E	C		E	B	A	E	D	A	E	D	
Approach Delay		22.5			23.0			50.5			54.1	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	3	216		209	167	20	75	69	0	329	307	
Queue Length 95th (ft)	m5	m209		m#293	m341	m35	#131	#134	25	#445	387	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	69	1694		652	2445	1290	243	337	264	948	1005	
Starvation Cap Reductn	0	0		0	382	453	0	0	0	0	0	
Spillback Cap Reductn	0	101		0	0	0	0	1	2	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.88		0.90	0.85	0.62	0.77	0.77	0.45	0.91	0.81	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated





Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1522	578	208	1972	0	0	0	0	1021	0	868
Future Volume (vph)	0	1522	578	208	1972	0	0	0	0	1021	0	868
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.990	0.850								0.937	0.850
Flt Protected				0.950						0.950	0.972	
Satd. Flow (prot)	0	4507	1290	3252	4818	0	0	0	0	1593	1463	1425
Flt Permitted				0.950						0.950	0.972	
Satd. Flow (perm)	0	4507	1290	3252	4818	0	0	0	0	1593	1463	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10	468								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1522	578	208	1972	0	0	0	0	1021	0	868
Shared Lane Traffic (%)			19%							36%		31%
Lane Group Flow (vph)	0	1632	468	208	1972	0	0	0	0	653	637	599
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		50.5	50.5	13.5	64.0					56.0	56.0	56.0
Total Split (%)		42.1%	42.1%	11.3%	53.3%					46.7%	46.7%	46.7%
Maximum Green (s)		46.0	46.0	9.0	59.5					51.5	51.5	51.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		46.0	46.0	9.0	59.5					51.5	51.5	51.5
Actuated g/C Ratio		0.38	0.38	0.08	0.50					0.43	0.43	0.43
v/c Ratio		0.94	0.60	0.86	0.83					0.96	0.97	0.93
Control Delay		37.7	6.7	80.8	18.8					59.2	59.1	52.9
Queue Delay		5.2	0.7	0.0	2.2					0.0	0.0	0.0
Total Delay		42.9	7.3	80.8	21.0					59.2	59.1	52.9
LOS		D	A	F	C					E	E	D
Approach Delay		35.0			26.7						57.2	
Approach LOS		C			C						E	
Queue Length 50th (ft)		251	63	87	446					505	486	425
Queue Length 95th (ft)		#563	m86	m#120	426					#768	#769	#682
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		1733	783	243	2388					683	659	642
Starvation Cap Reductn		80	97	0	277					0	0	0
Spillback Cap Reductn		41	0	0	78					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.99	0.68	0.86	0.93					0.96	0.97	0.93

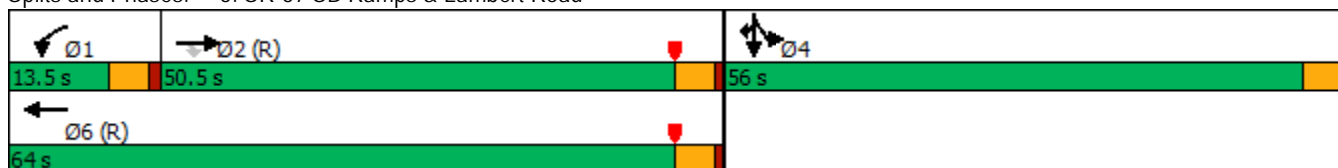
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 26 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 38.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 92.3%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	438	2241	0	0	1233	496	935	0	469	0	0	0
Future Volume (vph)	438	2241	0	0	1233	496	935	0	469	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.988	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4498	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12	387			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	438	2241	0	0	1233	496	935	0	469	0	0	0
Shared Lane Traffic (%)						22%						
Lane Group Flow (vph)	438	2241	0	0	1342	387	935	0	469	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	25.0	72.0			47.0	47.0	48.0		48.0			
Total Split (%)	20.8%	60.0%			39.2%	39.2%	40.0%		40.0%			
Maximum Green (s)	20.5	67.5			42.5	42.5	43.5		43.5			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	20.5	70.6			45.6	45.6	40.4		40.4			
Actuated g/C Ratio	0.17	0.59			0.38	0.38	0.34		0.34			
v/c Ratio	0.79	0.79			0.78	0.53	0.85		0.87			
Control Delay	46.8	15.8			37.0	5.6	45.5		49.8			
Queue Delay	0.0	0.9			1.0	0.0	0.0		0.0			
Total Delay	46.8	16.7			38.0	5.6	45.5		49.8			
LOS	D	B			D	A	D		D			
Approach Delay		21.6			30.8			47.0				
Approach LOS		C			C			D				
Queue Length 50th (ft)	170	278			358	0	337		297			
Queue Length 95th (ft)	m178	m294			431	83	413		#469			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	555	2835			1717	730	1178		578			
Starvation Cap Reductn	0	306			0	0	0		0			
Spillback Cap Reductn	0	0			161	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.79	0.89			0.86	0.53	0.79		0.81			

Intersection Summary

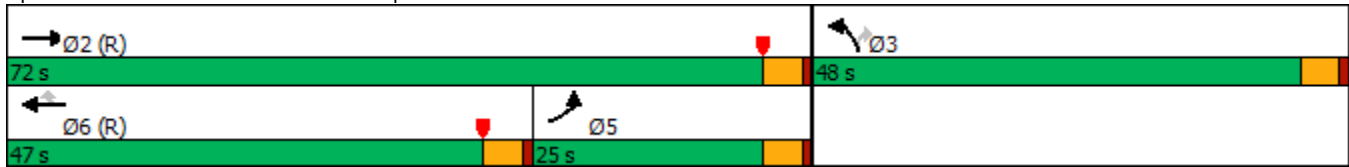
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 12.5 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 30.5  
 Intersection Capacity Utilization 92.3%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service F

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040 + Project  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	24	331	60	66	571
Future Volume (vph)	29	24	331	60	66	571
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.977			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3276	0	1676	3353
Flt Permitted	0.950				0.521	
Satd. Flow (perm)	1676	1500	3276	0	919	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		24	48			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	24	331	60	66	571
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	24	391	0	66	571
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040 + Project  
AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	26.0	26.0	34.0		34.0	34.0
Total Split (%)	43.3%	43.3%	56.7%		56.7%	56.7%
Maximum Green (s)	21.0	21.0	29.0		29.0	29.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	8.5	8.4	51.2		51.2	51.2
Actuated g/C Ratio	0.14	0.14	0.85		0.85	0.85
v/c Ratio	0.12	0.10	0.14		0.08	0.20
Control Delay	21.3	9.5	3.3		1.8	1.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.3	9.5	3.3		1.8	1.4
LOS	C	A	A		A	A
Approach Delay	16.0		3.3			1.4
Approach LOS	B		A			A
Queue Length 50th (ft)	10	0	0		0	0
Queue Length 95th (ft)	24	14	m47		m10	31
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	586	540	2800		783	2859
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.05	0.04	0.14		0.08	0.20

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	38 (63%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.20
Intersection Signal Delay:	2.8
Intersection LOS:	A
Intersection Capacity Utilization:	34.2%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	



Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	57	35	335	85	242	42	527	288	332	1044	60
Future Volume (vph)	34	57	35	335	85	242	42	527	288	332	1044	60
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.943				0.850		0.947			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1664	0	3252	1765	1500	1676	4562	0	3252	4779	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1664	0	3252	1765	1500	1676	4562	0	3252	4779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25				133		111			8	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	57	35	335	85	242	42	527	288	332	1044	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	92	0	335	85	242	42	815	0	332	1104	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040 + Project  
AM Peak Hour

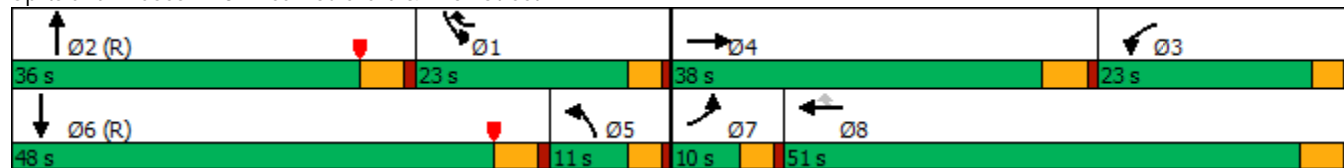


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	10.0	38.0		23.0	51.0	23.0	11.0	36.0		23.0	48.0	
Total Split (%)	8.3%	31.7%		19.2%	42.5%	19.2%	9.2%	30.0%		19.2%	40.0%	
Maximum Green (s)	6.0	33.0		19.0	46.0	19.0	7.0	31.0		19.0	43.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	6.0	14.0		16.9	28.9	49.2	6.8	53.4		17.8	66.3	
Actuated g/C Ratio	0.05	0.12		0.14	0.24	0.41	0.06	0.44		0.15	0.55	
v/c Ratio	0.41	0.43		0.73	0.20	0.35	0.45	0.39		0.69	0.42	
Control Delay	70.2	38.8		59.2	35.6	8.1	54.1	7.6		40.4	11.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	70.2	38.8		59.2	35.6	8.1	54.1	7.6		40.4	11.6	
LOS	E	D		E	D	A	D	A		D	B	
Approach Delay		47.3			37.5			9.8			18.3	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)	26	50		128	57	48	34	30		125	83	
Queue Length 95th (ft)	61	83		177	78	58	m63	m45		m144	m217	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	83	475		516	676	693	97	2090		514	2645	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.41	0.19		0.65	0.13	0.35	0.43	0.39		0.65	0.42	

Intersection Summary
























Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	72 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	21.3
Intersection LOS:	C
Intersection Capacity Utilization:	56.1%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040 + Project  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	1695	67	85	1611	173	55	130	208	219	102	126
Future Volume (vph)	196	1695	67	85	1611	173	55	130	208	219	102	126
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.994				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4789	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.688			0.620		
Satd. Flow (perm)	1676	4789	0	1676	4818	1500	1214	1765	1500	1094	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				173			208			126
Link Speed (mph)		45		45			40			40		40
Link Distance (ft)		713		2627			1029			2657		
Travel Time (s)		10.8		39.8			17.5			45.3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	196	1695	67	85	1611	173	55	130	208	219	102	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	1762	0	85	1611	173	55	130	208	219	102	126
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12		12			12			12		12
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	26.0	64.0		17.0	55.0	55.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	21.7%	53.3%		14.2%	45.8%	45.8%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	22.0	59.0		13.0	50.0	50.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effect Green (s)	22.0	69.8		10.8	56.4	56.4	27.6	27.6	27.6	27.6	27.6	27.6
Actuated g/C Ratio	0.18	0.58		0.09	0.47	0.47	0.23	0.23	0.23	0.23	0.23	0.23
v/c Ratio	0.64	0.63		0.57	0.71	0.22	0.20	0.32	0.41	0.87	0.13	0.29
Control Delay	55.9	20.1		65.5	6.5	0.5	36.5	39.0	7.0	61.1	24.2	5.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	20.1		65.5	6.5	0.5	36.5	39.0	7.0	61.1	24.2	5.0
LOS	E	C		E	A	A	D	D	A	E	C	A
Approach Delay		23.6			8.6			21.7			36.9	
Approach LOS		C			A			C			D	
Queue Length 50th (ft)	142	338		57	154	3	34	83	0	162	19	6
Queue Length 95th (ft)	224	449		m57	m116	m0	67	133	57	#268	37	19
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	307	2787		182	2264	796	343	500	574	309	950	515
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.63		0.47	0.71	0.22	0.16	0.26	0.36	0.71	0.11	0.24

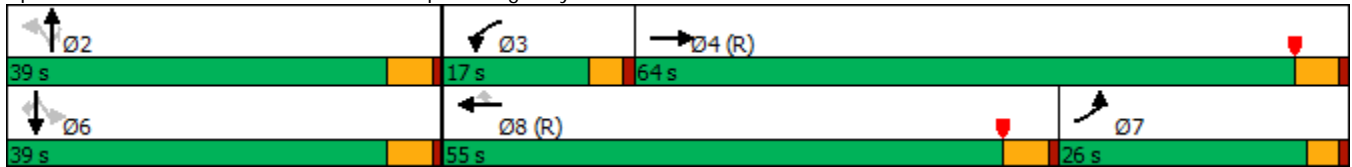
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 9 (8%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 18.7  
 Intersection LOS: B  
 Intersection Capacity Utilization 80.2%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗		↕	↗	↖	↕	↗
Traffic Volume (vph)	170	2088	5	61	2053	306	3	28	33	336	15	196
Future Volume (vph)	170	2088	5	61	2053	306	3	28	33	336	15	196
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.981			0.923				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (prot)	1676	4818	0	1676	4726	0	0	3089	0	1593	1603	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (perm)	1676	4818	0	1676	4726	0	0	3089	0	1593	1603	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					29			33				196
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	2088	5	61	2053	306	3	28	33	336	15	196
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	170	2093	0	61	2359	0	0	64	0	175	176	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	14.0	61.0		10.0	57.0		33.0	33.0		16.0	16.0	16.0
Total Split (%)	11.7%	50.8%		8.3%	47.5%		27.5%	27.5%		13.3%	13.3%	13.3%
Maximum Green (s)	10.0	56.0		6.0	52.0		28.0	28.0		11.0	11.0	11.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				20.0	21.0		21.0	21.0				
Pedestrian Calls (#/hr)				2	2		2	2				
Act Effct Green (s)	10.0	63.7		8.8	60.4		10.8	10.8		22.0	22.0	22.0
Actuated g/C Ratio	0.08	0.53		0.07	0.50		0.09	0.09		0.18	0.18	0.18
v/c Ratio	1.22	0.82		0.50	0.99		0.21	0.21		0.60	0.60	0.45
Control Delay	188.8	28.7		50.4	39.4		27.0	27.0		42.0	41.9	13.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	188.8	28.7		50.4	39.4		27.0	27.0		42.0	41.9	13.6
LOS	F	C		D	D		C	C		D	D	B
Approach Delay		40.7			39.7		27.0	27.0			31.8	
Approach LOS		D			D		C	C			C	
Queue Length 50th (ft)	~165	572		39	709		12	12		118	118	67
Queue Length 95th (ft)	m#308	#669		m48	m#804		28	28		#318	#320	94
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	139	2559		122	2393		746	746		291	293	434
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.22	0.82		0.50	0.99		0.09	0.09		0.60	0.60	0.45

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	86 (72%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	39.2
Intersection LOS:	D
Intersection Capacity Utilization:	87.6%
ICU Level of Service:	E
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2040 + Project  
 AM Peak Hour

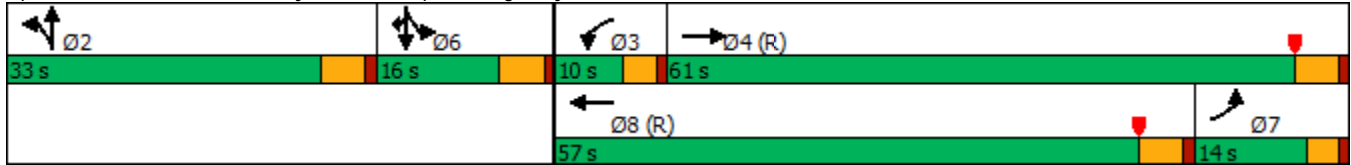
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑	↗
Traffic Volume (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Future Volume (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188			136			147			136
Link Speed (mph)		45			45			40				35
Link Distance (ft)		2079			4135			679				682
Travel Time (s)		31.5			62.7			11.6				13.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	23.0	48.0	48.0	15.0	40.0	40.0
Total Split (%)	9.2%	38.3%	38.3%	9.2%	38.3%	38.3%	19.2%	40.0%	40.0%	12.5%	33.3%	33.3%
Maximum Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	19.0	43.0	43.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	7.0	41.3	41.3	7.0	41.3	41.3	18.7	43.0	43.0	10.7	35.0	35.0
Actuated g/C Ratio	0.06	0.34	0.34	0.06	0.34	0.34	0.16	0.36	0.36	0.09	0.29	0.29
v/c Ratio	0.99	1.05	0.68	1.25	1.03	0.15	0.90	0.31	0.31	0.59	1.10	0.40
Control Delay	103.5	62.5	17.5	162.6	41.1	0.8	71.8	28.4	9.2	46.8	90.1	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.5	62.5	17.5	162.6	41.1	0.8	71.8	28.4	9.2	46.8	90.1	10.5
LOS	F	E	B	F	D	A	E	C	A	D	F	B
Approach Delay		57.4			53.4			42.0			73.4	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	76	~554	228	~120	~390	1	180	106	24	70	~485	18
Queue Length 95th (ft)	m#121	#654	m355	m#152	#601	m2	#272	138	78	107	#604	64
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	189	1656	639	189	1656	605	514	1726	631	298	977	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	1.05	0.68	1.25	1.03	0.15	0.89	0.31	0.31	0.58	1.10	0.40

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	21 (18%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.25
Intersection Signal Delay:	57.0
Intersection LOS:	E
Intersection Capacity Utilization:	102.5%
ICU Level of Service:	G
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway

↑ Ø2	↘ Ø1	→ Ø4 (R)	↙ Ø3
48 s	15 s	46 s	11 s
↓ Ø6	↖ Ø5	← Ø8 (R)	↗ Ø7
40 s	23 s	46 s	11 s

Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1842	312	568	1898	213	178	187	478	195	646	42
Future Volume (vph)	60	1842	312	568	1898	213	178	187	478	195	646	42
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5937	0	3252	4818	1500	3252	3353	1500	3252	3323	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5937	0	3252	4818	1500	3252	3353	1500	3252	3323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				202			274		6	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		4135			486			892			1016	
Travel Time (s)		62.7			7.4			15.2			17.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	1842	312	568	1898	213	178	187	478	195	646	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	2154	0	568	1898	213	178	187	478	195	688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	43.0		24.0	57.0	11.0	13.0	42.0	42.0	11.0	40.0	
Total Split (%)	8.3%	35.8%		20.0%	47.5%	9.2%	10.8%	35.0%	35.0%	9.2%	33.3%	
Maximum Green (s)	6.0	38.0		20.0	52.0	7.0	9.0	37.0	37.0	7.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	38.0		20.0	54.0	62.8	9.0	37.0	37.0	7.0	35.0	
Actuated g/C Ratio	0.05	0.32		0.17	0.45	0.52	0.08	0.31	0.31	0.06	0.29	
v/c Ratio	0.37	1.13		1.05	0.88	0.24	0.73	0.18	0.73	1.03	0.71	
Control Delay	41.8	84.7		90.9	29.0	4.6	72.4	31.0	22.8	129.0	42.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.8	84.7		90.9	29.0	4.6	72.4	31.0	22.8	129.0	42.3	
LOS	D	F		F	C	A	E	C	C	F	D	
Approach Delay		83.5			40.2			35.1			61.5	
Approach LOS		F			D			D			E	
Queue Length 50th (ft)	25	~534		~248	443	29	70	55	143	~82	248	
Queue Length 95th (ft)	m29	m#516		m#323	470	m34	#121	85	281	#161	317	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1905		542	2167	881	243	1033	652	189	973	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	1.13		1.05	0.88	0.24	0.73	0.18	0.73	1.03	0.71	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 74 (62%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 56.9  
 Intersection Capacity Utilization 91.4%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

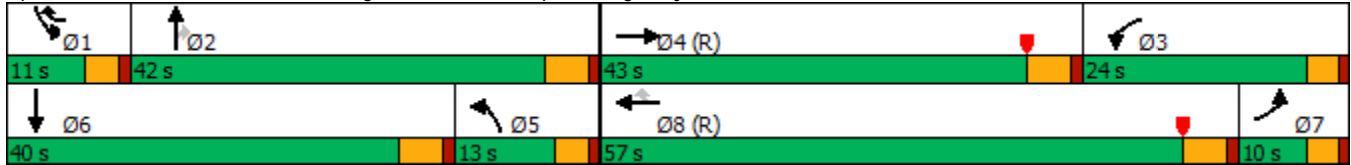
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway





Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1784	2062	0	699	591
Future Volume (vph)	0	1784	2062	0	699	591
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.969	0.850
Flt Protected					0.962	
Satd. Flow (prot)	0	4818	4818	0	3191	1365
Flt Permitted					0.962	
Satd. Flow (perm)	0	4818	4818	0	3191	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					3	3
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1784	2062	0	699	591
Shared Lane Traffic (%)						31%
Lane Group Flow (vph)	0	1784	2062	0	882	408
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		34.0	34.0		26.0	26.0
Total Split (%)		56.7%	56.7%		43.3%	43.3%
Maximum Green (s)		29.0	29.0		21.0	21.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		29.0	29.0		21.0	21.0
Actuated g/C Ratio		0.48	0.48		0.35	0.35
v/c Ratio		0.77	0.89		0.79	0.85
Control Delay		11.2	15.2		24.0	38.1
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		11.2	15.2		24.0	38.1
LOS		B	B		C	D
Approach Delay		11.2	15.2		28.4	
Approach LOS		B	B		C	
Queue Length 50th (ft)		124	109		143	146
Queue Length 95th (ft)		m113	m263		#212	#309
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2328	2328		1118	479
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.77	0.89		0.79	0.85

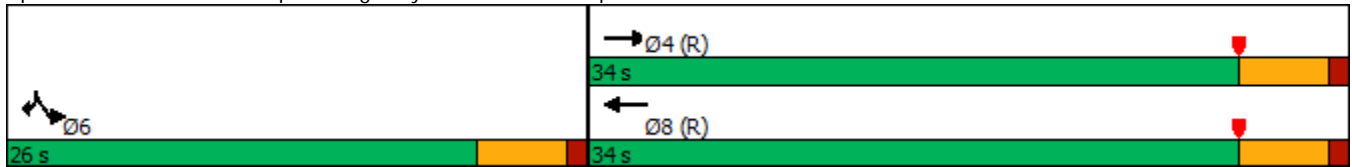
Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 16 (27%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 17.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 123.1%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



























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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
 AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 				 
Traffic Volume (vph)	137	1737	0	0	1182	7	1135	165	871	0	0	60
Future Volume (vph)	137	1737	0	0	1182	7	1135	165	871	0	0	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.999			0.921	0.850			0.850
Flt Protected	0.950						0.950	0.990				
Satd. Flow (prot)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Flt Permitted	0.950						0.950	0.990				
Satd. Flow (perm)	1676	4818	0	0	6065	0	3051	1384	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			60	138			277
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	137	1737	0	0	1182	7	1135	165	871	0	0	60
Shared Lane Traffic (%)							10%		36%			
Lane Group Flow (vph)	137	1737	0	0	1189	0	1021	593	557	0	0	60
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	17.0	52.0			35.0		57.0	57.0	57.0			11.0
Total Split (%)	14.2%	43.3%			29.2%		47.5%	47.5%	47.5%			9.2%
Maximum Green (s)	13.0	47.0			30.0		52.0	52.0	52.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lead	Lead	Lead			Lag
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	13.0	49.2			32.2		52.0	52.0	52.0			6.0
Actuated g/C Ratio	0.11	0.41			0.27		0.43	0.43	0.43			0.05
v/c Ratio	0.76	0.88			0.73		0.77	0.94	0.80			0.15
Control Delay	65.9	32.3			43.6		33.9	53.2	32.1			0.8
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	65.9	32.3			43.6		33.9	53.2	32.1			0.8
LOS	E	C			D		C	D	C			A
Approach Delay		34.8			43.6			38.7				0.8
Approach LOS		C			D			D				A
Queue Length 50th (ft)	99	412			250		363	462	302			0
Queue Length 95th (ft)	m137	#490			294		454	#746	477			0
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	181	1975			1628		1322	633	695			395
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.76	0.88			0.73		0.77	0.94	0.80			0.15

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 2 (2%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 38.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.7%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

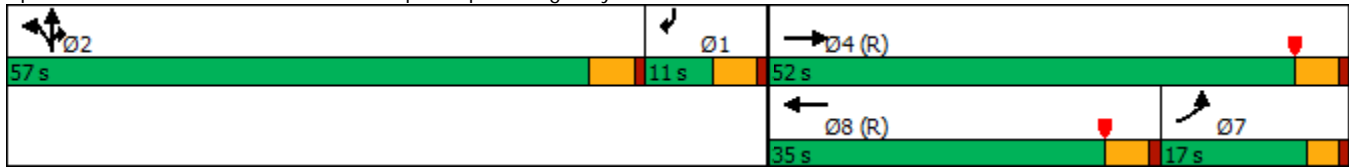
Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
 AM Peak Hour

Queue shown is maximum after two cycles.





















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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



HCM 6th Signalized Intersection Summary  
1: Puente Street & Lambert Road

Year 2040 + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	1270	59	91	1706	165	184	351	132	121	224	247
Future Volume (veh/h)	109	1270	59	91	1706	165	184	351	132	121	224	247
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	109	1270	59	91	1706	165	184	351	132	121	224	247
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	2279	106	113	1854	179	211	560	207	145	326	291
Arrive On Green	0.12	0.48	0.48	0.07	0.41	0.41	0.04	0.08	0.08	0.09	0.19	0.19
Sat Flow, veh/h	1688	4737	220	1688	4486	433	1688	2405	890	1688	1683	1502
Grp Volume(v), veh/h	109	865	464	91	1225	646	184	244	239	121	224	247
Grp Sat Flow(s),veh/h/ln	1688	1612	1732	1688	1612	1694	1688	1683	1612	1688	1683	1502
Q Serve(g_s), s	7.3	22.8	22.8	6.4	43.1	43.4	13.0	16.9	17.3	8.5	14.9	19.0
Cycle Q Clear(g_c), s	7.3	22.8	22.8	6.4	43.1	43.4	13.0	16.9	17.3	8.5	14.9	19.0
Prop In Lane	1.00		0.13	1.00		0.26	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	199	1551	833	113	1333	700	211	392	375	145	326	291
V/C Ratio(X)	0.55	0.56	0.56	0.81	0.92	0.92	0.87	0.62	0.64	0.83	0.69	0.85
Avail Cap(c_a), veh/h	199	1551	833	183	1344	706	225	407	390	211	393	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.53	0.53	0.53	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	22.1	22.1	55.2	33.3	33.4	56.6	50.3	50.5	54.0	45.0	46.7
Incr Delay (d2), s/veh	1.8	1.4	2.7	2.8	6.9	12.1	25.0	1.8	2.2	11.5	2.5	13.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	8.4	9.3	2.7	17.1	19.1	7.4	7.8	7.7	4.0	6.3	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	23.5	24.8	58.0	40.2	45.4	81.6	52.1	52.7	65.5	47.5	60.0
LnGrp LOS	D	C	C	E	D	D	F	D	D	E	D	E
Approach Vol, veh/h		1438			1962			667			592	
Approach Delay, s/veh		26.1			42.7			60.5			56.4	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	62.7	13.3	32.9	19.2	54.6	18.0	28.3				
Change Period (Y+Rc), s	3.0	5.0	3.0	5.0	5.0	* 5	3.0	5.0				
Max Green Setting (Gmax), s	13.0	47.0	15.0	29.0	10.0	* 50	16.0	28.0				
Max Q Clear Time (g_c+I1), s	8.4	24.8	10.5	19.3	9.3	45.4	15.0	21.0				
Green Ext Time (p_c), s	0.0	12.7	0.1	2.8	0.0	4.2	0.0	2.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary  
2: Berry Street & Lambert Road

Year 2040 + Project  
PM Peak Hour

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Traffic Volume (veh/h)	36	1434	73	57	1691	145	130	396	122	211	290	80
Future Volume (veh/h)	36	1434	73	57	1691	145	130	396	122	211	290	80
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	36	1434	73	57	1691	145	130	396	122	211	290	80
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	2177	111	72	2207	189	156	474	144	236	612	166
Arrive On Green	0.03	0.46	0.46	0.04	0.49	0.49	0.03	0.06	0.06	0.14	0.23	0.23
Sat Flow, veh/h	1688	4714	240	1688	4538	388	1688	2542	774	1688	2618	709
Grp Volume(v), veh/h	36	981	526	57	1201	635	130	261	257	211	185	185
Grp Sat Flow(s),veh/h/ln	1688	1612	1729	1688	1612	1702	1688	1683	1633	1688	1683	1644
Q Serve(g_s), s	2.5	28.2	28.2	4.0	36.6	36.7	9.2	18.4	18.7	14.7	11.3	11.7
Cycle Q Clear(g_c), s	2.5	28.2	28.2	4.0	36.6	36.7	9.2	18.4	18.7	14.7	11.3	11.7
Prop In Lane	1.00		0.14	1.00		0.23	1.00		0.47	1.00		0.43
Lane Grp Cap(c), veh/h	45	1489	798	72	1568	828	156	314	304	236	394	384
V/C Ratio(X)	0.81	0.66	0.66	0.79	0.77	0.77	0.83	0.83	0.85	0.89	0.47	0.48
Avail Cap(c_a), veh/h	70	1489	798	98	1568	828	239	352	341	267	394	384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.25	0.25	0.25	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.1	25.0	25.0	56.9	25.2	25.3	57.2	54.4	54.6	50.7	39.6	39.7
Incr Delay (d2), s/veh	11.9	1.8	3.4	5.1	0.9	1.8	8.2	12.5	14.5	25.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	10.5	11.6	1.8	13.2	14.2	4.4	9.4	9.4	7.8	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	26.8	28.3	62.0	26.2	27.0	65.4	67.0	69.1	76.2	39.9	40.1
LnGrp LOS	E	C	C	E	C	C	E	E	E	E	D	D
Approach Vol, veh/h		1543			1893			648			581	
Approach Delay, s/veh		28.3			27.5			67.5			53.1	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	62.4	19.8	28.7	6.2	65.4	14.1	34.4				
Change Period (Y+Rc), s	4.0	7.0	3.0	6.3	3.0	7.0	3.0	6.3				
Max Green Setting (Gmax), s	7.0	48.6	19.0	25.1	5.0	51.6	17.0	27.1				
Max Q Clear Time (g_c+I1), s	6.0	30.2	16.7	20.7	4.5	38.7	11.2	13.7				
Green Ext Time (p_c), s	0.0	12.6	0.1	1.6	0.0	10.8	0.1	2.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.5									
HCM 6th LOS			D									



HCM 6th Signalized Intersection Summary  
3: Brea Boulevard & Lambert Road


































Year 2040 + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (veh/h)	172	1489	406	226	1598	95	474	776	191	75	397	101
Future Volume (veh/h)	172	1489	406	226	1598	95	474	776	191	75	397	101
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	172	1489	406	226	1598	95	474	776	191	75	397	101
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	1731	537	239	1826	109	491	993	443	94	675	301
Arrive On Green	0.11	0.36	0.36	0.14	0.39	0.39	0.15	0.29	0.29	0.06	0.20	0.20
Sat Flow, veh/h	1688	4837	1502	1688	4669	277	3274	3367	1502	1688	3367	1502
Grp Volume(v), veh/h	172	1489	406	226	1103	590	474	776	191	75	397	101
Grp Sat Flow(s),veh/h/ln	1688	1612	1502	1688	1612	1722	1637	1683	1502	1688	1683	1502
Q Serve(g_s), s	12.1	34.3	28.6	15.9	38.0	38.0	17.3	25.3	12.3	5.3	12.8	6.9
Cycle Q Clear(g_c), s	12.1	34.3	28.6	15.9	38.0	38.0	17.3	25.3	12.3	5.3	12.8	6.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	1731	537	239	1261	673	491	993	443	94	675	301
V/C Ratio(X)	0.94	0.86	0.76	0.95	0.87	0.88	0.97	0.78	0.43	0.80	0.59	0.34
Avail Cap(c_a), veh/h	183	1731	537	239	1261	673	491	1094	488	113	814	363
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)	0.64	0.64	0.64	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	35.8	33.9	51.0	33.8	33.8	50.7	38.8	34.2	56.0	43.5	41.1
Incr Delay (d2), s/veh	37.2	3.9	6.3	32.4	5.8	10.2	31.6	3.7	0.9	23.4	1.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	13.4	11.1	8.7	15.0	16.9	9.1	10.8	4.6	2.8	5.4	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.3	39.6	40.2	83.4	39.6	44.0	82.3	42.5	35.1	79.4	44.6	42.0
LnGrp LOS	F	D	D	F	D	D	F	D	D	E	D	D
Approach Vol, veh/h		2067			1919			1441			573	
Approach Delay, s/veh		44.0			46.1			54.6			48.7	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	47.9	10.7	40.4	17.0	51.9	22.0	29.1				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	38.0	8.0	39.0	13.0	42.0	18.0	29.0				
Max Q Clear Time (g_c+I1), s	17.9	36.3	7.3	27.3	14.1	40.0	19.3	14.8				
Green Ext Time (p_c), s	0.0	1.7	0.0	8.0	0.0	1.9	0.0	5.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									

# HCM 6th Signalized Intersection Summary

## 4: State College Boulevard & Lambert Road

Year 2040 + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 	 	 	 	
Traffic Volume (veh/h)	15	1529	253	464	1499	1019	333	584	471	574	347	10
Future Volume (veh/h)	15	1529	253	464	1499	1019	333	584	471	574	347	10
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	15	1529	253	464	1499	1019	333	763	352	574	347	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	27	1765	292	409	2173	964	391	709	300	630	924	27
Arrive On Green	0.01	0.33	0.33	0.25	0.90	0.90	0.12	0.20	0.20	0.19	0.28	0.28
Sat Flow, veh/h	3274	5308	878	3274	4837	1502	3375	3544	1502	3274	3342	96
Grp Volume(v), veh/h	15	1317	465	464	1499	1019	333	763	352	574	174	183
Grp Sat Flow(s),veh/h/ln	1637	1524	1614	1637	1612	1502	1688	1772	1502	1637	1683	1755
Q Serve(g_s), s	0.5	32.4	32.4	15.0	9.9	53.9	11.6	24.0	24.0	20.6	10.0	10.1
Cycle Q Clear(g_c), s	0.5	32.4	32.4	15.0	9.9	53.9	11.6	24.0	24.0	20.6	10.0	10.1
Prop In Lane	1.00		0.54	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	27	1521	537	409	2173	964	391	709	300	630	466	485
V/C Ratio(X)	0.55	0.87	0.87	1.13	0.69	1.06	0.85	1.08	1.17	0.91	0.37	0.38
Avail Cap(c_a), veh/h	55	1521	537	409	2173	964	506	709	300	709	466	485
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.42	0.55	0.55	0.55	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	37.5	37.5	45.0	3.9	13.4	52.0	48.0	48.0	47.5	35.0	35.0
Incr Delay (d2), s/veh	2.7	3.1	8.1	76.4	1.0	38.6	8.7	56.3	107.0	14.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	11.9	13.4	9.4	1.6	26.6	5.3	15.9	17.7	9.4	4.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	40.6	45.6	121.4	4.9	52.0	60.7	104.3	155.0	61.6	35.2	35.2
LnGrp LOS	E	D	D	F	A	F	E	F	F	E	D	D
Approach Vol, veh/h		1797			2982			1448			931	
Approach Delay, s/veh		42.1			39.1			106.6			51.5	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	44.9	27.1	29.0	5.0	58.9	17.9	38.2				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	15.0	37.0	26.0	24.0	2.0	50.0	18.0	32.0				
Max Q Clear Time (g_c+I1), s	17.0	34.4	22.6	26.0	2.5	55.9	13.6	12.1				
Green Ext Time (p_c), s	0.0	2.3	0.5	0.0	0.0	0.0	0.3	2.9				

### Intersection Summary

HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E

### Notes

User approved volume balancing among the lanes for turning movement.

# HCM 6th Signalized Intersection Summary

## 5: SR-57 SB Ramps & Lambert Road

Year 2040 + Project  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (veh/h)	0	1645	930	298	2084	0	0	0	0	591	0	873
Future Volume (veh/h)	0	1645	930	298	2084	0	0	0	0	591	0	873
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1772	1772	1772	1772	0				1772	1772	1772
Adj Flow Rate, veh/h	0	2074	644	298	2084	0				394	0	1084
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2379	672	336	2842	0				570	0	1014
Arrive On Green	0.00	0.90	0.90	0.20	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	5316	1502	3274	4997	0				1688	0	3003
Grp Volume(v), veh/h	0	2074	644	298	2084	0				394	0	1084
Grp Sat Flow(s),veh/h/ln	0	1772	1502	1637	1612	0				1688	0	1502
Q Serve(g_s), s	0.0	22.4	38.0	10.6	0.0	0.0				24.2	0.0	40.5
Cycle Q Clear(g_c), s	0.0	22.4	38.0	10.6	0.0	0.0				24.2	0.0	40.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2379	672	336	2842	0				570	0	1014
V/C Ratio(X)	0.00	0.87	0.96	0.89	0.73	0.00				0.69	0.00	1.07
Avail Cap(c_a), veh/h	0	2379	672	336	2842	0				570	0	1014
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.28	0.28	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.7	5.5	47.0	0.0	0.0				34.4	0.0	39.8
Incr Delay (d2), s/veh	0.0	1.4	10.9	3.0	0.2	0.0				3.6	0.0	48.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	4.0	3.9	0.0	0.0				10.4	0.0	21.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.1	16.4	50.0	0.2	0.0				37.9	0.0	88.5
LnGrp LOS	A	A	B	D	A	A				D	A	F
Approach Vol, veh/h		2718			2382						1478	
Approach Delay, s/veh		8.5			6.4						75.0	
Approach LOS		A			A						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.8	58.2		45.0		75.0						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	12.3	53.7		40.5		70.5						
Max Q Clear Time (g_c+I1), s	12.6	40.0		42.5		2.0						
Green Ext Time (p_c), s	0.0	11.7		0.0		28.8						

### Intersection Summary

























HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

### Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (veh/h)	592	1684	0	0	1378	668	1083	0	605	0	0	0
Future Volume (veh/h)	592	1684	0	0	1378	668	1083	0	605	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1772	1772	1772	0	1772			
Adj Flow Rate, veh/h	604	1718	0	0	1680	533	1152	0	644			
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	0	2			
Cap, veh/h	587	2665	0	0	1776	502	1225	0	562			
Arrive On Green	0.36	1.00	0.00	0.00	0.33	0.33	0.37	0.00	0.37			
Sat Flow, veh/h	3274	4997	0	0	5316	1502	3274	0	1502			
Grp Volume(v), veh/h	604	1718	0	0	1680	533	1152	0	644			
Grp Sat Flow(s),veh/h/ln	1637	1612	0	0	1772	1502	1637	0	1502			
Q Serve(g_s), s	21.5	0.0	0.0	0.0	36.9	40.1	40.8	0.0	44.9			
Cycle Q Clear(g_c), s	21.5	0.0	0.0	0.0	36.9	40.1	40.8	0.0	44.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	587	2665	0	0	1776	502	1225	0	562			
V/C Ratio(X)	1.03	0.64	0.00	0.00	0.95	1.06	0.94	0.00	1.15			
Avail Cap(c_a), veh/h	587	2665	0	0	1776	502	1225	0	562			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.13	0.13	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	38.5	0.0	0.0	0.0	38.9	40.0	36.3	0.0	37.5			
Incr Delay (d2), s/veh	21.8	0.2	0.0	0.0	11.9	57.7	13.9	0.0	85.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.3	0.0	0.0	0.0	17.2	22.1	18.3	0.0	29.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	0.2	0.0	0.0	50.8	97.7	50.1	0.0	122.7			
LnGrp LOS	F	A	A	A	D	F	D	A	F			
Approach Vol, veh/h		2322			2213			1796				
Approach Delay, s/veh		15.8			62.1			76.2				
Approach LOS		B			E			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.6			26.0	44.6		49.4				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		66.1			21.5	40.1		44.9				
Max Q Clear Time (g_c+I1), s		2.0			23.5	42.1		46.9				
Green Ext Time (p_c), s		19.4			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary  
7: Berry Street & Mercury Lane

Year 2040 + Project  
PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	69	57	529	31	37	470
Future Volume (veh/h)	69	57	529	31	37	470
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	69	57	529	31	37	470
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	148	132	2410	141	711	2510
Arrive On Green	0.09	0.09	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1688	1502	3321	189	850	3455
Grp Volume(v), veh/h	69	57	275	285	37	470
Grp Sat Flow(s),veh/h/ln	1688	1502	1683	1738	850	1683
Q Serve(g_s), s	2.3	2.2	3.0	3.0	0.8	2.5
Cycle Q Clear(g_c), s	2.3	2.2	3.0	3.0	3.8	2.5
Prop In Lane	1.00	1.00		0.11	1.00	
Lane Grp Cap(c), veh/h	148	132	1255	1296	711	2510
V/C Ratio(X)	0.47	0.43	0.22	0.22	0.05	0.19
Avail Cap(c_a), veh/h	563	501	1255	1296	711	2510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.85	0.85
Uniform Delay (d), s/veh	26.0	26.0	2.3	2.3	2.9	2.3
Incr Delay (d2), s/veh	2.3	2.2	0.0	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.8	0.3	0.3	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.3	28.2	2.4	2.4	3.0	2.4
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	126		560			507
Approach Delay, s/veh	28.2		2.4			2.4
Approach LOS	C		A			A
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		49.7			49.7	10.3
Change Period (Y+Rc), s		5.0			5.0	5.0
Max Green Setting (Gmax), s		30.0			30.0	20.0
Max Q Clear Time (g_c+I1), s		5.0			5.8	4.3
Green Ext Time (p_c), s		3.2			3.2	0.3
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.1			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary  
8: Brea Boulevard & Birch Street

Year 2040 + Project  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑		↖↗	↑↑↑	
Traffic Volume (veh/h)	81	139	23	438	148	505	86	791	370	368	710	76
Future Volume (veh/h)	81	139	23	438	148	505	86	791	370	368	710	76
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	81	139	23	438	148	505	86	791	370	368	710	76
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	170	28	491	378	773	453	887	412	988	1369	145
Arrive On Green	0.06	0.11	0.11	0.15	0.21	0.21	0.54	0.55	0.55	0.30	0.31	0.31
Sat Flow, veh/h	1688	1482	245	3274	1772	1502	1688	3227	1500	3274	4440	472
Grp Volume(v), veh/h	81	0	162	438	148	505	86	790	371	368	514	272
Grp Sat Flow(s),veh/h/ln	1688	0	1728	1637	1772	1502	1688	1612	1502	1637	1612	1687
Q Serve(g_s), s	5.7	0.0	11.0	15.8	8.6	5.7	3.2	26.0	26.3	10.6	15.7	15.9
Cycle Q Clear(g_c), s	5.7	0.0	11.0	15.8	8.6	5.7	3.2	26.0	26.3	10.6	15.7	15.9
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	102	0	199	491	378	773	453	887	413	988	994	520
V/C Ratio(X)	0.80	0.00	0.82	0.89	0.39	0.65	0.19	0.89	0.90	0.37	0.52	0.52
Avail Cap(c_a), veh/h	169	0	475	518	591	954	453	887	413	988	994	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	51.9	50.1	40.5	9.9	21.1	25.4	25.5	33.0	34.1	34.2
Incr Delay (d2), s/veh	13.2	0.0	7.9	17.0	0.7	1.1	0.1	10.1	19.5	0.2	1.9	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	5.2	7.6	3.8	6.1	1.2	8.0	8.6	4.2	6.4	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	0.0	59.8	67.1	41.2	11.0	21.2	35.5	45.0	33.2	36.1	37.9
LnGrp LOS	E	A	E	E	D	B	C	D	D	C	D	D
Approach Vol, veh/h		243			1091			1247			1154	
Approach Delay, s/veh		62.8			37.6			37.3			35.6	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.2	38.0	23.0	18.8	36.2	42.0	11.2	30.6				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	33.0	19.0	* 33	13.0	37.0	12.0	40.0				
Max Q Clear Time (g_c+I1), s	12.6	28.3	17.8	13.0	5.2	17.9	7.7	10.6				
Green Ext Time (p_c), s	0.6	2.9	0.2	0.8	0.1	4.9	0.1	2.9				

Intersection Summary



























HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
 9: Puente Street & Imperial Highway

Year 2040 + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 		
Traffic Volume (veh/h)	143	1815	37	194	1807	265	33	56	104	163	133	201
Future Volume (veh/h)	143	1815	37	194	1807	265	33	56	104	163	133	201
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	143	1815	37	194	1807	265	33	56	104	163	133	201
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	2764	56	221	2298	713	220	330	280	256	627	280
Arrive On Green	0.21	0.57	0.57	0.13	0.47	0.47	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1688	4879	99	1688	4837	1502	1046	1772	1502	1226	3367	1502
Grp Volume(v), veh/h	143	1199	653	194	1807	265	33	56	104	163	133	201
Grp Sat Flow(s),veh/h/ln	1688	1612	1754	1688	1612	1502	1046	1772	1502	1226	1683	1502
Q Serve(g_s), s	8.7	30.8	30.8	13.5	37.6	13.5	3.3	3.2	7.3	15.5	4.0	15.1
Cycle Q Clear(g_c), s	8.7	30.8	30.8	13.5	37.6	13.5	7.3	3.2	7.3	18.6	4.0	15.1
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	361	1827	994	221	2298	713	220	330	280	256	627	280
V/C Ratio(X)	0.40	0.66	0.66	0.88	0.79	0.37	0.15	0.17	0.37	0.64	0.21	0.72
Avail Cap(c_a), veh/h	361	1827	994	267	2298	713	321	502	425	375	954	425
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	0.09	0.09	0.09	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	40.5	18.0	18.0	51.2	26.4	20.1	44.5	41.0	42.7	48.9	41.4	45.9
Incr Delay (d2), s/veh	0.7	1.9	3.4	2.9	0.3	0.1	0.3	0.2	0.8	1.6	0.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	10.9	12.3	5.7	13.4	4.5	0.9	1.4	2.7	4.8	1.7	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	19.8	21.4	54.1	26.7	20.2	44.8	41.3	43.5	50.5	41.5	48.0
LnGrp LOS	D	B	C	D	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1995			2266			193			497	
Approach Delay, s/veh		21.9			28.3			43.1			47.1	
Approach LOS		C			C			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.3	19.7	73.0		27.3	30.7	62.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		34.0	19.0	53.0		34.0	15.0	* 57				
Max Q Clear Time (g_c+I1), s		9.3	15.5	32.8		20.6	10.7	39.6				
Green Ext Time (p_c), s		0.7	0.2	12.3		1.7	0.1	12.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			28.1									
HCM 6th LOS			C									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2040 + Project  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑↑		↖	↗	↘
Traffic Volume (veh/h)	169	2099	12	62	2086	356	5	7	6	433	30	249
Future Volume (veh/h)	169	2099	12	62	2086	356	5	7	6	433	30	249
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	2099	12	62	2086	356	5	7	6	454	0	249
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	524	2275	13	468	1775	295	21	29	25	281	0	125
Arrive On Green	0.31	0.46	0.46	0.55	0.85	0.85	0.02	0.02	0.02	0.08	0.00	0.08
Sat Flow, veh/h	1688	4963	28	1688	4177	695	914	1282	1103	3375	0	1502
Grp Volume(v), veh/h	169	1364	747	62	1599	843	9	0	9	454	0	249
Grp Sat Flow(s),veh/h/ln	1688	1612	1767	1688	1612	1647	1726	0	1573	1688	0	1502
Q Serve(g_s), s	9.2	47.6	47.7	2.1	51.0	51.0	0.6	0.0	0.6	10.0	0.0	10.0
Cycle Q Clear(g_c), s	9.2	47.6	47.7	2.1	51.0	51.0	0.6	0.0	0.6	10.0	0.0	10.0
Prop In Lane	1.00		0.02	1.00		0.42	0.53		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	524	1478	810	468	1371	700	39	0	35	281	0	125
V/C Ratio(X)	0.32	0.92	0.92	0.13	1.17	1.20	0.24	0.00	0.24	1.61	0.00	1.99
Avail Cap(c_a), veh/h	524	1478	810	468	1371	700	432	0	393	281	0	125
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.09	0.09	0.09	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	31.7	30.5	30.5	19.8	9.0	9.0	57.6	0.0	57.6	55.0	0.0	55.0
Incr Delay (d2), s/veh	0.2	8.0	13.1	0.0	75.7	93.6	3.2	0.0	3.4	292.1	0.0	472.4
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	3.7	18.8	21.7	0.8	17.5	21.4	0.3	0.0	0.3	15.6	0.0	20.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	38.5	43.7	19.8	84.7	102.6	60.8	0.0	61.1	347.1	0.0	527.4
LnGrp LOS	C	D	D	B	F	F	E	A	E	F	A	F
Approach Vol, veh/h		2280			2504			18			703	
Approach Delay, s/veh		39.7			89.1			60.9			411.0	
Approach LOS		D			F			E			F	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.7	37.3	60.0		15.0	41.3	56.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	4.0	5.0				
Max Green Setting (Gmax), s		30.0	6.0	55.0		10.0	10.0	51.0				
Max Q Clear Time (g_c+I1), s		2.6	4.1	49.7		12.0	11.2	53.0				
Green Ext Time (p_c), s		0.0	0.0	4.6		0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	109.7
HCM 6th LOS	F





































Notes

User approved volume balancing among the lanes for turning movement.


























HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	  		 	 	
Traffic Volume (veh/h)	227	1829	413	405	1805	201	488	892	296	258	690	263
Future Volume (veh/h)	227	1829	413	405	1805	201	488	892	296	258	690	263
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	227	1829	413	405	1805	201	488	892	296	258	690	263
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	1693	526	300	1814	563	382	1492	463	327	982	438
Arrive On Green	0.04	0.23	0.23	0.09	0.38	0.38	0.12	0.31	0.31	0.20	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	3367	1502
Grp Volume(v), veh/h	227	1829	413	405	1805	201	488	892	296	258	690	263
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1683	1502
Q Serve(g_s), s	8.0	42.0	31.0	11.0	44.6	11.6	14.0	18.8	20.4	9.0	17.4	13.5
Cycle Q Clear(g_c), s	8.0	42.0	31.0	11.0	44.6	11.6	14.0	18.8	20.4	9.0	17.4	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	1693	526	300	1814	563	382	1492	463	327	982	438
V/C Ratio(X)	1.04	1.08	0.79	1.35	1.00	0.36	1.28	0.60	0.64	0.79	0.70	0.60
Avail Cap(c_a), veh/h	218	1693	526	300	1814	563	382	1492	463	327	982	438
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.46	0.46	0.46	0.09	0.09	0.09	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	57.3	45.9	41.7	54.5	37.4	27.1	53.0	35.2	35.8	46.8	21.3	20.5
Incr Delay (d2), s/veh	52.1	41.8	5.5	159.4	5.3	0.2	143.8	1.8	6.6	10.3	3.5	5.0
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	4.9	23.6	12.5	11.1	17.5	4.0	13.3	7.4	8.0	3.8	5.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.4	87.7	47.2	213.9	42.7	27.2	196.8	37.0	42.4	57.1	24.9	25.6
LnGrp LOS	F	F	D	F	D	C	F	D	D	E	C	C
Approach Vol, veh/h		2469			2411			1676			1211	
Approach Delay, s/veh		83.0			70.2			84.5			31.9	
Approach LOS		F			E			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	42.0	15.0	47.0	18.0	40.0	12.0	50.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	11.0	42.0	14.0	35.0	8.0	45.0				
Max Q Clear Time (g_c+I1), s	11.0	22.4	13.0	44.0	16.0	19.4	10.0	46.6				
Green Ext Time (p_c), s	0.1	6.0	0.0	0.0	0.0	5.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			71.3									
HCM 6th LOS			E									

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	2087	212	539	2217	652	338	507	406	488	438	148
Future Volume (veh/h)	127	2087	212	539	2217	652	338	507	406	488	438	148
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	127	2087	212	539	2217	652	338	507	406	488	438	148
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	1936	196	355	1935	738	355	1038	463	300	722	242
Arrive On Green	0.05	0.34	0.34	0.11	0.40	0.40	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3274	5665	575	3274	4837	1502	3274	3367	1502	3274	2477	829
Grp Volume(v), veh/h	127	1683	616	539	2217	652	338	507	406	488	296	290
Grp Sat Flow(s),veh/h/ln	1637	1524	1668	1637	1612	1502	1637	1683	1502	1637	1683	1623
Q Serve(g_s), s	4.6	41.0	41.0	13.0	48.0	35.8	12.3	14.7	30.8	11.0	18.2	18.5
Cycle Q Clear(g_c), s	4.6	41.0	41.0	13.0	48.0	35.8	12.3	14.7	30.8	11.0	18.2	18.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	164	1562	570	355	1935	738	355	1038	463	300	491	473
V/C Ratio(X)	0.78	1.08	1.08	1.52	1.15	0.88	0.95	0.49	0.88	1.63	0.60	0.61
Avail Cap(c_a), veh/h	164	1562	570	355	1935	738	355	1038	463	300	491	473
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)	0.13	0.13	0.13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	39.5	39.5	53.5	36.0	27.4	53.2	33.8	39.3	54.5	36.5	36.6
Incr Delay (d2), s/veh	3.1	37.0	40.8	247.9	72.2	14.4	35.6	1.6	20.3	296.6	5.4	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	19.9	22.4	17.4	30.6	13.8	6.7	6.1	13.5	16.8	8.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	76.5	80.3	301.4	108.2	41.9	88.8	35.4	59.6	351.1	42.0	42.4
LnGrp LOS	E	F	F	F	F	D	F	D	E	F	D	D
Approach Vol, veh/h		2426			3408			1251			1074	
Approach Delay, s/veh		76.5			126.1			57.7			182.5	
Approach LOS		E			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	42.0	17.0	46.0	17.0	40.0	10.0	53.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	37.0	13.0	41.0	13.0	35.0	6.0	48.0				
Max Q Clear Time (g_c+I1), s	13.0	32.8	15.0	43.0	14.3	20.5	6.6	50.0				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	108.3											
HCM 6th LOS	F											

HCM 6th Signalized Intersection Summary  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (veh/h)	0	1887	2562	0	700	714
Future Volume (veh/h)	0	1887	2562	0	700	714
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1772	1772	0	1772	1772
Adj Flow Rate, veh/h	0	1887	2562	0	926	471
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2741	2741	0	1181	526
Arrive On Green	0.00	0.57	0.57	0.00	0.35	0.35
Sat Flow, veh/h	0	5156	5156	0	3375	1502
Grp Volume(v), veh/h	0	1887	2562	0	926	471
Grp Sat Flow(s),veh/h/ln	0	1612	1612	0	1688	1502
Q Serve(g_s), s	0.0	33.3	58.6	0.0	29.5	35.6
Cycle Q Clear(g_c), s	0.0	33.3	58.6	0.0	29.5	35.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2741	2741	0	1181	526
V/C Ratio(X)	0.00	0.69	0.93	0.00	0.78	0.90
Avail Cap(c_a), veh/h	0	2741	2741	0	1181	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.5	24.0	0.0	34.9	36.9
Incr Delay (d2), s/veh	0.0	1.4	7.5	0.0	5.2	20.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.6	21.6	0.0	12.8	15.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.9	31.4	0.0	40.2	57.5
LnGrp LOS	A	B	C	A	D	E
Approach Vol, veh/h		1887	2562		1397	
Approach Delay, s/veh		19.9	31.4		46.0	
Approach LOS		B	C		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				73.0	47.0	73.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				68.0	42.0	68.0
Max Q Clear Time (g_c+I1), s				35.3	37.6	60.6
Green Ext Time (p_c), s				17.7	2.4	6.9
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			31.2			
HCM 6th LOS			C			
<b>Notes</b>						
User approved volume balancing among the lanes for turning movement.						

HCM 6th Signalized Intersection Summary  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↕	↗			↗↗
Traffic Volume (veh/h)	173	1936	0	0	1829	30	1306	109	536	0	0	260
Future Volume (veh/h)	173	1936	0	0	1829	30	1306	109	536	0	0	260
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	1772	1772	0	0	1772	1772	1772	1772	1772	0	0	1772
Adj Flow Rate, veh/h	173	1936	0	0	1829	30	1517	0	394	0	0	260
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	0	2
Cap, veh/h	323	2661	0	0	1971	32	1856	0	551	0	0	0
Arrive On Green	0.19	0.55	0.00	0.00	0.32	0.32	0.37	0.00	0.37	0.00	0.00	0.00
Sat Flow, veh/h	1688	4997	0	0	6471	102	5063	0	1502		0	
Grp Volume(v), veh/h	173	1936	0	0	1344	515	1517	0	394		0.0	
Grp Sat Flow(s),veh/h/ln	1688	1612	0	0	1524	1754	1688	0	1502			
Q Serve(g_s), s	11.1	36.0	0.0	0.0	34.1	34.1	32.5	0.0	27.0			
Cycle Q Clear(g_c), s	11.1	36.0	0.0	0.0	34.1	34.1	32.5	0.0	27.0			
Prop In Lane	1.00		0.00	0.00		0.06	1.00		1.00			
Lane Grp Cap(c), veh/h	323	2661	0	0	1448	555	1856	0	551			
V/C Ratio(X)	0.53	0.73	0.00	0.00	0.93	0.93	0.82	0.00	0.72			
Avail Cap(c_a), veh/h	323	2661	0	0	1448	555	1856	0	551			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	43.7	20.3	0.0	0.0	39.7	39.7	34.4	0.0	32.6			
Incr Delay (d2), s/veh	1.7	1.8	0.0	0.0	11.8	24.0	4.1	0.0	7.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.7	12.7	0.0	0.0	13.8	17.7	13.9	0.0	10.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	22.0	0.0	0.0	51.5	63.7	38.5	0.0	40.4			
LnGrp LOS	D	C	A	A	D	E	D	A	D			
Approach Vol, veh/h		2109			1859			1911				
Approach Delay, s/veh		24.0			54.8			38.9				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		49.0		71.0			28.0	43.0				
Change Period (Y+Rc), s		5.0		5.0			5.0	* 5				
Max Green Setting (Gmax), s		44.0		55.0			13.0	* 38				
Max Q Clear Time (g_c+I1), s		34.5		38.0			13.1	36.1				
Green Ext Time (p_c), s		5.6		11.9			0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	109	1270	59	91	1706	165	184	351	132	121	224	247
Future Volume (vph)	109	1270	59	91	1706	165	184	351	132	121	224	247
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	200		0	200		0	270		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.987			0.959			0.921	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4755	0	1676	3215	0	1676	3088	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4755	0	1676	3215	0	1676	3088	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			16			43			165	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		643			2692			2657			727	
Travel Time (s)		9.7			40.8			45.3			12.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	109	1270	59	91	1706	165	184	351	132	121	224	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	1329	0	91	1871	0	184	483	0	121	471	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		25	240		25	240		25	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		25	6		25	6		25	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
1: Puente Street & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	32.0		5.0	32.0		5.0	33.0		5.0	33.0	
Total Split (s)	13.0	52.0		16.0	55.0		19.0	34.0		18.0	33.0	
Total Split (%)	10.8%	43.3%		13.3%	45.8%		15.8%	28.3%		15.0%	27.5%	
Maximum Green (s)	10.0	47.0		13.0	50.0		16.0	29.0		15.0	28.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	1.0		0.0	1.0		0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		20.0			20.0			21.0			21.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	9.6	59.2		10.4	60.0		15.2	22.2		12.3	19.2	
Actuated g/C Ratio	0.08	0.49		0.09	0.50		0.13	0.18		0.10	0.16	
v/c Ratio	0.82	0.56		0.63	0.79		0.87	0.77		0.71	0.74	
Control Delay	95.2	24.1		71.7	14.0		88.8	45.4		73.7	37.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	95.2	24.1		71.7	14.0		88.8	45.4		73.7	37.6	
LOS	F	C		E	B		F	D		E	D	
Approach Delay		29.5			16.7			57.4			45.0	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	84	259		59	302		146	141		91	121	
Queue Length 95th (ft)	#182	367		m81	#620		m#268	181		154	165	
Internal Link Dist (ft)		563			2612			2577			647	
Turn Bay Length (ft)	250			200			200			270		
Base Capacity (vph)	139	2363		181	2383		223	809		209	847	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.78	0.56		0.50	0.79		0.83	0.60		0.58	0.56	

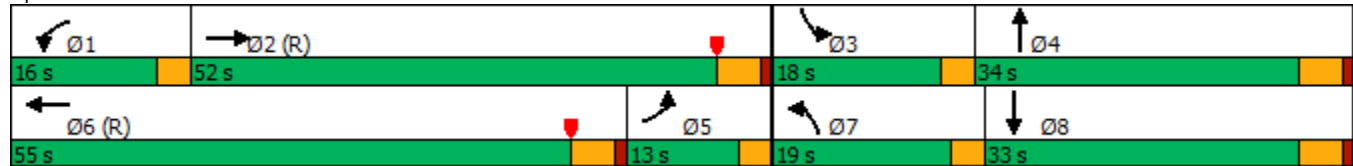
**Intersection Summary**  
Area Type: Other  
Cycle Length: 120  
Actuated Cycle Length: 120  
Offset: 80 (67%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
Natural Cycle: 100  
Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 1: Puente Street & Lambert Road

Year 2040 + Project  
 PM Peak Hour

Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 30.1	Intersection LOS: C
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 1: Puente Street & Lambert Road



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Traffic Volume (vph)	36	1434	73	57	1691	145	130	396	122	211	290	80
Future Volume (vph)	36	1434	73	57	1691	145	130	396	122	211	290	80
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		0	190		0	150		0	140		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.993			0.988			0.965			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4784	0	1676	4760	0	1676	3236	0	1676	3246	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4784	0	1676	4760	0	1676	3236	0	1676	3246	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			14			31			27	
Link Speed (mph)		45			45			40			40	
Link Distance (ft)		2692			3309			1788			704	
Travel Time (s)		40.8			50.1			30.5			12.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	1434	73	57	1691	145	130	396	122	211	290	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	1507	0	57	1836	0	130	518	0	211	370	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3		1	3		1	3	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	25	240		20	240		20	240		20	240	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	25	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		117			117			117			117	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Detector 3 Position(ft)		234			234			234			234	
Detector 3 Size(ft)		6			6			6			6	
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	



Lanes, Volumes, Timings  
2: Berry Street & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases												
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Minimum Split (s)	5.0	28.0		6.0	28.0		5.0	31.3		5.0	31.3	
Total Split (s)	8.0	55.6		11.0	58.6		20.0	31.4		22.0	33.4	
Total Split (%)	6.7%	46.3%		9.2%	48.8%		16.7%	26.2%		18.3%	27.8%	
Maximum Green (s)	5.0	48.6		7.0	51.6		17.0	25.1		19.0	27.1	
Yellow Time (s)	3.0	5.0		4.0	5.0		3.0	4.3		3.0	4.3	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.0		4.0	7.0		3.0	6.3		3.0	6.3	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			18.0			18.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effct Green (s)	5.5	54.9		7.0	58.9		13.2	22.2		17.4	26.5	
Actuated g/C Ratio	0.05	0.46		0.06	0.49		0.11	0.18		0.14	0.22	
v/c Ratio	0.47	0.69		0.59	0.78		0.71	0.83		0.87	0.50	
Control Delay	85.2	20.3		83.5	15.1		73.8	51.0		81.9	40.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	85.2	20.3		83.5	15.1		73.8	51.0		81.9	40.2	
LOS	F	C		F	B		E	D		F	D	
Approach Delay		21.8			17.1			55.5			55.3	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)	21	394		48	136		86	196		159	120	
Queue Length 95th (ft)	m47	476		m51	m146		132	257		#283	172	
Internal Link Dist (ft)		2612			3229			1708			624	
Turn Bay Length (ft)	200			190			150			140		
Base Capacity (vph)	77	2192		102	2342		237	701		265	768	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.69		0.56	0.78		0.55	0.74		0.80	0.48	

Intersection Summary

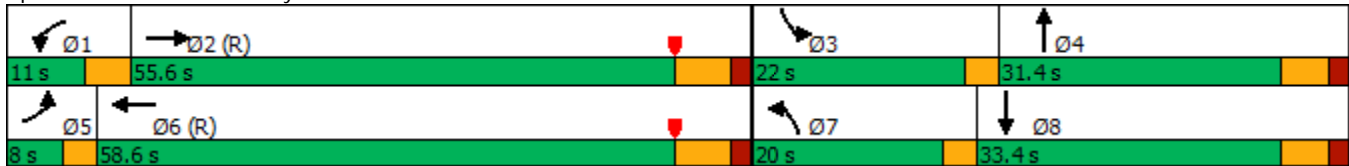
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 26.6 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 2: Berry Street & Lambert Road

Year 2040 + Project  
 PM Peak Hour































Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.8 Intersection LOS: C  
 Intersection Capacity Utilization 87.0% ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Berry Street & Lambert Road



Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040 + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 	 			 	
Traffic Volume (vph)	172	1489	406	226	1598	95	474	776	191	75	397	101
Future Volume (vph)	172	1489	406	226	1598	95	474	776	191	75	397	101
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200		220	225		0	170		160	260		260
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	4818	1500	1676	4779	0	3252	3353	1500	1676	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			321		8				154			127
Link Speed (mph)		45			45			35				35
Link Distance (ft)		3309			3979			1995				706
Travel Time (s)		50.1			60.3			38.9				13.8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	172	1489	406	226	1598	95	474	776	191	75	397	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	1489	406	226	1693	0	474	776	191	75	397	101
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3	1	1	3		1	3	1	1	3	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	240	20	20	240		20	240	20	20	240	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		117			117			117				117
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Detector 3 Position(ft)		234			234			234				234
Detector 3 Size(ft)		6			6			6				6
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex

Lanes, Volumes, Timings  
3: Brea Boulevard & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2						4			8
Detector Phase	5	2	2	1	6		7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	9.0	43.0	43.0	9.0	35.0		9.0	40.0	40.0	9.0	34.0	34.0
Total Split (s)	17.0	43.0	43.0	21.0	47.0		22.0	44.0	44.0	12.0	34.0	34.0
Total Split (%)	14.2%	35.8%	35.8%	17.5%	39.2%		18.3%	36.7%	36.7%	10.0%	28.3%	28.3%
Maximum Green (s)	13.0	38.0	38.0	17.0	42.0		18.0	39.0	39.0	8.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		2.0	4.0	4.0	2.0	4.0	4.0
Recall Mode	None	C-Min	C-Min	None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0	31.0		23.0			28.0	28.0		22.0	22.0
Pedestrian Calls (#/hr)		2	2		2			2	2		2	2
Act Effct Green (s)	13.2	40.5	40.5	17.1	44.3		18.0	38.9	38.9	7.6	26.5	26.5
Actuated g/C Ratio	0.11	0.34	0.34	0.14	0.37		0.15	0.32	0.32	0.06	0.22	0.22
v/c Ratio	0.93	0.92	0.57	0.95	0.96		0.97	0.71	0.32	0.71	0.54	0.24
Control Delay	94.5	41.8	12.9	107.0	35.9		72.4	34.4	7.8	89.2	43.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.5	41.8	12.9	107.0	35.9		72.4	34.4	7.8	89.2	43.7	4.7
LOS	F	D	B	F	D		E	C	A	F	D	A
Approach Delay		40.5			44.3			43.3			42.8	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	119	418	167	147	-487		198	285	37	58	140	0
Queue Length 95th (ft)	m#249	#530	m264	m#324	#602		#296	374	m98	#132	190	28
Internal Link Dist (ft)		3229			3899			1915			626	
Turn Bay Length (ft)	200		220	225			170		160	260		260
Base Capacity (vph)	184	1624	718	238	1769		487	1089	591	111	810	458
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.92	0.57	0.95	0.96		0.97	0.71	0.32	0.68	0.49	0.22

Intersection Summary

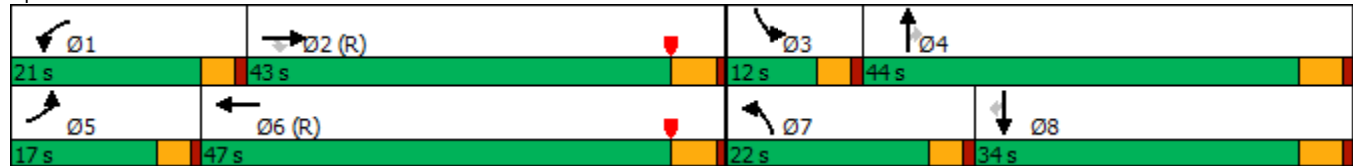
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 3: Brea Boulevard & Lambert Road

Year 2040 + Project  
 PM Peak Hour

Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 42.6	Intersection LOS: D
Intersection Capacity Utilization 86.9%	ICU Level of Service E
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: Brea Boulevard & Lambert Road



Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↔	↔	↔↔	↑↔	
Traffic Volume (vph)	15	1529	253	464	1499	1019	333	584	471	574	347	10
Future Volume (vph)	15	1529	253	464	1499	1019	333	584	471	574	347	10
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	100		250	250		250	160		240	370		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.91	0.91	0.97	0.95	0.95
Frt		0.979				0.850		0.969	0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5943	0	3252	4818	1500	3252	3112	1365	3252	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5943	0	3252	4818	1500	3252	3112	1365	3252	3340	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						55		22	181			2
Link Speed (mph)		45		45				40				40
Link Distance (ft)		3979		462				1416				1061
Travel Time (s)		60.3		7.0				24.1				18.1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	15	1529	253	464	1499	1019	333	584	471	574	347	10
Shared Lane Traffic (%)									32%			
Lane Group Flow (vph)	15	1782	0	464	1499	1019	333	735	320	574	357	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24				24				24
Link Offset(ft)		0		0				0				0
Crosswalk Width(ft)		16		16				16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	3		1	3	1	1	3	1	1		3
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	240		20	240	20	20	240	20	20		240
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		117			117			117				117
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Detector 3 Position(ft)		234			234			234				234
Detector 3 Size(ft)		6			6			6				6
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex

Lanes, Volumes, Timings  
4: State College Boulevard & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6	3	7	4		3	8	
Permitted Phases						6			4			
Detector Phase	5	2		1	6	3	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	10.0	2.0	10.0	
Minimum Split (s)	6.0	29.0		6.0	25.0	6.0	6.0	15.0	15.0	6.0	33.0	
Total Split (s)	6.0	42.0		19.0	55.0	30.0	22.0	29.0	29.0	30.0	37.0	
Total Split (%)	5.0%	35.0%		15.8%	45.8%	25.0%	18.3%	24.2%	24.2%	25.0%	30.8%	
Maximum Green (s)	2.0	37.0		15.0	50.0	26.0	18.0	24.0	24.0	26.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Recall Mode	None	C-Min		None	C-Min	None	None	Min	Min	None	Min	
Walk Time (s)		5.0			5.0						5.0	
Flash Dont Walk (s)		19.0			15.0						23.0	
Pedestrian Calls (#/hr)		2			2						2	
Act Effct Green (s)	2.0	37.0		15.0	53.6	84.6	15.8	24.0	24.0	26.0	34.2	
Actuated g/C Ratio	0.02	0.31		0.12	0.45	0.70	0.13	0.20	0.20	0.22	0.28	
v/c Ratio	0.28	0.97		1.14	0.70	0.95	0.78	1.15	0.77	0.82	0.38	
Control Delay	89.5	26.0		129.1	19.6	30.1	63.1	126.0	32.7	55.2	36.1	
Queue Delay	0.0	15.7		0.0	1.2	34.2	0.0	0.0	0.2	0.0	0.0	
Total Delay	89.5	41.7		129.1	20.8	64.3	63.1	126.0	32.8	55.2	36.1	
LOS	F	D		F	C	E	E	F	C	E	D	
Approach Delay		42.1			52.5			89.4			47.9	
Approach LOS		D			D			F			D	
Queue Length 50th (ft)	6	161		~213	265	652	129	~360	114	219	117	
Queue Length 95th (ft)	m8	m#474		m#298	m358	m#1028	177	#492	#264	#290	164	
Internal Link Dist (ft)		3899			382			1336			981	
Turn Bay Length (ft)	100			250		250	160		240	370		
Base Capacity (vph)	54	1832		406	2152	1073	487	640	417	704	952	
Starvation Cap Reductn	0	0		0	393	127	0	0	0	0	0	
Spillback Cap Reductn	0	111		0	0	0	0	0	3	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	1.04		1.14	0.85	1.08	0.68	1.15	0.77	0.82	0.38	

Intersection Summary

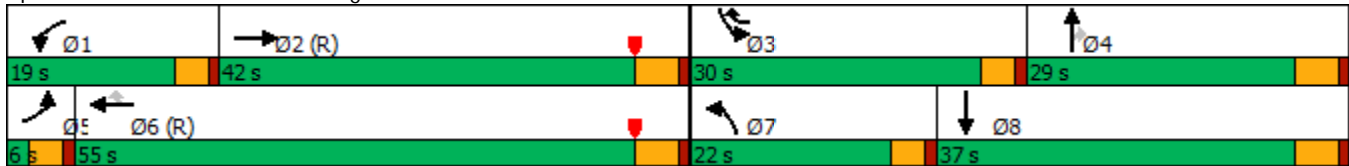
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 38 (32%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

Lanes, Volumes, Timings  
 4: State College Boulevard & Lambert Road

Year 2040 + Project  
 PM Peak Hour

Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 56.5	Intersection LOS: E
Intersection Capacity Utilization 103.1%	ICU Level of Service G
Analysis Period (min) 15	
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	













Splits and Phases: 4: State College Boulevard & Lambert Road





Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040 + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1645	930	298	2084	0	0	0	0	591	0	873
Future Volume (vph)	0	1645	930	298	2084	0	0	0	0	591	0	873
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0		0	70		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.86	0.86	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.91	0.95
Frt		0.974	0.850								0.876	0.850
Flt Protected				0.950						0.950	0.992	
Satd. Flow (prot)	0	4435	1290	3252	4818	0	0	0	0	1593	1395	1425
Flt Permitted				0.950						0.950	0.992	
Satd. Flow (perm)	0	4435	1290	3252	4818	0	0	0	0	1593	1395	1425
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44	586								55	55
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		462			588			1152			1517	
Travel Time (s)		7.0			8.9			26.2			34.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1645	930	298	2084	0	0	0	0	591	0	873
Shared Lane Traffic (%)			37%							14%		46%
Lane Group Flow (vph)	0	1989	586	298	2084	0	0	0	0	508	485	471
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2					1	2	1
Detector Template		Thru	Right	Left	Thru					Left	Thru	Right
Leading Detector (ft)		100	20	20	100					20	100	20
Trailing Detector (ft)		0	0	0	0					0	0	0
Detector 1 Position(ft)		0	0	0	0					0	0	0
Detector 1 Size(ft)		6	20	20	6					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA					Split	NA	Prot
Protected Phases		2		1	6					4	4	4
Permitted Phases			2									

Lanes, Volumes, Timings  
5: SR-57 SB Ramps & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		2	2	1	6					4	4	4
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		20.5	20.5	9.5	23.5					9.5	9.5	9.5
Total Split (s)		58.2	58.2	16.8	75.0					45.0	45.0	45.0
Total Split (%)		48.5%	48.5%	14.0%	62.5%					37.5%	37.5%	37.5%
Maximum Green (s)		53.7	53.7	12.3	70.5					40.5	40.5	40.5
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Total Lost Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		9.0	9.0		12.0							
Pedestrian Calls (#/hr)		2	2		2							
Act Effect Green (s)		53.7	53.7	12.3	70.5					40.5	40.5	40.5
Actuated g/C Ratio		0.45	0.45	0.10	0.59					0.34	0.34	0.34
v/c Ratio		0.99	0.65	0.89	0.74					0.95	0.96	0.91
Control Delay		30.9	4.1	59.8	7.8					67.2	65.9	57.2
Queue Delay		6.6	0.7	0.0	1.7					0.0	0.3	0.2
Total Delay		37.5	4.8	59.8	9.5					67.2	66.2	57.4
LOS		D	A	E	A					E	E	E
Approach Delay		30.1			15.8						63.7	
Approach LOS		C			B						E	
Queue Length 50th (ft)		240	26	117	280					401	365	330
Queue Length 95th (ft)		m#282	m18	m114	m250					#629	#609	#549
Internal Link Dist (ft)		382			508			1072			1437	
Turn Bay Length (ft)				70								
Base Capacity (vph)		2008	901	334	2832					537	507	517
Starvation Cap Reductn		52	101	0	538					0	0	0
Spillback Cap Reductn		0	0	0	170					0	1	1
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.02	0.73	0.89	0.91					0.95	0.96	0.91

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 43.7 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 32.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 95.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























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

Splits and Phases: 5: SR-57 SB Ramps & Lambert Road



Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 					
Traffic Volume (vph)	592	1684	0	0	1378	668	1083	0	605	0	0	0
Future Volume (vph)	592	1684	0	0	1378	668	1083	0	605	0	0	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	250		0	0		0	215		0	0		0
Storage Lanes	2		0	0		1	1		1	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	1.00	0.86	0.86	0.97	1.00	1.00	1.00	1.00	1.00
Frt					0.980	0.850			0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3252	4818	0	0	4462	1290	3252	0	1500	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3252	4818	0	0	4462	1290	3252	0	1500	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					23	480			55			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		588			682			1141			1432	
Travel Time (s)		8.9			10.3			25.9			32.5	
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	604	1718	0	0	1435	696	1152	0	644	0	0	0
Shared Lane Traffic (%)						31%						
Lane Group Flow (vph)	604	1718	0	0	1651	480	1152	0	644	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2	1	1		1			
Detector Template	Left	Thru			Thru	Right	Left		Right			
Leading Detector (ft)	20	100			100	20	20		20			
Trailing Detector (ft)	0	0			0	0	0		0			
Detector 1 Position(ft)	0	0			0	0	0		0			
Detector 1 Size(ft)	20	6			6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA			NA	Perm	Prot		Perm			
Protected Phases	5	2			6		3					
Permitted Phases						6			3			

Lanes, Volumes, Timings  
6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2			6	6	3		3			
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0		5.0			
Minimum Split (s)	9.5	24.5			20.5	20.5	23.5		23.5			
Total Split (s)	26.0	70.6			44.6	44.6	49.4		49.4			
Total Split (%)	21.7%	58.8%			37.2%	37.2%	41.2%		41.2%			
Maximum Green (s)	21.5	66.1			40.1	40.1	44.9		44.9			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5		3.5			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0		1.0			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0		0.0			
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5		4.5			
Lead/Lag	Lag			Lead			Lead					
Lead-Lag Optimize?	Yes			Yes			Yes					
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Recall Mode	None	C-Max			C-Max	C-Max	None		None			
Walk Time (s)		7.0			7.0	7.0	7.0		7.0			
Flash Dont Walk (s)		13.0			9.0	9.0	12.0		12.0			
Pedestrian Calls (#/hr)		2			2	2	2		2			
Act Effct Green (s)	21.5	66.1			40.1	40.1	44.9		44.9			
Actuated g/C Ratio	0.18	0.55			0.33	0.33	0.37		0.37			
v/c Ratio	1.04	0.65			1.10	0.64	0.95		1.08			
Control Delay	70.0	11.0			91.8	7.0	52.8		94.7			
Queue Delay	0.0	0.4			0.0	0.0	0.0		0.0			
Total Delay	70.0	11.4			91.8	7.0	52.8		94.7			
LOS	E	B			F	A	D		F			
Approach Delay		26.6			72.7			67.8				
Approach LOS		C			E			E				
Queue Length 50th (ft)	~260	146			-557	0	441		~531			
Queue Length 95th (ft)	m#275	m149			#661	102	#584		#763			
Internal Link Dist (ft)		508			602			1061			1352	
Turn Bay Length (ft)	250						215					
Base Capacity (vph)	582	2653			1506	750	1216		595			
Starvation Cap Reductn	0	393			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.04	0.76			1.10	0.64	0.95		1.08			

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 28.1 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.10  
 Intersection Signal Delay: 54.2  
 Intersection Capacity Utilization 95.0%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 6: SR-57 NB Ramps & Lambert Road

Year 2040 + Project  
 PM Peak Hour












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

Splits and Phases: 6: SR-57 NB Ramps & Lambert Road



Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040 + Project  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	57	529	31	37	470
Future Volume (vph)	69	57	529	31	37	470
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	95	0		0	95	
Storage Lanes	1	1		0	1	
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1676	1500	3326	0	1676	3353
Flt Permitted	0.950				0.442	
Satd. Flow (perm)	1676	1500	3326	0	780	3353
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		57	14			
Link Speed (mph)	25		40			40
Link Distance (ft)	250		889			1788
Travel Time (s)	6.8		15.2			30.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	57	529	31	37	470
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	57	560	0	37	470
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	3		2			6
Permitted Phases		8			6	

Lanes, Volumes, Timings  
7: Berry Street & Mercury Lane

Year 2040 + Project  
PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	3	8	2		6	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0		6.0	6.0
Minimum Split (s)	11.0	22.0	26.0		11.0	11.0
Total Split (s)	25.0	25.0	35.0		35.0	35.0
Total Split (%)	41.7%	41.7%	58.3%		58.3%	58.3%
Maximum Green (s)	20.0	20.0	30.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Walk Time (s)		7.0	7.0			
Flash Dont Walk (s)		10.0	14.0			
Pedestrian Calls (#/hr)		2	2			
Act Effct Green (s)	9.3	9.2	47.2		47.2	47.2
Actuated g/C Ratio	0.16	0.15	0.79		0.79	0.79
v/c Ratio	0.27	0.21	0.21		0.06	0.18
Control Delay	23.2	8.0	6.3		2.7	2.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	23.2	8.0	6.3		2.7	2.1
LOS	C	A	A		A	A
Approach Delay	16.3		6.3			2.1
Approach LOS	B		A			A
Queue Length 50th (ft)	23	0	64		3	30
Queue Length 95th (ft)	45	22	m68		m11	49
Internal Link Dist (ft)	170		809			1708
Turn Bay Length (ft)	95				95	
Base Capacity (vph)	558	538	2621		614	2640
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.12	0.11	0.21		0.06	0.18

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 45 (75%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.27  
 Intersection Signal Delay: 5.6  
 Intersection LOS: A  
 Intersection Capacity Utilization 39.0%  
 ICU Level of Service A  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.



Splits and Phases: 7: Berry Street & Mercury Lane



Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040 + Project  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	139	23	438	148	505	86	791	370	368	710	76
Future Volume (vph)	81	139	23	438	148	505	86	791	370	368	710	76
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	160		0	210		0	195		0	240		0
Storage Lanes	1		0	2		1	1		0	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	0.91	0.97	0.91	0.91
Frt		0.979				0.850		0.952			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	1728	0	3252	1765	1500	1676	4586	0	3252	4745	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1676	1728	0	3252	1765	1500	1676	4586	0	3252	4745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				118		97			16	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		460			710			682			664	
Travel Time (s)		10.5			16.1			13.3			12.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	81	139	23	438	148	505	86	791	370	368	710	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	162	0	438	148	505	86	1161	0	368	786	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8						

Lanes, Volumes, Timings  
8: Brea Boulevard & Birch Street

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	38.0		10.0	39.0	10.0	10.0	29.0		10.0	28.0	
Total Split (s)	16.0	38.0		23.0	45.0	21.0	17.0	38.0		21.0	42.0	
Total Split (%)	13.3%	31.7%		19.2%	37.5%	17.5%	14.2%	31.7%		17.5%	35.0%	
Maximum Green (s)	12.0	33.0		19.0	40.0	17.0	13.0	33.0		17.0	37.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			27.0			17.0			16.0	
Pedestrian Calls (#/hr)		2			2			2			2	
Act Effect Green (s)	10.2	18.3		20.2	30.4	49.2	11.8	46.5		17.0	53.9	
Actuated g/C Ratio	0.08	0.15		0.17	0.25	0.41	0.10	0.39		0.14	0.45	
v/c Ratio	0.57	0.60		0.80	0.33	0.74	0.52	0.63		0.80	0.37	
Control Delay	68.1	53.1		59.8	37.9	23.7	44.1	8.5		62.6	23.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.1	53.1		59.8	37.9	23.7	44.1	8.5		62.6	23.9	
LOS	E	D		E	D	C	D	A		E	C	
Approach Delay		58.1			40.1			10.9			36.2	
Approach LOS		E			D			B			D	
Queue Length 50th (ft)	61	116		167	98	195	70	42		151	141	
Queue Length 95th (ft)	113	159		#254	137	217	m111	m127		m#202	m184	
Internal Link Dist (ft)		380			630			602			584	
Turn Bay Length (ft)	160			210			195			240		
Base Capacity (vph)	167	480		560	588	684	181	1836		460	2140	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.49	0.34		0.78	0.25	0.74	0.48	0.63		0.80	0.37	

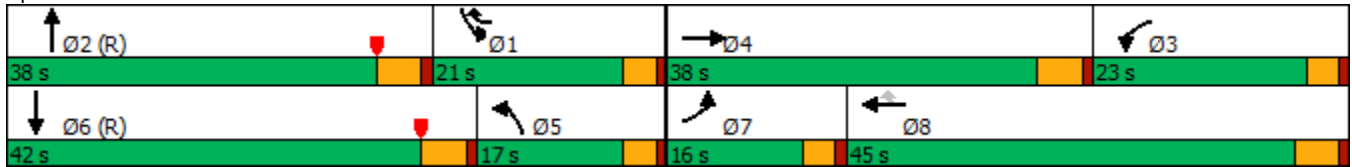
Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	30.3
Intersection LOS:	C
Intersection Capacity Utilization:	73.7%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	

Queue shown is maximum after two cycles.

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

Splits and Phases: 8: Brea Boulevard & Birch Street



Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040 + Project  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	1815	37	194	1807	265	33	56	104	163	133	201
Future Volume (vph)	143	1815	37	194	1807	265	33	56	104	163	133	201
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	275		0	215		310	90		80	195		195
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt		0.997				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1676	4803	0	1676	4818	1500	1676	1765	1500	1676	3353	1500
Flt Permitted	0.950			0.950			0.668			0.720		
Satd. Flow (perm)	1676	4803	0	1676	4818	1500	1179	1765	1500	1271	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				265			104			201
Link Speed (mph)		45			45			40				40
Link Distance (ft)		713			2627			1029				2657
Travel Time (s)		10.8			39.8			17.5				45.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	143	1815	37	194	1807	265	33	56	104	163	133	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	1852	0	194	1807	265	33	56	104	163	133	201
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2				6
Permitted Phases						8	2		2	6		6

Lanes, Volumes, Timings  
9: Puente Street & Imperial Highway

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	35.0	35.0	39.0	39.0	39.0	35.0	35.0	35.0
Total Split (s)	19.0	58.0		23.0	62.0	62.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	15.8%	48.3%		19.2%	51.7%	51.7%	32.5%	32.5%	32.5%	32.5%	32.5%	32.5%
Maximum Green (s)	15.0	53.0		19.0	57.0	57.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		17.0			23.0	23.0	27.0	27.0	27.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)		2			2	2	2	2	2	2	2	2
Act Effct Green (s)	15.0	66.1		18.0	69.1	69.1	21.9	21.9	21.9	21.9	21.9	21.9
Actuated g/C Ratio	0.12	0.55		0.15	0.58	0.58	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.68	0.70		0.77	0.65	0.27	0.15	0.17	0.29	0.71	0.22	0.46
Control Delay	67.7	23.4		58.9	3.7	0.2	39.1	39.4	8.7	59.5	39.4	16.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	23.4		58.9	3.7	0.2	39.1	39.4	8.7	59.5	39.4	16.3
LOS	E	C		E	A	A	D	D	A	E	D	B
Approach Delay		26.6			8.0			22.8			36.6	
Approach LOS		C			A			C			D	
Queue Length 50th (ft)	108	369		126	75	0	22	37	0	129	51	25
Queue Length 95th (ft)	#195	538		m115	m128	m0	46	66	42	188	75	100
Internal Link Dist (ft)		633			2547			949			2577	
Turn Bay Length (ft)	275			215		310	90		80	195		195
Base Capacity (vph)	209	2648		275	2775	976	334	500	499	360	950	569
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.70		0.71	0.65	0.27	0.10	0.11	0.21	0.45	0.14	0.35

Intersection Summary

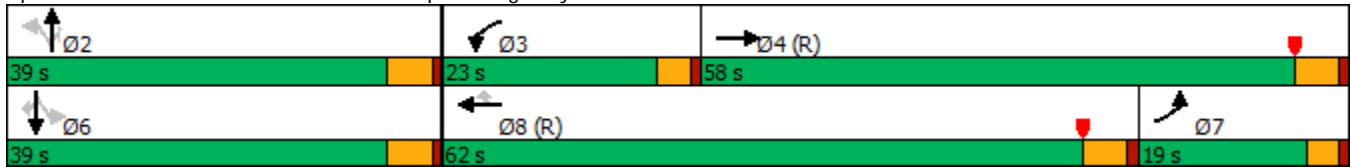
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 74 (62%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 95  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 19.0 Intersection LOS: B  
 Intersection Capacity Utilization 79.6% ICU Level of Service D  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















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

Splits and Phases: 9: Puente Street & Imperial Highway



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	2099	12	62	2086	356	5	7	6	433	30	249
Future Volume (vph)	169	2099	12	62	2086	356	5	7	6	433	30	249
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.978			0.950				0.850
Flt Protected	0.950			0.950				0.986		0.950	0.958	
Satd. Flow (prot)	1676	4813	0	1676	4712	0	0	3141	0	1593	1606	1500
Flt Permitted	0.950			0.950				0.986		0.950	0.958	
Satd. Flow (perm)	1676	4813	0	1676	4712	0	0	3141	0	1593	1606	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			34			6				249
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	2099	12	62	2086	356	5	7	6	433	30	249
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	169	2111	0	62	2442	0	0	18	0	229	234	249
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	11.0		10.0	32.0		33.0	33.0		11.0	11.0	11.0
Total Split (s)	14.0	60.0		10.0	56.0		35.0	35.0		15.0	15.0	15.0
Total Split (%)	11.7%	50.0%		8.3%	46.7%		29.2%	29.2%		12.5%	12.5%	12.5%
Maximum Green (s)	10.0	55.0		6.0	51.0		30.0	30.0		10.0	10.0	10.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					20.0		21.0	21.0				
Pedestrian Calls (#/hr)					2		2	2				
Act Effct Green (s)	10.0	62.0		6.0	56.0		10.5	10.5		31.2	31.2	31.2
Actuated g/C Ratio	0.08	0.52		0.05	0.47		0.09	0.09		0.26	0.26	0.26
v/c Ratio	1.22	0.85		0.75	1.10		0.06	0.06		0.55	0.56	0.43
Control Delay	184.0	23.1		43.8	70.7		34.3	34.3		54.4	54.6	20.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	184.0	23.1		43.8	70.7		34.3	34.3		54.4	54.6	20.1
LOS	F	C		D	E		C	C		D	D	C
Approach Delay		35.0			70.0		34.3	34.3			42.5	
Approach LOS		D			E		C	C			D	
Queue Length 50th (ft)	~166	516		45	286		4	4		176	181	41
Queue Length 95th (ft)	m#287	#703		m48	m#770		14	14		#435	#443	116
Internal Link Dist (ft)		2547			1999		269	269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	139	2486		83	2216		789	789		413	416	574
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.22	0.85		0.75	1.10		0.02	0.02		0.55	0.56	0.43

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	23 (19%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	51.9
Intersection LOS:	D
Intersection Capacity Utilization:	92.6%
ICU Level of Service:	F
Analysis Period (min):	15

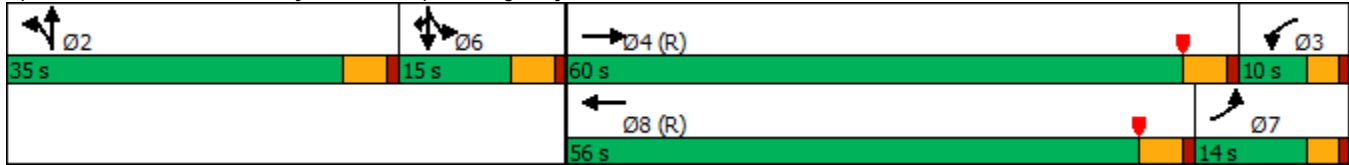
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 10: Berry Street & Imperial Highway

Year 2040 + Project  
 PM Peak Hour

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗
Traffic Volume (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Future Volume (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	3353	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			171			114			148			142
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	42.0	10.0	42.0	42.0	10.0	42.0	42.0	10.0	40.0	40.0
Total Split (s)	12.0	47.0	47.0	15.0	50.0	50.0	18.0	42.0	42.0	16.0	40.0	40.0
Total Split (%)	10.0%	39.2%	39.2%	12.5%	41.7%	41.7%	15.0%	35.0%	35.0%	13.3%	33.3%	33.3%
Maximum Green (s)	8.0	42.0	42.0	11.0	45.0	45.0	14.0	37.0	37.0	12.0	35.0	35.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0		30.0	30.0		28.0	28.0
Pedestrian Calls (#/hr)		2	2		2	2		2	2		2	2
Act Effct Green (s)	8.0	42.0	42.0	11.0	45.0	45.0	14.0	37.0	37.0	12.0	35.0	35.0
Actuated g/C Ratio	0.07	0.35	0.35	0.09	0.38	0.38	0.12	0.31	0.31	0.10	0.29	0.29
v/c Ratio	1.05	1.08	0.65	1.36	1.00	0.32	1.29	0.60	0.52	0.79	0.71	0.49
Control Delay	112.7	93.4	35.6	192.3	26.0	2.9	190.4	37.3	20.3	55.1	33.0	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.7	93.4	35.6	192.3	26.0	2.9	190.4	37.3	20.3	55.1	33.0	10.5
LOS	F	F	D	F	C	A	F	D	C	E	C	B
Approach Delay		85.5			52.0			78.8			32.8	
Approach LOS		F			D			E			C	
Queue Length 50th (ft)	~95	~568	150	~219	307	7	~247	214	91	96	294	61
Queue Length 95th (ft)	m#138	#666	m253	m#190	m209	m6	#355	261	181	m#155	179	m31
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	216	1686	636	298	1806	633	379	1485	564	325	977	538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.08	0.65	1.36	1.00	0.32	1.29	0.60	0.52	0.79	0.71	0.49

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 8 (7%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.36  
 Intersection Signal Delay: 65.5  
 Intersection Capacity Utilization 99.3%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

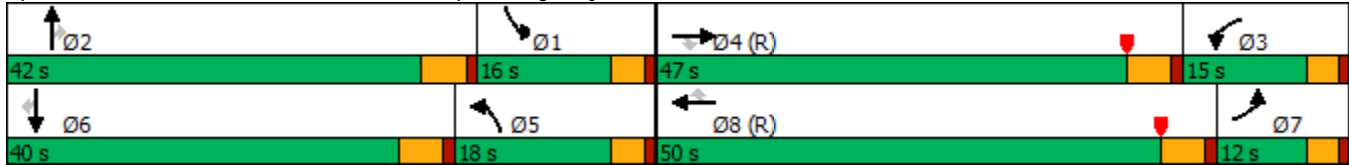
~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project  
 PM Peak Hour

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2040 + Project  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	2087	212	539	2217	652	338	507	406	488	438	148
Future Volume (vph)	127	2087	212	539	2217	652	338	507	406	488	438	148
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				111			146			39
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	127	2087	212	539	2217	652	338	507	406	488	438	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	2299	0	539	2217	652	338	507	406	488	586	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot		NA
Protected Phases	7	4		3	8	1	5	2		1		6
Permitted Phases						8				2		

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	42.0	10.0	40.0	
Total Split (s)	10.0	46.0		17.0	53.0	15.0	17.0	42.0	42.0	15.0	40.0	
Total Split (%)	8.3%	38.3%		14.2%	44.2%	12.5%	14.2%	35.0%	35.0%	12.5%	33.3%	
Maximum Green (s)	6.0	41.0		13.0	48.0	11.0	13.0	37.0	37.0	11.0	35.0	
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max		None	C-Max	None	None	Max	Max	None	Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		23.0			30.0			30.0	30.0		28.0	
Pedestrian Calls (#/hr)		2			2			2	2		2	
Act Effct Green (s)	6.0	41.0		13.0	48.0	64.0	13.0	37.0	37.0	11.0	35.0	
Actuated g/C Ratio	0.05	0.34		0.11	0.40	0.53	0.11	0.31	0.31	0.09	0.29	
v/c Ratio	0.78	1.12		1.53	1.15	0.77	0.96	0.49	0.72	1.64	0.61	
Control Delay	56.0	70.0		280.1	104.0	21.6	92.4	35.8	31.5	336.2	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.0	70.0		280.1	104.0	21.7	92.4	35.8	31.5	336.2	37.1	
LOS	E	E		F	F	C	F	D	C	F	D	
Approach Delay		69.3			116.1			49.7			173.0	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	54	~571		~301	~736	251	136	167	182	~281	192	
Queue Length 95th (ft)	m57	m#527		m#341	m#824	m293	#230	222	307	#389	254	
Internal Link Dist (ft)		4055			406			812			936	
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2059		352	1927	851	352	1033	563	298	968	
Starvation Cap Reductn	0	0		0	0	2	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.78	1.12		1.53	1.15	0.77	0.96	0.49	0.72	1.64	0.61	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 70 (58%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.64  
 Intersection Signal Delay: 99.5  
 Intersection Capacity Utilization 96.4%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

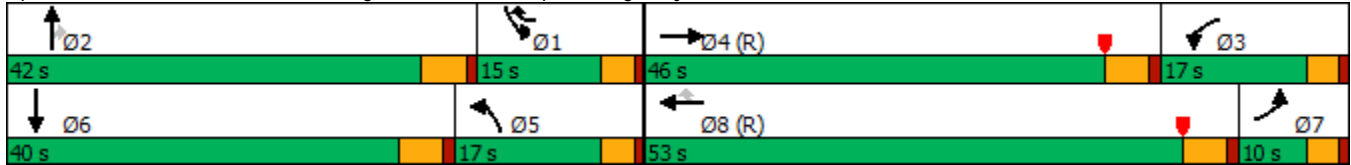
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway





Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑		↓↓↓	↓
Traffic Volume (vph)	0	1887	2562	0	700	714
Future Volume (vph)	0	1887	2562	0	700	714
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	0			0	0	260
Storage Lanes	0			0	2	1
Taper Length (ft)	90				90	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	0.91
Frt					0.958	0.850
Flt Protected					0.965	
Satd. Flow (prot)	0	4818	4818	0	3165	1365
Flt Permitted					0.965	
Satd. Flow (perm)	0	4818	4818	0	3165	1365
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	2
Link Speed (mph)		45	45		30	
Link Distance (ft)		294	276		1186	
Travel Time (s)		4.5	4.2		27.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1887	2562	0	700	714
Shared Lane Traffic (%)						38%
Lane Group Flow (vph)	0	1887	2562	0	971	443
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors		2	2		1	1
Detector Template		Thru	Thru		Left	Right
Leading Detector (ft)		100	100		20	20
Trailing Detector (ft)		0	0		0	0
Detector 1 Position(ft)		0	0		0	0
Detector 1 Size(ft)		6	6		20	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)		0.0	0.0		0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type		NA	NA		Prot	Prot
Protected Phases		4	8		6	6
Permitted Phases						

Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		4	8		6	6
Switch Phase						
Minimum Initial (s)		6.0	6.0		6.0	6.0
Minimum Split (s)		11.0	25.0		11.0	11.0
Total Split (s)		73.0	73.0		47.0	47.0
Total Split (%)		60.8%	60.8%		39.2%	39.2%
Maximum Green (s)		68.0	68.0		42.0	42.0
Yellow Time (s)		4.0	4.0		4.0	4.0
All-Red Time (s)		1.0	1.0		1.0	1.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0
Total Lost Time (s)		5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Recall Mode		C-Max	C-Max		Max	Max
Walk Time (s)			7.0			
Flash Dont Walk (s)			13.0			
Pedestrian Calls (#/hr)			2			
Act Effct Green (s)		68.0	68.0		42.0	42.0
Actuated g/C Ratio		0.57	0.57		0.35	0.35
v/c Ratio		0.69	0.94		0.88	0.92
Control Delay		6.0	15.7		46.7	64.3
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		6.0	15.7		46.7	64.3
LOS		A	B		D	E
Approach Delay		6.0	15.7		52.2	
Approach LOS		A	B		D	
Queue Length 50th (ft)		150	365		360	358
Queue Length 95th (ft)		m114	m401		#462	#586
Internal Link Dist (ft)		214	196		1106	
Turn Bay Length (ft)						260
Base Capacity (vph)		2730	2730		1109	479
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.69	0.94		0.88	0.92

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 96 (80%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 21.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 146.1%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

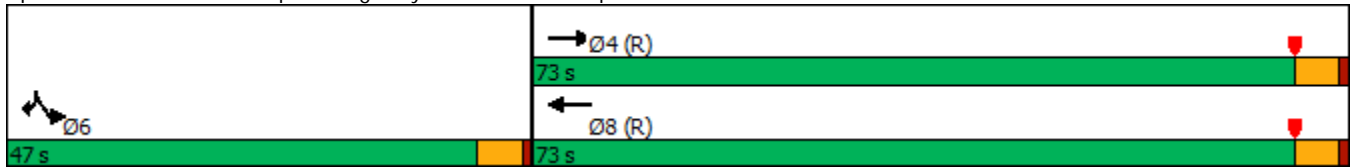
Lanes, Volumes, Timings  
 13: Imperial Highway & SR-57 SB Ramps

Year 2040 + Project  
 PM Peak Hour

Queue shown is maximum after two cycles.

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

Splits and Phases: 13: Imperial Highway & SR-57 SB Ramps



Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑			↑↑↑		↘↘	↔	↘			↘↘
Traffic Volume (vph)	173	1936	0	0	1829	30	1306	109	536	0	0	260
Future Volume (vph)	173	1936	0	0	1829	30	1306	109	536	0	0	260
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	260		0	0		0	260		260	0		0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	0.86	0.91	0.86	0.95	1.00	1.00	0.88
Frt					0.998			0.976	0.850			0.850
Flt Protected	0.950						0.950	0.970				
Satd. Flow (prot)	1676	4818	0	0	6058	0	3051	1437	1425	0	0	2640
Flt Permitted	0.950						0.950	0.970				
Satd. Flow (perm)	1676	4818	0	0	6058	0	3051	1437	1425	0	0	2640
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			9	120			252
Link Speed (mph)		45			45			30				30
Link Distance (ft)		310			545			1085				540
Travel Time (s)		4.7			8.3			24.7				12.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	173	1936	0	0	1829	30	1306	109	536	0	0	260
Shared Lane Traffic (%)							24%		15%			
Lane Group Flow (vph)	173	1936	0	0	1859	0	993	502	456	0	0	260
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			1
Detector Template	Left	Thru			Thru		Left	Thru	Right			Right
Leading Detector (ft)	20	100			100		20	100	20			20
Trailing Detector (ft)	0	0			0		0	0	0			0
Detector 1 Position(ft)	0	0			0		0	0	0			0
Detector 1 Size(ft)	20	6			6		20	6	20			20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	Prot	NA			NA		Split	NA	Prot			Prot
Protected Phases	7	4			8		2	2	2			1
Permitted Phases												

Lanes, Volumes, Timings  
 14: SR-57 NB Ramp & Imperial Highway

Year 2040 + Project  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4			8		2	2	2			1
Switch Phase												
Minimum Initial (s)	6.0	6.0			6.0		6.0	6.0	6.0			6.0
Minimum Split (s)	10.0	32.0			28.0		11.0	11.0	11.0			11.0
Total Split (s)	17.0	60.0			43.0		49.0	49.0	49.0			11.0
Total Split (%)	14.2%	50.0%			35.8%		40.8%	40.8%	40.8%			9.2%
Maximum Green (s)	13.0	55.0			38.0		44.0	44.0	44.0			6.0
Yellow Time (s)	3.0	4.0			4.0		4.0	4.0	4.0			4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)	4.0	5.0			5.0		5.0	5.0	5.0			5.0
Lead/Lag	Lag				Lead		Lag	Lag	Lag			Lead
Lead-Lag Optimize?	Yes				Yes		Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	C-Max			C-Max		Max	Max	Max			None
Walk Time (s)		7.0			7.0							
Flash Dont Walk (s)		20.0			16.0							
Pedestrian Calls (#/hr)		2			2							
Act Effct Green (s)	13.0	55.0			38.0		44.0	44.0	44.0			6.0
Actuated g/C Ratio	0.11	0.46			0.32		0.37	0.37	0.37			0.05
v/c Ratio	0.96	0.88			0.97		0.89	0.94	0.76			0.70
Control Delay	88.4	20.3			54.8		46.8	64.3	33.9			18.5
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	88.4	20.3			54.8		46.8	64.3	33.9			18.5
LOS	F	C			D		D	E	C			B
Approach Delay		25.9			54.8			48.2				18.5
Approach LOS		C			D			D				B
Queue Length 50th (ft)	131	386			411		393	427	245			3
Queue Length 95th (ft)	m#236	423			#497		#521	#687	392			50
Internal Link Dist (ft)		230			465			1005				460
Turn Bay Length (ft)	260						260		260			
Base Capacity (vph)	181	2208			1920		1118	532	598			371
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.96	0.88			0.97		0.89	0.94	0.76			0.70

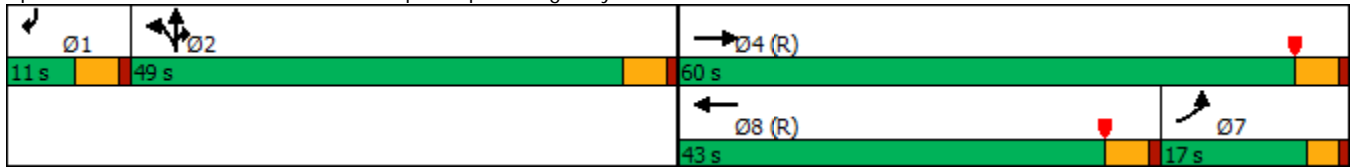
**Intersection Summary**

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 80 (67%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 41.3      Intersection LOS: D  
 Intersection Capacity Utilization 81.9%      ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 14: SR-57 NB Ramp & Imperial Highway



*APPENDIX D-XVII*

**YEAR 2040 PLUS PROJECT WITH MITIGATION  
TRAFFIC CONDITIONS – ICU METHODOLOGY**

**THIS PAGE LEFT BLANK INTENTIONALLY**



*APPENDIX D-XVIII*

**YEAR 2040 PLUS PROJECT WITH MITIGATION  
TRAFFIC CONDITIONS – HCM METHODOLOGY**

HCM 6th Signalized Intersection Summary  
 10: Berry Street & Imperial Highway

Year 2040 + Project [MIT]  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	170	2088	5	61	2053	306	3	28	33	336	15	196
Future Volume (veh/h)	170	2088	5	61	2053	306	3	28	33	336	15	196
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	170	2088	5	61	2053	306	3	28	33	347	0	196
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	2975	7	76	1988	291	8	70	66	524	0	233
Arrive On Green	0.17	0.60	0.60	0.09	0.93	0.93	0.04	0.04	0.04	0.16	0.00	0.16
Sat Flow, veh/h	1688	4983	12	1688	4261	624	171	1593	1502	3375	0	1502
Grp Volume(v), veh/h	170	1351	742	61	1545	814	31	0	33	347	0	196
Grp Sat Flow(s),veh/h/ln	1688	1612	1770	1688	1612	1660	1763	0	1502	1688	0	1502
Q Serve(g_s), s	11.2	34.9	34.9	4.3	56.0	56.0	2.1	0.0	2.6	11.6	0.0	15.2
Cycle Q Clear(g_c), s	11.2	34.9	34.9	4.3	56.0	56.0	2.1	0.0	2.6	11.6	0.0	15.2
Prop In Lane	1.00		0.01	1.00		0.38	0.10		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	1925	1057	76	1505	775	78	0	66	524	0	233
V/C Ratio(X)	0.60	0.70	0.70	0.80	1.03	1.05	0.40	0.00	0.50	0.66	0.00	0.84
Avail Cap(c_a), veh/h	282	1925	1057	98	1505	775	88	0	75	759	0	338
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	0.25	0.25	0.25	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	46.3	16.8	16.8	54.0	4.0	4.0	55.8	0.0	56.1	47.7	0.0	49.2
Incr Delay (d2), s/veh	2.6	1.6	2.8	8.6	19.1	31.9	3.3	0.0	5.7	1.4	0.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	11.9	13.4	1.9	5.4	8.3	1.0	0.0	1.1	4.9	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.8	18.3	19.6	62.6	23.1	35.9	59.1	0.0	61.8	49.2	0.0	61.1
LnGrp LOS	D	B	B	E	F	F	E	A	E	D	A	E
Approach Vol, veh/h		2263			2420			64			543	
Approach Delay, s/veh		21.0			28.4			60.5			53.5	
Approach LOS		C			C			E			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.3	9.4	76.6		23.6	25.1	61.0				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0	5.0	* 5				
Max Green Setting (Gmax), s		6.0	7.0	61.0		27.0	12.0	* 56				
Max Q Clear Time (g_c+I1), s		4.6	6.3	36.9		17.2	13.2	58.0				
Green Ext Time (p_c), s		0.0	0.0	15.8		1.4	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.  
 \* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Future Volume (veh/h)	187	1735	437	236	1707	90	457	528	194	173	1072	211
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	187	1735	437	236	1707	90	457	528	194	173	1072	211
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	1733	738	1119	3144	976	437	1717	1046	229	1411	438
Arrive On Green	0.02	0.12	0.12	0.34	0.65	0.65	0.13	0.35	0.35	0.02	0.10	0.10
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	4837	1502
Grp Volume(v), veh/h	187	1735	437	236	1707	90	457	528	194	173	1072	211
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1612	1502
Q Serve(g_s), s	6.9	43.0	27.4	6.1	22.9	2.7	16.0	9.5	1.8	6.3	25.9	16.0
Cycle Q Clear(g_c), s	6.9	43.0	27.4	6.1	22.9	2.7	16.0	9.5	1.8	6.3	25.9	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1733	738	1119	3144	976	437	1717	1046	229	1411	438
V/C Ratio(X)	0.98	1.00	0.59	0.21	0.54	0.09	1.05	0.31	0.19	0.75	0.76	0.48
Avail Cap(c_a), veh/h	191	1733	738	1119	3144	976	437	1717	1046	300	1411	438
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.61	0.61	0.61	0.39	0.39	0.39	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	58.8	52.9	47.3	28.0	11.4	7.8	52.0	28.0	11.8	57.6	50.1	45.6
Incr Delay (d2), s/veh	45.0	17.1	2.1	0.0	0.3	0.1	55.9	0.5	0.4	6.6	3.4	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	21.2	11.3	2.3	7.2	0.8	9.8	3.7	2.3	2.9	11.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.8	70.0	49.4	28.1	11.6	7.9	107.9	28.5	12.2	64.1	53.5	48.9
LnGrp LOS	F	F	D	C	B	A	F	C	B	E	D	D
Approach Vol, veh/h		2359			2033			1179			1456	
Approach Delay, s/veh		68.9			13.4			56.6			54.1	
Approach LOS		E			B			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	47.6	47.0	48.0	20.0	40.0	11.0	84.0				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	40.0	8.0	* 43	16.0	35.0	7.0	44.0				
Max Q Clear Time (g_c+I1), s	8.3	11.5	8.1	45.0	18.0	27.9	8.9	24.9				
Green Ext Time (p_c), s	0.1	4.3	0.0	0.0	0.0	4.2	0.0	11.7				

Intersection Summary

HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (veh/h)	60	1842	312	568	1898	213	178	187	478	195	646	42
Future Volume (veh/h)	60	1842	312	568	1898	213	178	187	478	195	646	42
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	60	1842	312	568	1898	213	178	187	478	195	646	42
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1674	283	1102	2991	1016	246	1038	968	191	936	61
Arrive On Green	0.04	0.32	0.32	0.34	0.62	0.62	0.08	0.31	0.31	0.06	0.29	0.29
Sat Flow, veh/h	3274	5288	895	3274	4837	1502	3274	3367	1502	3274	3209	208
Grp Volume(v), veh/h	60	1592	562	568	1898	213	178	187	478	195	339	349
Grp Sat Flow(s),veh/h/ln	1637	1524	1611	1637	1612	1502	1637	1683	1502	1637	1683	1734
Q Serve(g_s), s	2.1	38.0	38.0	16.7	29.6	1.5	6.4	4.9	0.0	7.0	21.4	21.4
Cycle Q Clear(g_c), s	2.1	38.0	38.0	16.7	29.6	1.5	6.4	4.9	0.0	7.0	21.4	21.4
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	142	1448	510	1102	2991	1016	246	1038	968	191	491	506
V/C Ratio(X)	0.42	1.10	1.10	0.52	0.63	0.21	0.72	0.18	0.49	1.02	0.69	0.69
Avail Cap(c_a), veh/h	164	1448	510	1102	2991	1016	246	1038	968	191	491	506
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)	0.30	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	41.0	41.0	32.0	14.4	9.0	54.3	30.4	11.1	56.5	37.7	37.7
Incr Delay (d2), s/veh	0.6	48.8	55.0	0.4	1.0	0.5	10.2	0.4	1.8	70.7	7.7	7.5
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	0.9	20.1	22.1	6.4	9.8	2.1	2.9	2.0	6.3	4.7	9.6	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	89.8	96.0	32.4	15.4	9.4	64.4	30.8	12.9	127.2	45.4	45.2
LnGrp LOS	E	F	F	C	B	A	E	C	B	F	D	D
Approach Vol, veh/h		2214			2679			843			883	
Approach Delay, s/veh		90.4			18.5			27.7			63.4	
Approach LOS		F			B			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	42.0	45.4	43.0	13.0	40.0	9.2	79.2				
Change Period (Y+Rc), s	4.0	5.0	5.0	* 5	4.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	7.0	37.0	20.0	* 38	9.0	35.0	6.0	52.0				
Max Q Clear Time (g_c+I1), s	9.0	6.9	18.7	40.0	8.4	23.4	4.1	31.6				
Green Ext Time (p_c), s	0.0	3.0	0.3	0.0	0.0	3.1	0.0	14.0				

Intersection Summary												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									

Notes

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

HCM 6th Signalized Intersection Summary  
10: Berry Street & Imperial Highway

Year 2040 + Project [MIT]  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕		↗	↖	↗
Traffic Volume (veh/h)	169	2099	12	62	2086	356	5	7	6	433	30	249
Future Volume (veh/h)	169	2099	12	62	2086	356	5	7	6	433	30	249
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	169	2099	12	62	2086	356	5	7	6	454	0	249
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	2523	14	191	2213	368	21	29	25	639	0	284
Arrive On Green	0.13	0.68	0.68	0.23	1.00	1.00	0.02	0.02	0.02	0.19	0.00	0.19
Sat Flow, veh/h	1688	4963	28	1688	4177	695	914	1282	1103	3375	0	1502
Grp Volume(v), veh/h	169	1364	747	62	1599	843	9	0	9	454	0	249
Grp Sat Flow(s),veh/h/ln	1688	1612	1767	1688	1612	1647	1726	0	1573	1688	0	1502
Q Serve(g_s), s	12.0	37.6	37.6	3.7	0.0	0.0	0.6	0.0	0.6	15.1	0.0	19.3
Cycle Q Clear(g_c), s	12.0	37.6	37.6	3.7	0.0	0.0	0.6	0.0	0.6	15.1	0.0	19.3
Prop In Lane	1.00		0.02	1.00		0.42	0.53		0.70	1.00		1.00
Lane Grp Cap(c), veh/h	169	1639	898	191	1708	872	39	0	35	639	0	284
V/C Ratio(X)	1.00	0.83	0.83	0.32	0.94	0.97	0.24	0.00	0.24	0.71	0.00	0.88
Avail Cap(c_a), veh/h	169	1639	898	191	1708	872	86	0	79	759	0	338
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.09	0.09	0.09	1.00	0.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	52.0	15.6	15.6	42.6	0.0	0.0	57.6	0.0	57.6	45.6	0.0	47.3
Incr Delay (d2), s/veh	57.5	3.5	6.2	0.1	1.3	4.2	3.2	0.0	3.4	2.5	0.0	19.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	10.3	11.9	1.5	0.3	1.0	0.3	0.0	0.3	6.4	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.5	19.2	21.9	42.7	1.3	4.2	60.8	0.0	61.1	48.0	0.0	66.6
LnGrp LOS	F	B	C	D	A	A	E	A	E	D	A	E
Approach Vol, veh/h		2280			2504			18			703	
Approach Delay, s/veh		26.8			3.3			60.9			54.6	
Approach LOS		C			A			E			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.7	18.6	66.0		27.7	16.0	68.6				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0	4.0	5.0				
Max Green Setting (Gmax), s		6.0	7.0	* 61		27.0	12.0	56.0				
Max Q Clear Time (g_c+I1), s		2.6	5.7	39.6		21.3	14.0	2.0				
Green Ext Time (p_c), s		0.0	0.0	14.7		1.4	0.0	32.7				

Intersection Summary

HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	227	1829	413	405	1805	201	488	892	296	258	690	263
Future Volume (veh/h)	227	1829	413	405	1805	201	488	892	296	258	690	263
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	227	1829	413	405	1805	201	488	892	296	258	690	263
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1119	1693	701	1200	1814	563	382	1564	1036	306	1411	438
Arrive On Green	0.23	0.23	0.23	0.37	0.38	0.38	0.12	0.32	0.32	0.19	0.58	0.58
Sat Flow, veh/h	3274	4837	1502	3274	4837	1502	3274	4837	1502	3274	4837	1502
Grp Volume(v), veh/h	227	1829	413	405	1805	201	488	892	296	258	690	263
Grp Sat Flow(s),veh/h/ln	1637	1612	1502	1637	1612	1502	1637	1612	1502	1637	1612	1502
Q Serve(g_s), s	6.7	42.0	13.8	10.7	44.6	13.7	14.0	18.4	3.7	9.1	10.0	13.5
Cycle Q Clear(g_c), s	6.7	42.0	13.8	10.7	44.6	13.7	14.0	18.4	3.7	9.1	10.0	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1119	1693	701	1200	1814	563	382	1564	1036	306	1411	438
V/C Ratio(X)	0.20	1.08	0.59	0.34	1.00	0.36	1.28	0.57	0.29	0.84	0.49	0.60
Avail Cap(c_a), veh/h	1119	1693	701	1200	1814	563	382	1564	1036	327	1411	438
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.63	0.63	0.63	0.09	0.09	0.09	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	33.1	45.9	29.2	27.5	37.4	37.9	53.0	33.7	12.7	47.9	19.8	20.5
Incr Delay (d2), s/veh	0.1	43.6	2.3	0.0	5.3	0.2	143.8	1.5	0.7	14.7	1.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	23.9	4.8	4.1	17.5	4.9	13.3	7.2	3.7	4.0	3.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	89.5	31.5	27.5	42.7	38.1	196.8	35.2	13.4	62.7	20.8	25.6
LnGrp LOS	C	F	C	C	D	D	F	D	B	E	C	C
Approach Vol, veh/h		2469			2411			1676			1211	
Approach Delay, s/veh		74.6			39.8			78.4			30.8	
Approach LOS		E			D			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	43.8	49.0	47.0	19.0	40.0	46.0	50.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	4.0	5.0				
Max Green Setting (Gmax), s	12.0	37.0	11.0	42.0	14.0	* 35	8.0	45.0				
Max Q Clear Time (g_c+I1), s	11.1	20.4	12.7	44.0	16.0	15.5	8.7	46.6				
Green Ext Time (p_c), s	0.1	6.4	0.0	0.0	0.0	5.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	57.8
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↔	
Traffic Volume (veh/h)	127	2087	212	539	2217	652	338	507	406	488	438	148
Future Volume (veh/h)	127	2087	212	539	2217	652	338	507	406	488	438	148
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	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772	1772
Adj Flow Rate, veh/h	127	2087	212	539	2217	652	338	507	406	488	438	148
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1020	3464	351	355	1935	738	355	1038	626	300	722	242
Arrive On Green	0.31	0.61	0.61	0.11	0.40	0.40	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3274	5665	575	3274	4837	1502	3274	3367	1502	3274	2477	829
Grp Volume(v), veh/h	127	1683	616	539	2217	652	338	507	406	488	296	290
Grp Sat Flow(s),veh/h/ln	1637	1524	1668	1637	1612	1502	1637	1683	1502	1637	1683	1623
Q Serve(g_s), s	3.3	27.2	27.3	13.0	48.0	35.8	12.3	14.7	29.0	11.0	18.2	18.5
Cycle Q Clear(g_c), s	3.3	27.2	27.3	13.0	48.0	35.8	12.3	14.7	29.0	11.0	18.2	18.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	1020	2795	1020	355	1935	738	355	1038	626	300	491	473
V/C Ratio(X)	0.12	0.60	0.60	1.52	1.15	0.88	0.95	0.49	0.65	1.63	0.60	0.61
Avail Cap(c_a), veh/h	1020	2795	1020	355	1935	738	355	1038	626	300	491	473
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)	0.15	0.15	0.15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	14.3	14.4	53.5	36.0	27.4	53.2	33.8	36.4	54.5	36.5	36.6
Incr Delay (d2), s/veh	0.0	0.1	0.4	247.9	72.2	14.4	35.6	1.6	5.1	296.6	5.4	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.4	9.3	17.4	30.6	13.8	6.7	6.1	11.0	16.8	8.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	14.5	14.8	301.4	108.2	41.9	88.8	35.4	41.5	351.1	42.0	42.4
LnGrp LOS	C	B	B	F	F	D	F	D	D	F	D	D
Approach Vol, veh/h		2426			3408			1251			1074	
Approach Delay, s/veh		15.3			126.1			51.8			182.5	
Approach LOS		B			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	42.0	17.0	79.3	17.0	40.0	43.3	53.0				
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5				
Max Green Setting (Gmax), s	11.0	37.0	13.0	41.0	13.0	35.0	6.0	* 48				
Max Q Clear Time (g_c+I1), s	13.0	31.0	15.0	29.3	14.3	20.5	5.3	50.0				
Green Ext Time (p_c), s	0.0	2.4	0.0	9.6	0.0	2.9	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	89.2
HCM 6th LOS	F

Notes

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

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	2088	5	61	2053	306	3	28	33	336	15	196
Future Volume (vph)	170	2088	5	61	2053	306	3	28	33	336	15	196
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt					0.981			0.923				0.850
Flt Protected	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (prot)	1676	4818	0	1676	4726	0	0	3089	0	1593	1603	1500
Flt Permitted	0.950			0.950				0.998		0.950	0.956	
Satd. Flow (perm)	1676	4818	0	1676	4726	0	0	3089	0	1593	1603	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					31			33				196
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	2088	5	61	2053	306	3	28	33	336	15	196
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	170	2093	0	61	2359	0	0	64	0	175	176	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												



Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	32.0		11.0	11.0		32.0	32.0	32.0
Total Split (s)	16.0	66.0		11.0	61.0		11.0	11.0		32.0	32.0	32.0
Total Split (%)	13.3%	55.0%		9.2%	50.8%		9.2%	9.2%		26.7%	26.7%	26.7%
Maximum Green (s)	12.0	61.0		7.0	56.0		6.0	6.0		27.0	27.0	27.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		17.0			20.0					20.0	20.0	20.0
Pedestrian Calls (#/hr)		2			2					2	2	2
Act Effect Green (s)	12.0	71.5		8.7	66.1			6.0		19.1	19.1	19.1
Actuated g/C Ratio	0.10	0.60		0.07	0.55			0.05		0.16	0.16	0.16
v/c Ratio	1.02	0.73		0.51	0.90			0.35		0.69	0.69	0.49
Control Delay	113.9	17.0		72.8	11.1			36.2		66.2	66.1	26.6
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	113.9	17.0		72.8	11.1			36.2		66.2	66.1	26.6
LOS	F	B		E	B			D		E	E	C
Approach Delay		24.3			12.7			36.2			52.0	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	~129	212		40	510			12		150	150	77
Queue Length 95th (ft)	m#276	383		m48	m#758			36		227	228	122
Internal Link Dist (ft)		2547			1999			269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	167	2869		123	2616			185		358	360	489
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.02	0.73		0.50	0.90			0.35		0.49	0.49	0.40

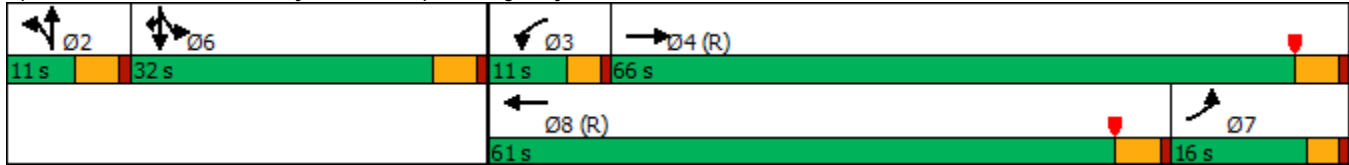
Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 7 (6%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.02  
 Intersection Signal Delay: 22.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 87.6%  
 ICU Level of Service E  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Future Volume (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			127			91			173
Link Speed (mph)		45		45			40			35		
Link Distance (ft)		2079		4135			679			682		
Travel Time (s)		31.5		62.7			11.6			13.3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	1735	437	236	1707	90	457	528	194	173	1072	211
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	10.0	10.0	42.0	42.0	10.0	42.0	10.0	10.0	40.0	40.0
Total Split (s)	11.0	48.0	20.0	12.0	49.0	49.0	20.0	45.0	12.0	15.0	40.0	40.0
Total Split (%)	9.2%	40.0%	16.7%	10.0%	40.8%	40.8%	16.7%	37.5%	10.0%	12.5%	33.3%	33.3%
Maximum Green (s)	7.0	43.0	16.0	8.0	44.0	44.0	16.0	40.0	8.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Max	None	None	Max	Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		30.0			30.0	30.0		30.0			28.0	28.0
Pedestrian Calls (#/hr)		2			2	2		2			2	2
Act Effect Green (s)	7.0	43.0	60.0	8.0	44.0	44.0	16.0	40.7	49.7	10.3	35.0	35.0
Actuated g/C Ratio	0.06	0.36	0.50	0.07	0.37	0.37	0.13	0.34	0.41	0.09	0.29	0.29
v/c Ratio	0.99	1.01	0.56	1.09	0.97	0.14	1.06	0.32	0.29	0.62	0.76	0.38
Control Delay	110.4	50.0	12.2	110.8	33.5	2.5	108.4	30.3	8.8	47.8	51.3	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.4	50.0	12.2	110.8	33.5	2.5	108.4	30.3	8.8	47.8	51.3	20.6
LOS	F	D	B	F	C	A	F	C	A	D	D	C
Approach Delay		47.8			41.1			57.0			46.4	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	74	~529	114	~102	182	3	~199	111	35	70	290	58
Queue Length 95th (ft)	m#136	#628	323	m#136	#564	m8	#306	144	73	105	373	181
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	189	1726	782	216	1766	630	433	1632	674	298	1405	560
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	1.01	0.56	1.09	0.97	0.14	1.06	0.32	0.29	0.58	0.76	0.38

**Intersection Summary**

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 62 (52%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 47.1      Intersection LOS: D

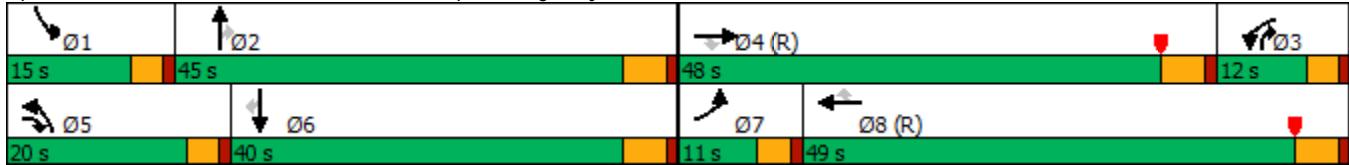
Intersection Capacity Utilization 93.1%      ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1842	312	568	1898	213	178	187	478	195	646	42
Future Volume (vph)	60	1842	312	568	1898	213	178	187	478	195	646	42
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5937	0	3252	4818	1500	3252	3353	1500	3252	3323	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5937	0	3252	4818	1500	3252	3353	1500	3252	3323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				202			91			6
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	1842	312	568	1898	213	178	187	478	195	646	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	2154	0	568	1898	213	178	187	478	195	688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	1	5	2	3	1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	10.0	10.0	40.0	40.0
Total Split (s)	10.0	43.0		24.0	57.0	11.0	13.0	42.0	24.0	11.0	40.0	40.0
Total Split (%)	8.3%	35.8%		20.0%	47.5%	9.2%	10.8%	35.0%	20.0%	9.2%	33.3%	33.3%
Maximum Green (s)	6.0	38.0		20.0	52.0	7.0	9.0	37.0	20.0	7.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		23.0			30.0			30.0			28.0	28.0
Pedestrian Calls (#/hr)		2			2			2			2	2
Act Effct Green (s)	6.0	38.0		20.0	54.0	62.8	9.0	37.0	62.0	7.0	35.0	35.0
Actuated g/C Ratio	0.05	0.32		0.17	0.45	0.52	0.08	0.31	0.52	0.06	0.29	0.29
v/c Ratio	0.37	1.13		1.05	0.88	0.24	0.73	0.18	0.58	1.03	0.71	0.71
Control Delay	74.2	80.9		84.2	25.7	1.3	72.4	31.0	19.3	129.0	42.3	42.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.2	80.9		84.2	25.7	1.3	72.4	31.0	19.3	129.0	42.3	42.3
LOS	E	F		F	C	A	E	C	B	F	D	D
Approach Delay		80.8			36.2			33.1			61.5	61.5
Approach LOS		F			D			C			E	E
Queue Length 50th (ft)	20	~540		~242	446	1	70	55	200	~82	248	248
Queue Length 95th (ft)	m24	m#552		m#347	503	m8	#121	85	308	#161	317	317
Internal Link Dist (ft)		4055			406			812			936	936
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	1905		542	2167	881	243	1033	818	189	973	973
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	1.13		1.05	0.88	0.24	0.73	0.18	0.58	1.03	0.71	0.71

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 5 (4%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 54.1  
 Intersection Capacity Utilization 91.4%  
 Analysis Period (min) 15

Intersection LOS: D  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.

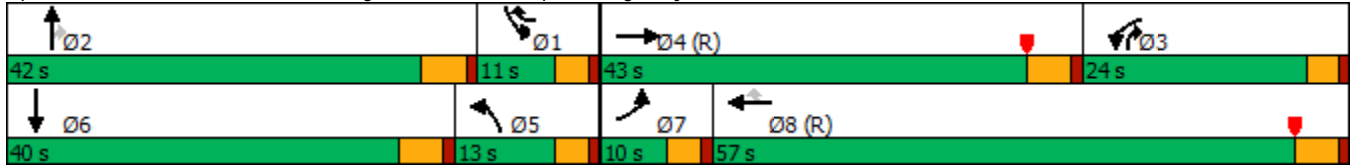
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway





Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project [MIT]  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	2099	12	62	2086	356	5	7	6	433	30	249
Future Volume (vph)	169	2099	12	62	2086	356	5	7	6	433	30	249
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	170		0	195		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	1.00
Frt		0.999			0.978			0.950				0.850
Flt Protected	0.950			0.950				0.986		0.950	0.958	
Satd. Flow (prot)	1676	4813	0	1676	4712	0	0	3141	0	1593	1606	1500
Flt Permitted	0.950			0.950				0.986		0.950	0.958	
Satd. Flow (perm)	1676	4813	0	1676	4712	0	0	3141	0	1593	1606	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			37			6				249
Link Speed (mph)		45			45			40				40
Link Distance (ft)		2627			2079			349				889
Travel Time (s)		39.8			31.5			5.9				15.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	2099	12	62	2086	356	5	7	6	433	30	249
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	169	2111	0	62	2442	0	0	18	0	229	234	249
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Prot
Protected Phases	7	4		3	8		2	2		6	6	6
Permitted Phases												

Lanes, Volumes, Timings  
10: Berry Street & Imperial Highway

Year 2040 + Project [MIT]  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	10.0	29.0		10.0	32.0		11.0	11.0		32.0	32.0	32.0
Total Split (s)	16.0	66.0		11.0	61.0		11.0	11.0		32.0	32.0	32.0
Total Split (%)	13.3%	55.0%		9.2%	50.8%		9.2%	9.2%		26.7%	26.7%	26.7%
Maximum Green (s)	12.0	61.0		7.0	56.0		6.0	6.0		27.0	27.0	27.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Walk Time (s)		7.0			7.0					7.0	7.0	7.0
Flash Dont Walk (s)		17.0			20.0					20.0	20.0	20.0
Pedestrian Calls (#/hr)		2			2					2	2	2
Act Effct Green (s)	16.3	74.3		6.9	62.7			6.0		22.5	22.5	22.5
Actuated g/C Ratio	0.14	0.62		0.06	0.52			0.05		0.19	0.19	0.19
v/c Ratio	0.74	0.71		0.65	0.98			0.11		0.77	0.78	0.52
Control Delay	69.8	10.4		49.4	24.4			43.2		63.5	64.2	16.0
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	69.8	10.4		49.4	24.4			43.2		63.5	64.2	16.0
LOS	E	B		D	C			D		E	E	B
Approach Delay		14.8			25.1			43.2			47.1	
Approach LOS		B			C			D			D	
Queue Length 50th (ft)	94	61		44	262			4		186	189	41
Queue Length 95th (ft)	m#254	399		m46	m#298			17		276	281	116
Internal Link Dist (ft)		2547			1999			269			809	
Turn Bay Length (ft)	170			195						200		
Base Capacity (vph)	228	2979		97	2481			162		358	361	530
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	0.74	0.71		0.64	0.98			0.11		0.64	0.65	0.47

Intersection Summary

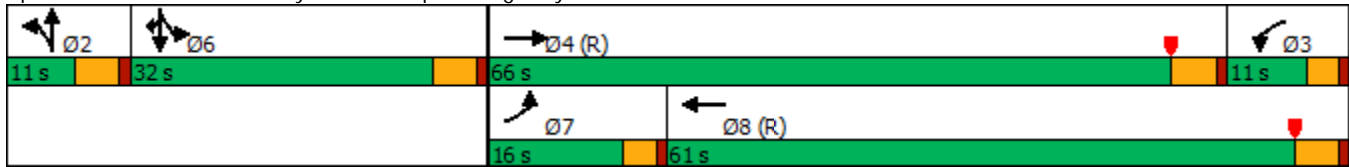
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 8 (7%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 23.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 92.6%  
 ICU Level of Service F  
 Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 10: Berry Street & Imperial Highway



Lanes, Volumes, Timings  
11: Brea Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Future Volume (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	185		125	235		170	235		120	195		0
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	4818	1500	3252	4818	1500	3252	4818	1500	3252	4818	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			136			55			140
Link Speed (mph)		45			45			40			35	
Link Distance (ft)		2079			4135			679			682	
Travel Time (s)		31.5			62.7			11.6			13.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	1829	413	405	1805	201	488	892	296	258	690	263
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6

Lanes, Volumes, Timings  
 11: Brea Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	5	3	8	8	5	2	3	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	42.0	10.0	10.0	42.0	42.0	10.0	42.0	10.0	10.0	40.0	40.0
Total Split (s)	12.0	47.0	18.0	15.0	50.0	50.0	18.0	42.0	15.0	16.0	40.0	40.0
Total Split (%)	10.0%	39.2%	15.0%	12.5%	41.7%	41.7%	15.0%	35.0%	12.5%	13.3%	33.3%	33.3%
Maximum Green (s)	8.0	42.0	14.0	11.0	45.0	45.0	14.0	37.0	11.0	12.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	None	None	C-Max	C-Max	None	Max	None	None	Max	Max
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		30.0			30.0	30.0		30.0			28.0	28.0
Pedestrian Calls (#/hr)		2			2	2		2			2	2
Act Effect Green (s)	8.0	42.0	61.0	11.0	45.0	45.0	14.0	37.2	49.2	11.8	35.0	35.0
Actuated g/C Ratio	0.07	0.35	0.51	0.09	0.38	0.38	0.12	0.31	0.41	0.10	0.29	0.29
v/c Ratio	1.05	1.08	0.51	1.36	1.00	0.31	1.29	0.60	0.46	0.81	0.49	0.49
Control Delay	111.3	78.4	15.5	196.1	18.9	0.9	190.4	37.1	16.2	73.5	27.1	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.3	78.4	15.5	196.1	18.9	0.9	190.4	37.1	16.2	73.5	27.1	12.2
LOS	F	E	B	F	B	A	F	D	B	E	C	B
Approach Delay		70.9			47.1			78.0			33.8	
Approach LOS		E			D			E			C	
Queue Length 50th (ft)	~99	~567	44	~219	307	5	~247	214	91	104	128	61
Queue Length 95th (ft)	m#175	#669	197	m#190	m209	m4	#355	261	147	m#150	99	m74
Internal Link Dist (ft)		1999			4055			599			602	
Turn Bay Length (ft)	185		125	235		170	235		120	195		
Base Capacity (vph)	216	1686	807	298	1806	647	379	1492	647	325	1405	536
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.08	0.51	1.36	1.00	0.31	1.29	0.60	0.46	0.79	0.49	0.49

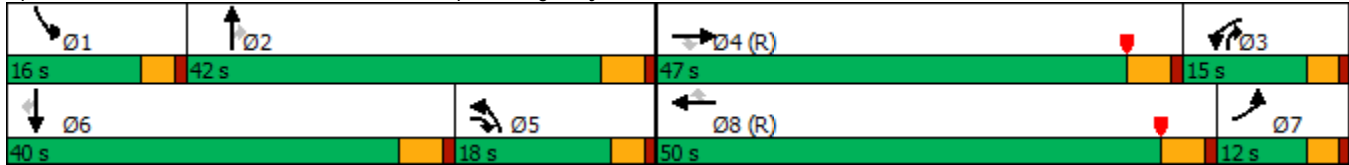
**Intersection Summary**

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 2 (2%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.36  
 Intersection Signal Delay: 59.3  
 Intersection LOS: E  
 Intersection Capacity Utilization 93.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

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

Splits and Phases: 11: Brea Boulevard & Imperial Highway



Lanes, Volumes, Timings  
12: State College Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	2087	212	539	2217	652	338	507	406	488	438	148
Future Volume (vph)	127	2087	212	539	2217	652	338	507	406	488	438	148
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (ft)	180		290	325		250	150		200	260		0
Storage Lanes	2		1	2		1	2		1	2		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3252	5986	0	3252	4818	1500	3252	3353	1500	3252	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				113			100			39
Link Speed (mph)		45			45			40				40
Link Distance (ft)		4135			486			892				1016
Travel Time (s)		62.7			7.4			15.2				17.3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	127	2087	212	539	2217	652	338	507	406	488	438	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	2299	0	539	2217	652	338	507	406	488	586	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20		100
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20		6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	7	4		3	8	1	5	2	3	1		6
Permitted Phases						8			2			

Lanes, Volumes, Timings  
 12: State College Boulevard & Imperial Highway

Year 2040 + Project [MIT]  
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	8	1	5	2	3	1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	10.0	35.0		10.0	42.0	10.0	10.0	42.0	10.0	10.0	40.0	40.0
Total Split (s)	10.0	46.0		17.0	53.0	15.0	17.0	42.0	17.0	15.0	40.0	40.0
Total Split (%)	8.3%	38.3%		14.2%	44.2%	12.5%	14.2%	35.0%	14.2%	12.5%	33.3%	33.3%
Maximum Green (s)	6.0	41.0		13.0	48.0	11.0	13.0	37.0	13.0	11.0	35.0	35.0
Yellow Time (s)	3.0	4.0		3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0	4.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	None	None	Max	None	None	Max	Max
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		23.0			30.0			30.0			28.0	28.0
Pedestrian Calls (#/hr)		2			2			2			2	2
Act Effct Green (s)	6.0	41.0		13.0	48.0	64.0	13.0	37.0	51.0	11.0	35.0	35.0
Actuated g/C Ratio	0.05	0.34		0.11	0.40	0.53	0.11	0.31	0.42	0.09	0.29	0.29
v/c Ratio	0.78	1.12		1.53	1.15	0.77	0.96	0.49	0.58	1.64	0.61	0.61
Control Delay	53.3	78.9		286.3	105.7	23.9	92.4	35.8	15.5	336.2	37.1	37.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	78.9		286.3	105.7	24.0	92.4	35.8	15.5	336.2	37.1	37.1
LOS	D	E		F	F	C	F	D	B	F	D	D
Approach Delay		77.6			118.6			44.5				173.0
Approach LOS		E			F			D				F
Queue Length 50th (ft)	53	~600		~309	~733	219	136	167	123	~281	192	192
Queue Length 95th (ft)	m56	m#558		m#347	m#824	m264	#230	222	196	#389	254	254
Internal Link Dist (ft)		4055			406			812				936
Turn Bay Length (ft)	180			325		250	150		200	260		
Base Capacity (vph)	162	2059		352	1927	852	352	1033	695	298	968	968
Starvation Cap Reductn	0	0		0	0	2	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.12		1.53	1.15	0.77	0.96	0.49	0.58	1.64	0.61	0.61

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 64 (53%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.64  
 Intersection Signal Delay: 102.2  
 Intersection LOS: F  
 Intersection Capacity Utilization 96.4%  
 ICU Level of Service F  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.



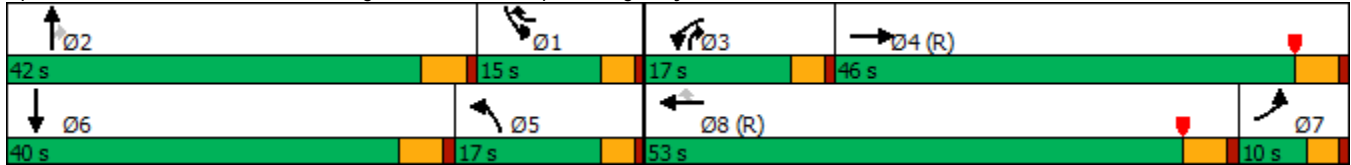
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 12: State College Boulevard & Imperial Highway



## APPENDIX E

### PROJECT DRIVEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

*APPENDIX E-1*

YEAR 2021 CUMULATIVE PLUS PROJECT  
TRAFFIC CONDITIONS

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	11	0	20	32	0
Future Vol, veh/h	110	11	0	20	32	0
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	12	0	21	34	0











Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	128	0	143
Stage 1	-	-	-	-	122
Stage 2	-	-	-	-	21
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1458	-	850
Stage 1	-	-	-	-	903
Stage 2	-	-	-	-	1002
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1458	-	850
Mov Cap-2 Maneuver	-	-	-	-	850
Stage 1	-	-	-	-	903
Stage 2	-	-	-	-	1002

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	850	-	-	1458	-
HCM Lane V/C Ratio	0.04	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings  
 15: Project Driveway & Mercury Lane

Year 2021 + Project  
 AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	110	11	0	20	32	0
Future Volume (vph)	110	11	0	20	32	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987					
Flt Protected					0.950	
Satd. Flow (prot)	1742	0	0	1765	1676	0
Flt Permitted					0.950	
Satd. Flow (perm)	1742	0	0	1765	1676	0
Link Speed (mph)	25			25	30	
Link Distance (ft)	250			599	208	
Travel Time (s)	6.8			16.3	4.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	116	12	0	21	34	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	0	0	21	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.8%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	35	32	0	100	21	0
Future Vol, veh/h	35	32	0	100	21	0
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	34	0	105	22	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	71	0	159 54
Stage 1	-	-	-	-	54 -
Stage 2	-	-	-	-	105 -
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	-	-	1529	-	832 1013
Stage 1	-	-	-	-	969 -
Stage 2	-	-	-	-	919 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1529	-	832 1013
Mov Cap-2 Maneuver	-	-	-	-	832 -
Stage 1	-	-	-	-	969 -
Stage 2	-	-	-	-	919 -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	832	-	-	1529	-
HCM Lane V/C Ratio	0.027	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings  
 15: Project Driveway & Mercury Lane

Year 2021 + Project  
 PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (vph)	35	32	0	100	21	0
Future Volume (vph)	35	32	0	100	21	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.935					
Flt Protected					0.950	
Satd. Flow (prot)	1650	0	0	1765	1676	0
Flt Permitted					0.950	
Satd. Flow (perm)	1650	0	0	1765	1676	0
Link Speed (mph)	25			25	30	
Link Distance (ft)	250			599	208	
Travel Time (s)	6.8			16.3	4.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	34	0	105	22	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	0	0	105	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	15.6%			ICU Level of Service A		
Analysis Period (min)	15					

*APPENDIX E-II*

**YEAR 2040 PLUS PROJECT  
TRAFFIC CONDITIONS**



Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	11	0	21	32	0
Future Vol, veh/h	116	11	0	21	32	0
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	11	0	21	32	0











Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	127	0	143
Stage 1	-	-	-	-	122
Stage 2	-	-	-	-	21
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1459	-	850
Stage 1	-	-	-	-	903
Stage 2	-	-	-	-	1002
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1459	-	850
Mov Cap-2 Maneuver	-	-	-	-	850
Stage 1	-	-	-	-	903
Stage 2	-	-	-	-	1002

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	850	-	-	1459	-
HCM Lane V/C Ratio	0.038	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings  
 15: Project Driveway & Mercury Lane

Year 2040 + Project  
 AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	116	11	0	21	32	0
Future Volume (vph)	116	11	0	21	32	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					
Flt Protected					0.950	
Satd. Flow (prot)	1744	0	0	1765	1676	0
Flt Permitted					0.950	
Satd. Flow (perm)	1744	0	0	1765	1676	0
Link Speed (mph)	25			25	30	
Link Distance (ft)	250			599	208	
Travel Time (s)	6.8			16.3	4.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	116	11	0	21	32	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	0	0	21	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	32	0	105	21	0
Future Vol, veh/h	37	32	0	105	21	0
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	32	0	105	21	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	69	0	158
Stage 1	-	-	-	-	53
Stage 2	-	-	-	-	105
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1532	-	833
Stage 1	-	-	-	-	970
Stage 2	-	-	-	-	919
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1532	-	833
Mov Cap-2 Maneuver	-	-	-	-	833
Stage 1	-	-	-	-	970
Stage 2	-	-	-	-	919

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	833	-	-	1532	-
HCM Lane V/C Ratio	0.025	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings  
 15: Project Driveway & Mercury Lane

Year 2040 + Project  
 PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	37	32	0	105	21	0
Future Volume (vph)	37	32	0	105	21	0
Ideal Flow (vphp)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.937					
Flt Protected					0.950	
Satd. Flow (prot)	1654	0	0	1765	1676	0
Flt Permitted					0.950	
Satd. Flow (perm)	1654	0	0	1765	1676	0
Link Speed (mph)	25			25	30	
Link Distance (ft)	250			599	208	
Travel Time (s)	6.8			16.3	4.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	32	0	105	21	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	0	105	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.07	1.07	1.07
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	15.8%			ICU Level of Service A		
Analysis Period (min)	15					