Appendix F-2 Revised Traffic Impact Analysis

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TRAFFIC IMPACT ANALYSIS

ONE METRO WEST

CITY OF COSTA MESA

ORANGE COUNTY, CALIFORNIA

This Traffic Impact Analysis has been prepared under the supervision of
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LSA

April 2020

TRAFFIC IMPACT ANALYSIS

ONE METRO WEST

CITY OF COSTA MESA

ORANGE COUNTY, CALIFORNIA

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1.0 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared to identify the potential traffic and circulation impacts associated with the proposed One Metro West Project (project) located at 1683 Sunflower Avenue in the City of Costa Mesa (City). The project site is bordered by Sunflower Avenue to the north, Interstate 405 (I-405) to the south, Cambridge Industrial Park to the east, and South Coast Collection Plaza to the west. Figure 1-1 illustrates the regional and project location. (Figures and tables are located at the end of each chapter.)

This report is intended to satisfy the requirements established by the City, as well as the requirements for the disclosure of potential impacts and mitigation measures pursuant to the California Environmental Quality Act (CEQA). The scope of work for this TIA, including study area and analysis methodologies have been approved by City staff.

This study examines traffic operations in the vicinity of the proposed project under the following six scenarios:

- Existing Conditions;
- Existing Plus Project Conditions;
- Future Short-Term Cumulative (2027) Baseline Conditions;
- Future Short-Term Cumulative (2027) with Project Conditions;
- General Plan Build Out (2040) Baseline Conditions; and
- General Plan Build Out (2040) with Project Conditions.

Traffic conditions were examined for the weekday a.m. and p.m. peak hour conditions. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

1.1 PROJECT DESCRIPTION

The site is currently developed/used as a light industrial facility which is approximately 345,410 square feet (sf). The proposed project consists of up to 1,057 dwelling units, 25,000 sf of office use, 6,000 sf of retail use, 1,500 sf of community center and a 1.5-acre park, which will replace the existing light industrial facility. Vehicle access to the project site will be provided via three driveways along Sunflower Avenue. All the three driveways will operate as full-access driveways. Figure 1-2 illustrates the conceptual site plan for the project.

As part of the project design feature, the project will reconfigure Sunflower Avenue to include two through lanes, a two-way left-turn lane (TWLTL), bike lanes, on-street parking, and sidewalks. Figure 1-3 illustrates the conceptual design of Sunflower Avenue with the implementation of the project. Additionally, the eastbound and westbound approach at the intersection of Hyland

Avenue/Sunflower Avenue will be restriped to include one left-turn lane, one through lane, and one right-turn lane.

1.2 STUDY AREA

The study area for the project was finalized using the project select zone assignment and based on discussions with City staff. Based on the City's TIA guidelines, all signalized intersections which are expected to experience 1% or greater change in peak hour intersection capacity utilization (ICU) due to the project are required to be analyzed. The minimum theoretical capacity of an intersection (three one-lane approaches with capacity of 1,600 vehicles per lane) is 4,800 vehicles per hour. One percent of 4,800 trips is 48 trips (approximately 50 trips). Typically, most intersections within urban areas have greater than three approach lanes with a capacity larger than 4,800 vehicles per hour. Therefore, addition of 50 trips to these intersections will result in a change of much less than one percent of the intersection's capacity (ICU). Considering intersections where the project will add 50 or more trips presents a conservative analysis of determining project related traffic impacts. Therefore, intersections where the project would add 50 or more project trips (1% or greater change in ICU) have been included in the analysis. Additionally, the City also recommended inclusion of additional intersections on its border where the project contributes less than 50 peak hour trips but the project may influence congestion in adjacent jurisdictions. This is in order to not to truncate boundaries and provide a more conservative disclosure of impact. LSA also contacted the adjacent cities of Fountain Valley and Santa Ana and requested their input to the study area. As a result, intersections in these cities were included based on their comments. Furthermore, Caltrans ramp intersections and intersections in the adjacent jurisdictions of the Cities of Fountain Valley and Santa Ana have also been included. Therefore, the study area intersections included in this analysis presents a very conservative approach in determining project impacts.

1.2.1 Study Intersections

The study area consists of the following 29 intersections:

1. Euclid Street/Talbert Avenue (Fountain Valley);
2. Euclid Street/I-405 Northbound Ramps - Newhope Street (California Department of Transportation (Caltrans));
3. I-405 Southbound Ramps-Orange County Sanitation District (OCSD) Driveway/Ellis Avenue-Euclid Street (Caltrans);
4. Newhope Street/Talbert Avenue (Fountain Valley);
5. Orange County Transportation Authority (OCTA) Bus Base-Hyland Avenue/MacArthur Boulevard (Costa Mesa/Santa Ana);
6. Hyland Avenue/Sunflower Avenue (Costa Mesa);
7. Hyland Avenue/I-405 Northbound Ramps-South Coast Drive (Caltrans);
8. Harbor Boulevard/MacArthur Boulevard (Costa Mesa/Santa Ana);
9. Harbor Boulevard/Scenic Avenue-West Lake Center Drive (Costa Mesa/Santa Ana);

10. Harbor Boulevard/Sunflower Avenue (Costa Mesa/Santa Ana);
11. Harbor Boulevard/South Coast Drive (Costa Mesa);
12. Harbor Boulevard/I-405 Northbound Off-Ramp-I-405 Southbound On-Ramp (Caltrans);
13. Harbor Boulevard/I-405 Southbound Off-Ramp-I-405 Northbound On-Ramp (Caltrans);
14. Harbor Boulevard/Gisler Avenue (Costa Mesa);
15. Harbor Boulevard/Nutmeg Place (Costa Mesa);
16. Harbor Boulevard/Baker Street (Costa Mesa);
17. Susan Street/Sunflower Avenue (Costa Mesa/Santa Ana);
18. Susan Street/South Coast Drive (Costa Mesa);
19. Fairview Street/MacArthur Boulevard (Santa Ana);
20. Fairview Road/Sunflower Avenue (Costa Mesa/Santa Ana);
21. Fairview Road/South Coast Drive (Costa Mesa);
22. Fairview Road/I-405 Northbound Ramps (Caltrans);
23. Fairview Road/I-405 Southbound Ramps (Caltrans);
24. Fairview Road/Baker Street (Costa Mesa);
25. Cadillac Avenue-Driveway 1/Sunflower Avenue (Costa Mesa);
26. Driveway 2/Sunflower Avenue (Costa Mesa);
27. FedEx Driveway-Driveway 3/Sunflower Avenue (Costa Mesa);
28. Talbert Avenue/Mt. Washington Street (Fountain Valley); and
29. Harbor Boulevard/Segerstrom Avenue (Santa Ana).

Figure 1-4 illustrates the locations of all analysis intersections.

1.2.2 Freeway Analysis

Freeway mainline segments typically have a peak hour capacity of 2,300 vehicles per hour per lane. As such, for a four lane freeway (two lanes each direction), the total capacity is 9,200 vehicles per hour. A project has the potential to create an impact if it adds greater than 1% or more two-way peak hour project traffic (approximately 100 peak hour trips) to the freeway. This is the approach Caltrans typically recommends to be included in TIA's to determine project impacts at Caltrans facilities. Therefore, for the purposes of this analysis, a merge/diverge analysis was conducted at interchanges where the project adds more than 100 two-way peak hour project trips. As such, a freeway merge/diverge analysis was conducted at the ramps of Hyland Avenue/South Coast Drive and Harbor Boulevard. Additionally, freeway segments with more than 100 two-way peak hour project trips were also included in the analysis. The following freeway ramp merge/diverge and segments were analyzed:

I-405 Northbound

1. I-405 segment, south of Fairview Road On-Ramp;
2. Fairview Road On-Ramp (merge);
3. I-405 segment, between Fairview Road On-Ramp and Harbor Boulevard On-Ramp;
4. Harbor Boulevard On-Ramp (merge);
5. I-405 segment, between Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp; and
6. Hyland Avenue On-Ramp (merge).

I-405 Southbound

1. Harbor Boulevard Off-Ramp (diverge);
2. I-405 segment, between Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp;
3. Harbor Boulevard Loop On-Ramp (merge);
4. I-405 segment, between Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp;
5. Harbor Boulevard Slip-On Ramp (merge); and
6. I-405 segment, between Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (weave).

1.3 LIST OF CHAPTER 1.0 FIGURES

- Figure 1-1: Regional and Project Location
- Figure 1-2: Conceptual Site Plan
- Figure 1-3: Conceptual Striping Plan along Sunflower Avenue
- Figure 1-4: Study Area Intersections

LSA

LEGEND

Project Location

FIGURE 1-1

0 100 200
FEET

SOURCE: Bing Aerial, 2015.

One Metro West
Traffic Impact Analysis

Regional and Project Location

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LSA

FIGURE 1-2

N

0 100 200
FEET

SOURCE: TSM Architects, November 2019

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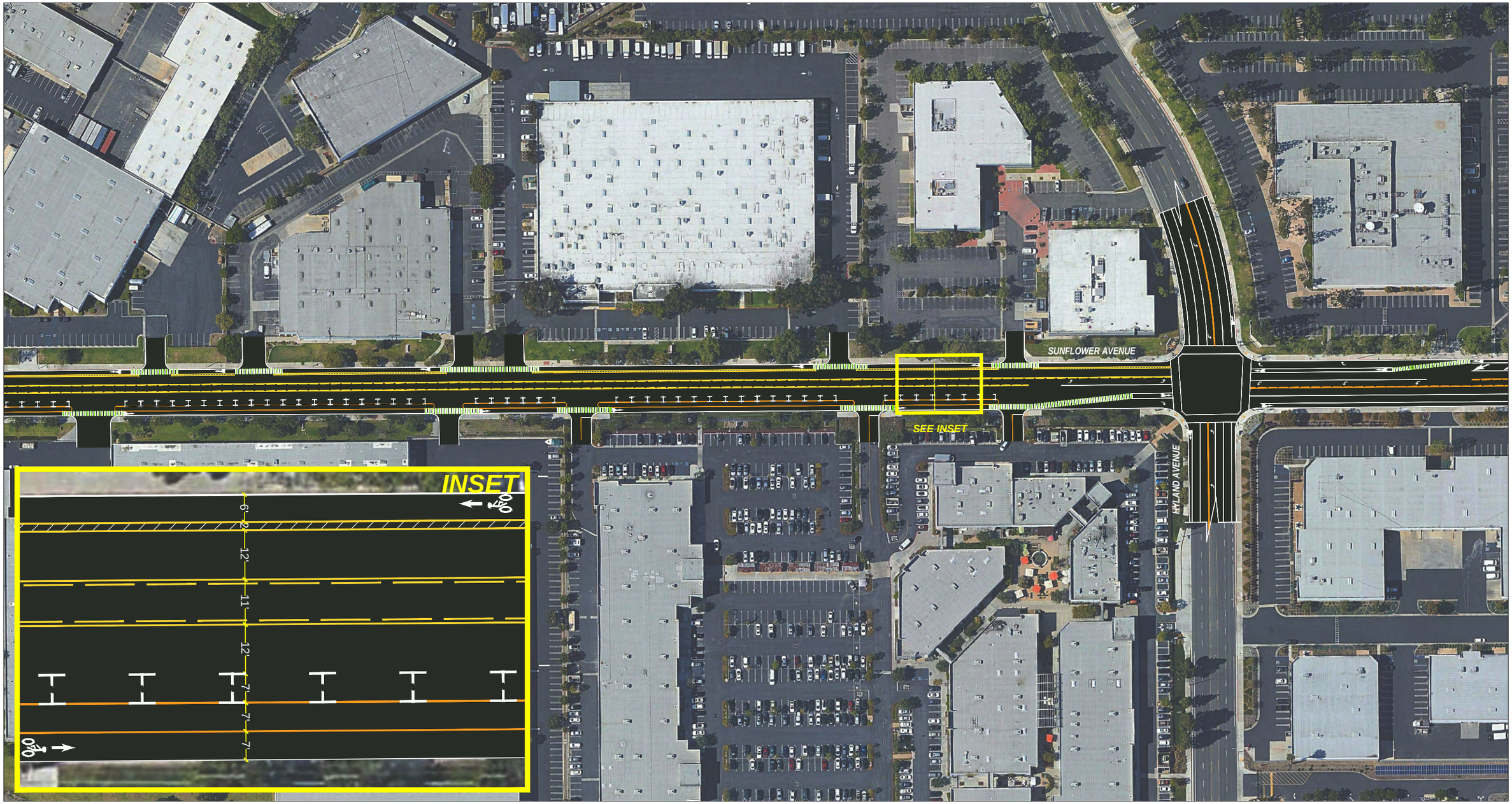
One Metro West
Traffic Impact Analysis

Conceptual Site Plan



LSA

FIGURE 1-3

N

0 50 100
FEET

SOURCE: Google Earth, 2018.

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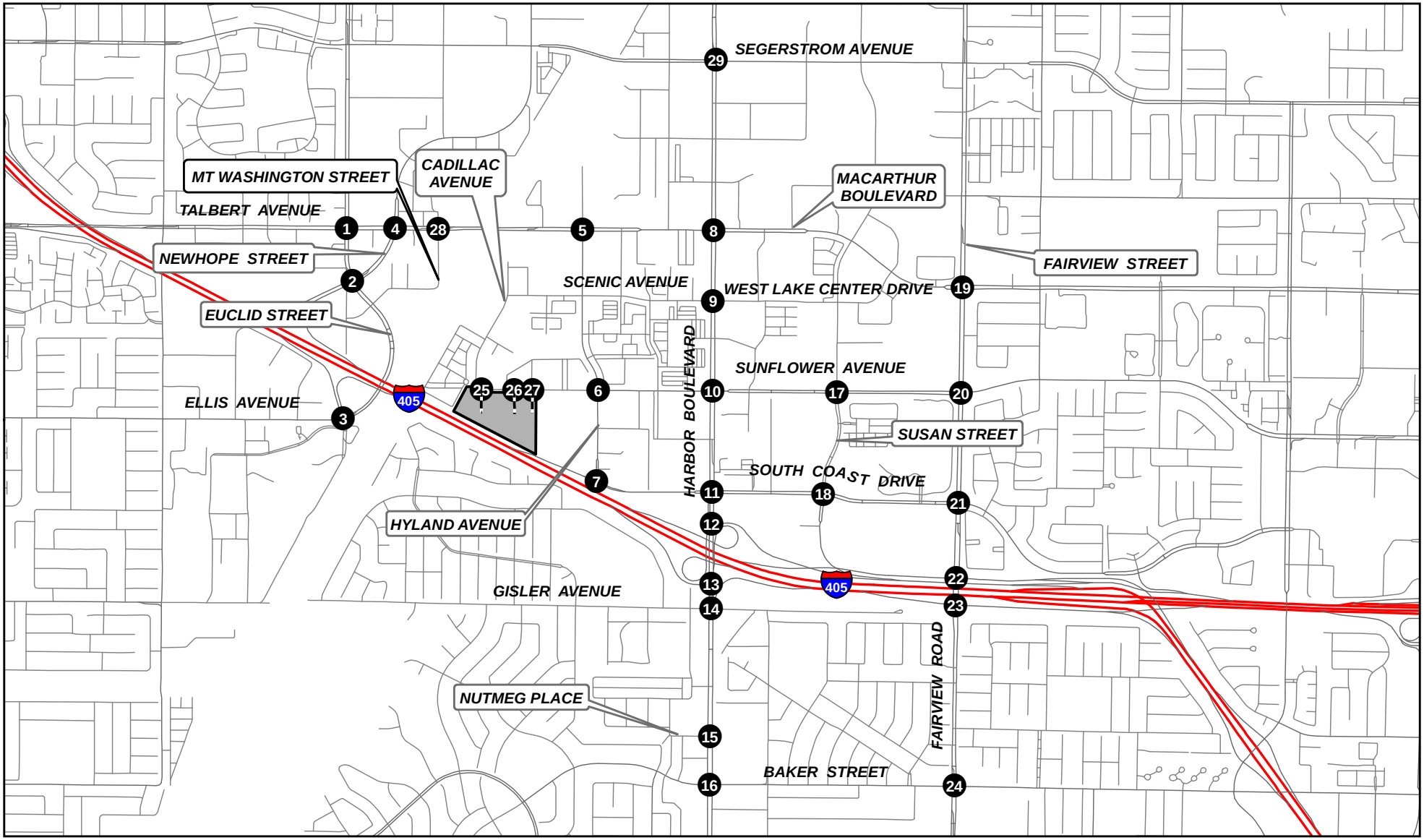
One Metro West

Traffic Impact Analysis

Conceptual Striping Plan along Sunflower Avenue



LSA

LEGEND

Project Location

Project Driveway

Study Intersection

0 1000 2000
FEET

SOURCE: ESRI Streetmap, 2013.

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FIGURE 1-4

One Metro West
Traffic Impact Analysis

Study Area Intersections

2.0 ANALYSIS METHODOLOGY

2.1 INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service (LOS) is a qualitative assessment of the quantitative effects of such factors as traffic volume, roadway geometrics, speed, delay, and maneuverability on roadway and intersection operations. LOS is assigned along the following letter gradient where LOS A represents free-flow activity, and LOS F represents overcapacity operation. LOS definitions using the Intersection Capacity Utilization (ICU) and Highway Capacity Manual (HCM) methodologies are detailed below.

2.1.1 Intersection Capacity Utilization

The ICU methodology compares the amount of traffic an intersection is able to process (capacity) to the level of traffic during peak hours (volume). The resulting volume-to-capacity (v/c) ratio is expressed in terms of LOS. The ICU establishes levels of service A through F for intersections as shown in Table 2-A. Table 2-B illustrates the LOS criteria for signalized intersections using the ICU methodology.

2.1.2 Highway Capacity Manual

In the HCM methodology, control delay alone is used to characterize LOS for the entire intersection. Control delay quantifies the increase in travel time due to the traffic signal control and is a surrogate measure of driver discomfort and fuel consumption.

A complete description of the meaning of LOS can be found in the *Transportation Research Board Special Report 209*. The HCM establishes LOS A through F for intersections as shown in Table 2-C. Table 2-D illustrates the LOS criteria for signalized and unsignalized intersections using the HCM methodology.

Consistent with City standards, study area intersections under the jurisdiction of the City were analyzed using ICU methodology for signalized intersections and HCM (6th Edition) methodologies for unsignalized intersections. The City's ICU worksheets and the Synchro 10 software were utilized to determine the LOS for signalized and unsignalized intersections, respectively. These programs calculate LOS based on traffic volume and intersection geometry inputs. LOS for study intersections under the jurisdiction of the Caltrans was determined using both ICU and HCM 6 methodologies.

2.2 FREEWAY LEVEL OF SERVICE DEFINITIONS

Basic freeway segments have uniform traffic conditions and roadway characteristics. The measure used to provide an estimate of LOS is density, where density is calculated from the average vehicle flow rate per lane and the average speed. Table 2-E shows the correlation between LOS and flow density. LOS A represents a freeway segment with density less than or equal to 11 passenger cars per mile per lane (pc/mi/ln). LOS F represents a freeway segment with density greater than 45 pc/mi/ln.

Based on the HCM, the LOS for freeway ramps is determined by traffic flow density. Table 2-F shows the correlation between LOS and traffic flow density defined in the HCM. LOS A represents traffic

flow density less than or equal to 10 pc/mi/ln (all vehicles will be converted to the equivalent of passenger cars). LOS F represents overflow conditions with high density and congestion.

Based on the HCM, the LOS for freeway weaving segments is determined by traffic flow density. Table 2-G shows the correlation between LOS and traffic flow density defined in the HCM. LOS A represents traffic flow density less than or equal to 10 pc/mi/ln (all vehicles will be converted to the equivalent of passenger cars). LOS F represents a freeway weaving segment with a density greater than 43 pc/mi/ln, or where demand exceeds capacity.

For freeway segments, ramp merge/diverge study areas, and weaving segments, the Highway Capacity 7 Software (HCS 7) was used. The software calculates freeway segments and ramp merge/ diverge densities using the HCM 6 methodologies.

2.3 LEVEL OF SERVICE PROCEDURES AND THRESHOLDS

Study intersections analyzed in this report are under the jurisdictions of the Cities of Costa Mesa, Fountain Valley, and Santa Ana. All three cities consider intersections with a v/c ratio of 0.90 (LOS D) as the upper limit of satisfactory operations for signalized intersections. A project is considered to have a significant impact at a signalized intersection under the following conditions:

- If the project causes the LOS at an intersection to deteriorate from D to E or F.
- If an intersection already operates at LOS E or F and the project contributes to a v/c ratio greater than 0.01.

As for unsignalized intersections, a project is considered to have a significant impact under the following conditions:

- If the project causes the LOS at an intersection to deteriorate from D to E or F.
- If an intersection already operates at LOS E or F and the project contributes to the existing deficiency.

Intersections located at freeway on-ramps and off-ramps are under the jurisdiction of Caltrans. Caltrans considers an acceptable level of service to be between C and D at all intersections under its jurisdiction (delay of 45 seconds at signalized intersections and delay of 30 seconds at unsignalized intersections). However, for freeway segments and ramp merge/diverge areas, the *Caltrans Guide for the Preparation of Traffic Impact Studies* (2002) states that transition between LOS C and D may not be feasible and allows the local jurisdictions to set the LOS threshold based on local conditions. As a result, most jurisdictions in Orange County require LOS E, which is in accordance with Orange County Congestion Management Program (CMP) guidelines, dated October 2017.

In 1990, the voters of the State passed Proposition 111, which increased gas taxes in areas of the State with populations of 50,000 or more. Proposition 111 also required that these jurisdictions adopt CMPs. The goal of CMPs are to support regional mobility and air quality objectives by reducing traffic congestion and providing a mechanism to coordinate land decisions and infrastructure financing. CMPs are required to be tailored to local conditions. Local agencies are therefore required

to adopt locally-designed thresholds of significance based on local conditions. Here, the City deems LOS E is as the appropriate LOS for freeway segments and ramp merge/diverge areas because it is consistent with local conditions and practices throughout the County.

Caltrans does not have significant impact criteria for study intersections, freeway segments, and freeway merge/diverge areas. Therefore, a significant impact occurs when the project causes an unsatisfactory condition or when the project contributes to an existing deficiency.

2.4 LIST OF CHAPTER 2.0 TABLES

- Table 2-A: ICU Intersection Level of Service Definitions
- Table 2-B: Level of Service Criteria for Signalized Intersections Using ICU Methodology
- Table 2-C: HCM Intersection Level of Service Definitions
- Table 2-D: Level of Service Criteria for Unsignalized and Signalized Intersections Using HCM Methodology
- Table 2-E: Level of Service Criteria for Freeway Segments
- Table 2-F: Level of Service Criteria for Ramps and Ramp Junctions
- Table 2-G: Level of Service Criteria for Freeway Weaving Segments

Table 2-A: ICU Intersection Level of Service Definitions

LOS	Description
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles
C	This level still represents stable operating conditions. Occasionally, drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is attained no matter how great the demand.
F	This level describes forced-flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, speed can drop to zero.

Table 2-B: Level of Service Criteria for Signalized Intersections Using ICU Methodology

LOS	Signalized Intersection Volume-to-Capacity Ratio
A	<0.60
B	0.61 – 0.70
C	0.71 – 0.80
D	0.81 – 0.90
E	0.91 – 1.00
F	>1.00

Table 2-C: HCM Intersection Level of Service Definitions

LOS	Description
A	Traffic operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	Traffic operations with control delay between 10 seconds per vehicle and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	Traffic operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	Traffic operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	Traffic operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	Traffic operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Table 2-D: Level of Service Criteria for Unsignalized and Signalized Intersections Using HCM Methodology

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Table 2-E: Level of Service Criteria for Freeway Segments

Level of Service	Density (pc/mi/ln)
A	≤11
B	>11 and <18
C	>17 and <26
D	>26 and <35
E	>35 and <45
F	>45

Table 2-F: Level Of Service Criteria for Ramps and Ramp Junctions

Level of Service	Density (pc/mi/ln)
A	≤ 10
B	> 10–20
C	> 20–28
D	> 28–35
E	> 35
F	Demand exceeds capacity

Table 2-G: Level Of Service Criteria for Freeway Weaving Segments

Level of Service	Density (pc/mi/ln)
A	≤ 10
B	> 10–20
C	> 20–28
D	> 28–35
E	> 35–43
F	>43 or demand exceeds capacity

3.0 CIRCULATION NETWORK SETTING

3.1 EXISTING CIRCULATION NETWORK

This section provides a description of the circulation network within the study area. Figure 3-1 illustrates existing geometrics and traffic control. Within the City of Costa Mesa, all major roadways are classified based on the Circulation Element in the City's *2015–2035 General Plan.* Figure 3-2 illustrates roadway classifications as per the Circulation Element for the City of Costa Mesa.

Figure 3-3 illustrates roadway classifications as per the Circulation Element included in the City of Fountain Valley *2040 General Plan*. Figure 3-4 illustrates roadway classifications per the Circulation Element included in the City of Santa Ana *General Plan*.

Table 3-A summarizes the classifications of major roadways within the TIA study area limits. Following is a brief description of these roadways:

- **Euclid Street:** Euclid Street is a six-lane, north-south divided roadway within the City of Fountain Valley. It is designated as an Augmented Primary Arterial north of Newhope Street and as a Primary arterial south of Newhope Street in the City of Fountain Valley's General Plan. South of I-405, Euclid Street continues as Ellis Avenue. The speed limit along Euclid Street is 45 mph. Curbside parking is not permitted on either side of the street.
- **Newhope Street:** Newhope Street is a north-south oriented, four-lane divided roadway located within the City of Fountain Valley. South of Euclid Street, Newhope Street terminates at I-405 as northbound ramps. It is designated as a Secondary Arterial in the City's Circulation Element. The speed limit along Newhope Street is 40 mph. Curbside parking is not permitted on either side of the street.
- **Talbert Avenue/W. MacArthur Boulevard:** Talbert Avenue is a six-lane, east-west divided roadway within the City of Fountain Valley and City of Costa Mesa. Talbert Avenue continues as W. Macarthur Boulevard west of Harbor Boulevard within the City of Santa Ana. It is designated as a Primary Arterial west of Euclid Street and as an Augmented Primary Arterial east of Euclid Street in the City of Fountain Valley General Plan Circulation Element. In the City of Costa Mesa General Plan Circulation Element, it is designated as a Primary Arterial between the western city limit and Hyland Avenue, and as a Major Arterial between Hyland Avenue and eastern city limit. Macarthur Boulevard is designated as a Major Arterial within the City of Santa Ana General Plan Circulation Element. The speed limit within the study area varies between 40 and 45 mph. Curbside parking is not permitted on either side of the street.
- **Sunflower Avenue:** Sunflower Avenue is a four-lane east-west divided roadway that provides direct access to the project from the north. It is designated as a Primary Arterial between Hyland Avenue and Bear Street, and as a Major Arterial east of Bear Street in the City of Costa Mesa General Plan Circulation Element. In the City of Santa Ana General Plan Circulation Element, it is designated as a Major Arterial. In the vicinity of the project, Sunflower Avenue terminates at the south end of Cadillac Avenue. The speed limit within the study area varies between 40 and 45 mph. Curbside parking is not permitted on either side of the street.

- **South Coast Drive:** South Coast Drive is a divided four-lane, east-west roadway within the City of Costa Mesa. It is designated as a Primary Arterial in the City's Circulation Element. The speed limit is 45 mph. Curbside parking is not permitted on either side of the street.
- **Hyland Avenue:** Hyland Avenue is a divided four-lane, north-south roadway within the City of Costa Mesa. It is designated as a Primary Arterial in the City's Circulation Element. The speed limit is 40 mph. Curbside parking is not permitted on either side of the street.
- **Harbor Boulevard:** Harbor Boulevard is a divided north-south oriented six-to-eight-lane roadway. The City of Costa Mesa's General Plan Circulation Element designates it as a Major Arterial. The speed limit is 40 mph. Curbside parking is not permitted on either side of the street.
- **Susan Street:** Susan Street a divided four-lane roadway between Sunflower Avenue and I-405 and a two-lane roadway north of Sunflower Avenue. It is oriented in north-south direction. Though it is not classified in the City of Costa Mesa's General Plan Circulation Element, it functions as an arterial south of Sunflower Avenue and as a collector north of Sunflower Avenue. The speed limit is 35 mph. Curbside parking is not permitted on either side of the street.
- **Fairview Street:** Fairview Street is a divided north-south six-lane roadway. The City of Costa Mesa's General Plan Circulation Element classifies it as a Major Arterial. The speed limit is 45 mph. Curbside parking is not permitted on either side of the street.

Additionally, as part of the I-405 improvement project, the intersections of Euclid Street/I-405 Northbound Ramps – Newhope Street and I-405 Southbound Ramps/Ellis Avenue-Euclid Street will be improved prior to the project opening year. A second dedicated northbound left-turn lane will be added at the intersection of Euclid Street/I-405 Northbound Ramps – Newhope Street. At the intersection of I-405 Southbound Ramps/Ellis Avenue – Euclid Street, improvements consist of addition of a third dedicated eastbound left-turn lane and conversion of the existing westbound right-turn lane to a free right-turn lane. Therefore, these improvements have been considered as the intersection configuration under future short-term cumulative (2027) and General Plan build out (2040) conditions.

3.2 BIKES, PEDESTRIANS, AND TRANSIT

3.2.1 Bike

Costa Mesa follows Caltrans' standards and recognizes four classes of bicycle facilities: Class I – Bike Paths or Bike Trails, Class II – Bike Lanes, Class III – Bike Routes (On-Street), and Class IV – Protected Bike Lanes. Figure 3-5 illustrates the City of Costa Mesa conceptual Bicycle Master Plan. At present, within the study area, Class II bike lanes exist along Hyland Avenue, Susan Street, Fairview Road, MacArthur Boulevard, Sunflower Avenue, and South Coast Drive. As illustrated in Figure 3-5, new bike lanes have been proposed along Harbor Boulevard, Gisler Avenue, and Baker Street in the Bicycle Master Plan.

3.2.2 Pedestrians

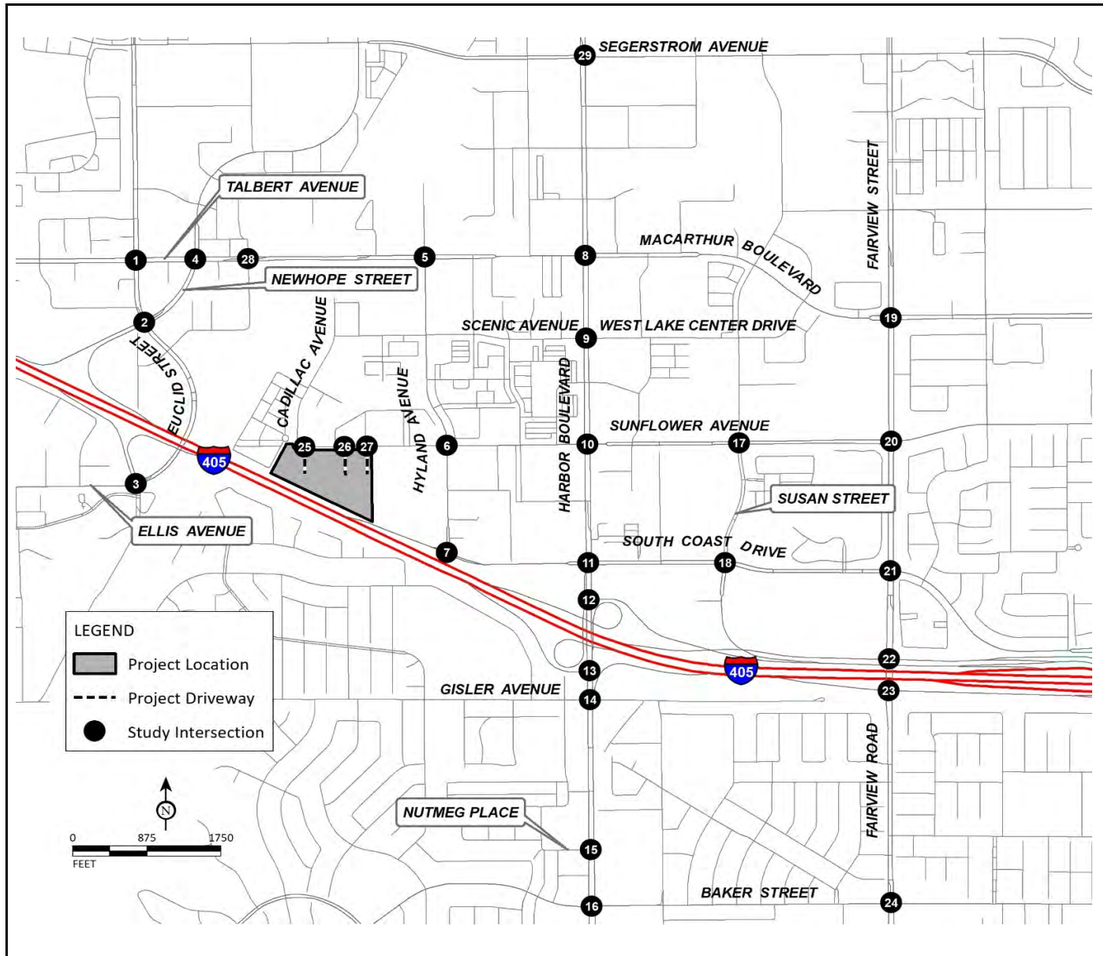
The City supports the integration of pedestrian-oriented improvements and amenities within the circulation system to improve walkability. Within the City, districts with heavy pedestrian activity have several zones that accommodate pedestrians. The zones include a frontage zone, pedestrian-through zone, street furniture zone, and an enhancement/buffer zone. Figure 3-6 illustrates the main pedestrian districts in Costa Mesa. As illustrated in Table 3-6, within the study area, the section of Harbor Boulevard south of Gisler Avenue has been classified as a Pedestrian Priority Area. The proposed project will take into consideration design elements that protect the safety of bicyclist as well as the improvement of wayfinding signage to the Santa Ana River Trail.

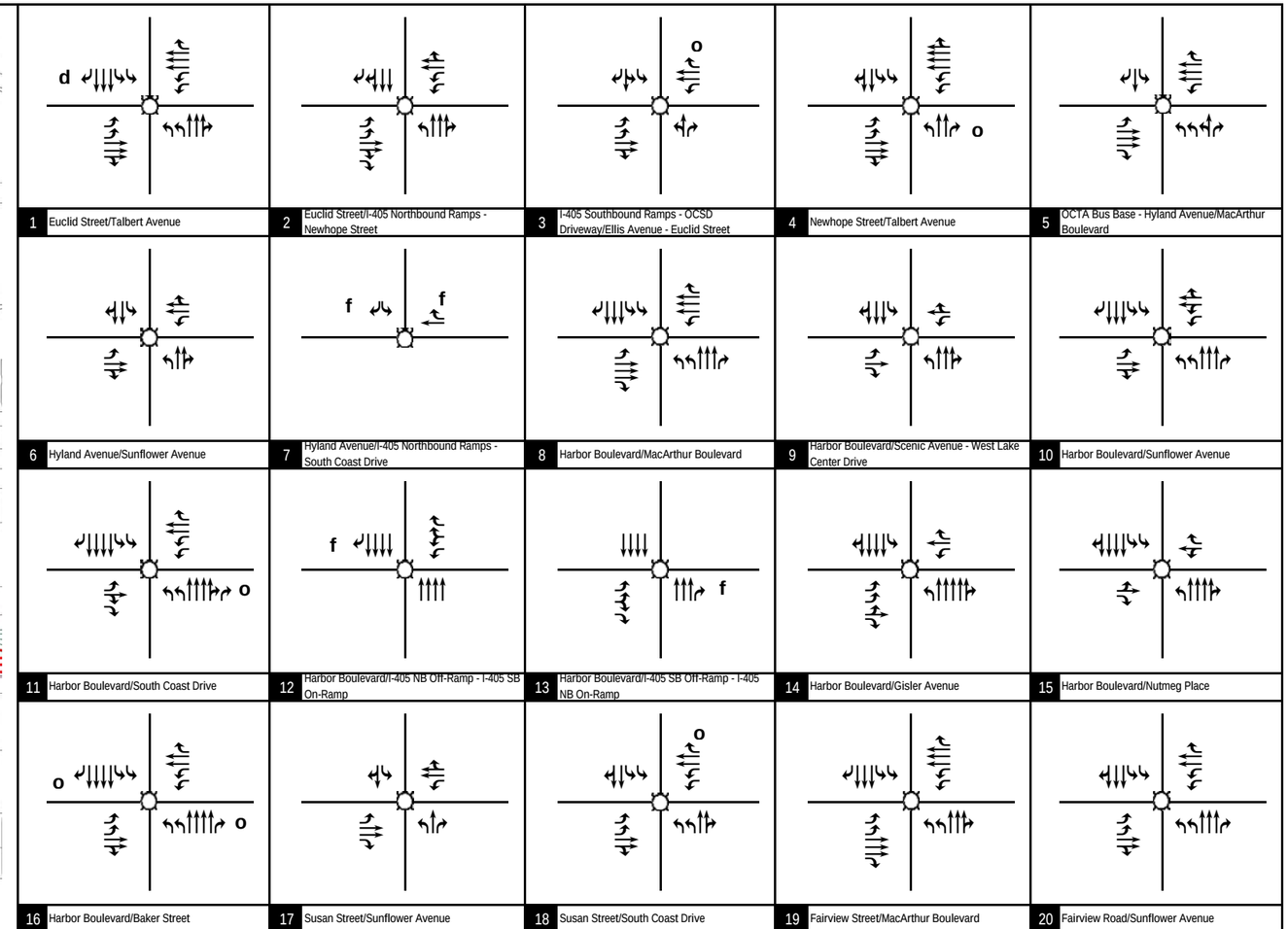
3.2.2 Transit

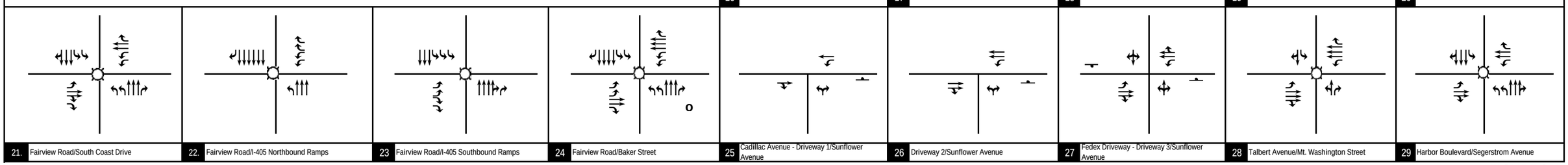
OCTA provides local bus and paratransit services within Orange County. It has several routes in the City. It also has a limited-stop bus service route (Route 543) along Harbor Boulevard that stops less frequently than local service. The service originates from the Fullerton Transportation Center and passes through Anaheim, Garden Grove, and Santa Ana, before terminating at MacArthur Boulevard. Figure 3-7 illustrates transit corridors within the City that will receive focused attention with respect to improvement in transit facilities. As shown in Figure 3-7, local, community, and express bus routes run within the study area. The OCTA Santa Ana Bus Base is located at the intersection of Hyland Avenue and MacArthur Boulevard.

3.3 LIST OF CHAPTER 3.0 FIGURES

- Figure 3-1: Existing Study Intersection Geometrics and Traffic Control
- Figure 3-2: City of Costa Mesa Master Plan of Streets and Highways
- Figure 3-3: City of Fountain Valley Circulation Plan
- Figure 3-4: City of Santa Ana Master Plan of Streets and Highways
- Figure 3-5: City of Costa Mesa Conceptual Bicycle Master Plan
- Figure 3-6: City of Costa Mesa Pedestrian Opportunity Zones
- Figure 3-7: City of Costa Mesa Transit Corridors







LSA

FIGURE 3-1

Legend

- Signal
- Stop Sign
- **d** Defacto right turn
- **f** Free right-turn
- **o** Right-turn overlap

One Metro West
Traffic Impact Analysis

Existing Study Intersection Geometrics and Traffic Control

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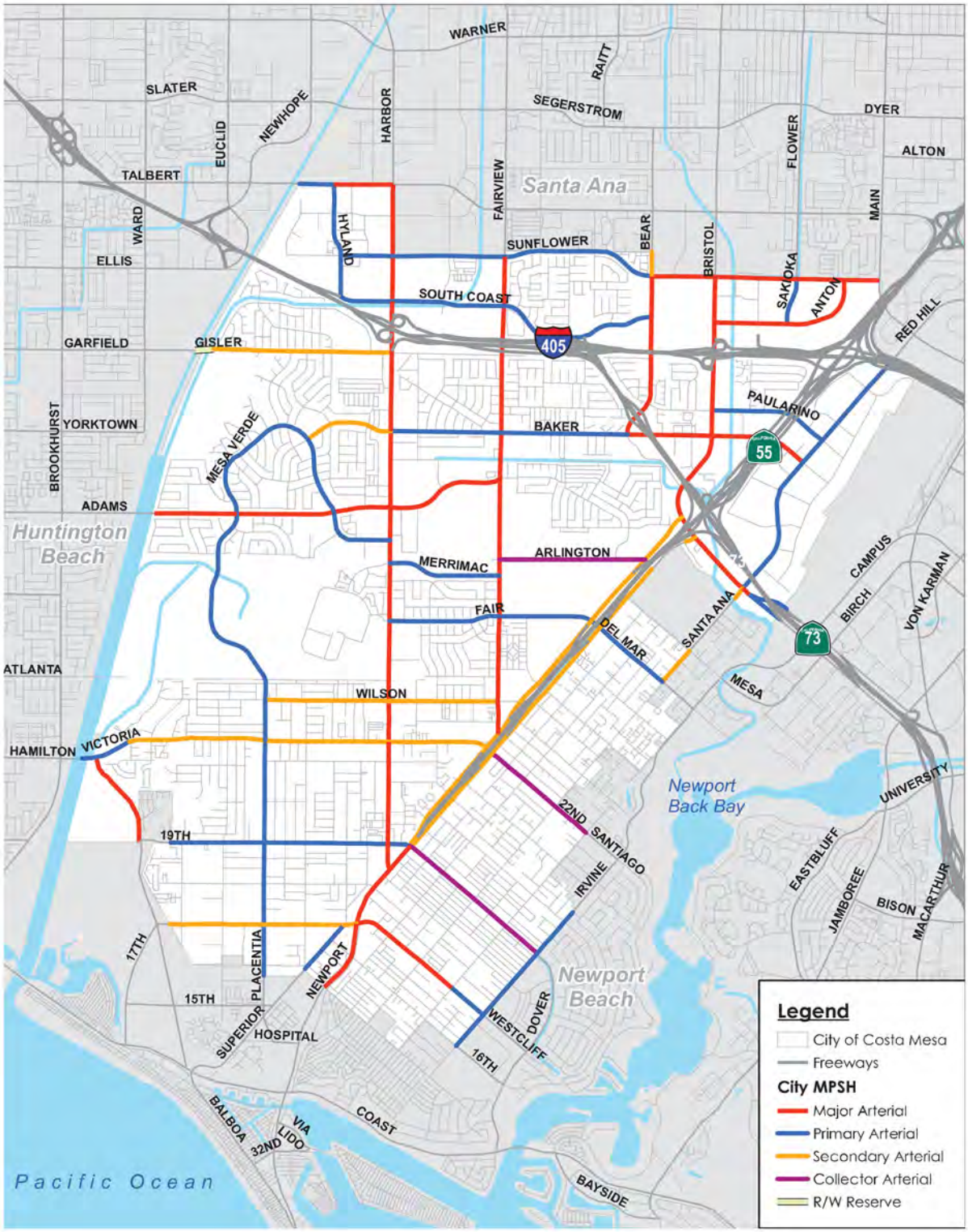

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FIGURE 3-2

N

One Metro West
Traffic Impact Analysis

City of Costa Mesa Master Plan of Streets and Highways

SOURCE:City of Costa Mesa 2015-2035 General Plan

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LSA

LEGEND

- Freeway
- Major Arterial
- Augmented Primary Arterial
- Primary Arterial
- Secondary Arterial
- Enhanced Intersection
- Right-of-Way Reserve Overlay
- City Boundary

N

FIGURE 3-3

One Metro West
Traffic Impact Analysis

City of Fountain Valley Circulation Plan

SOURCE:City of Fountain Valley General Plan

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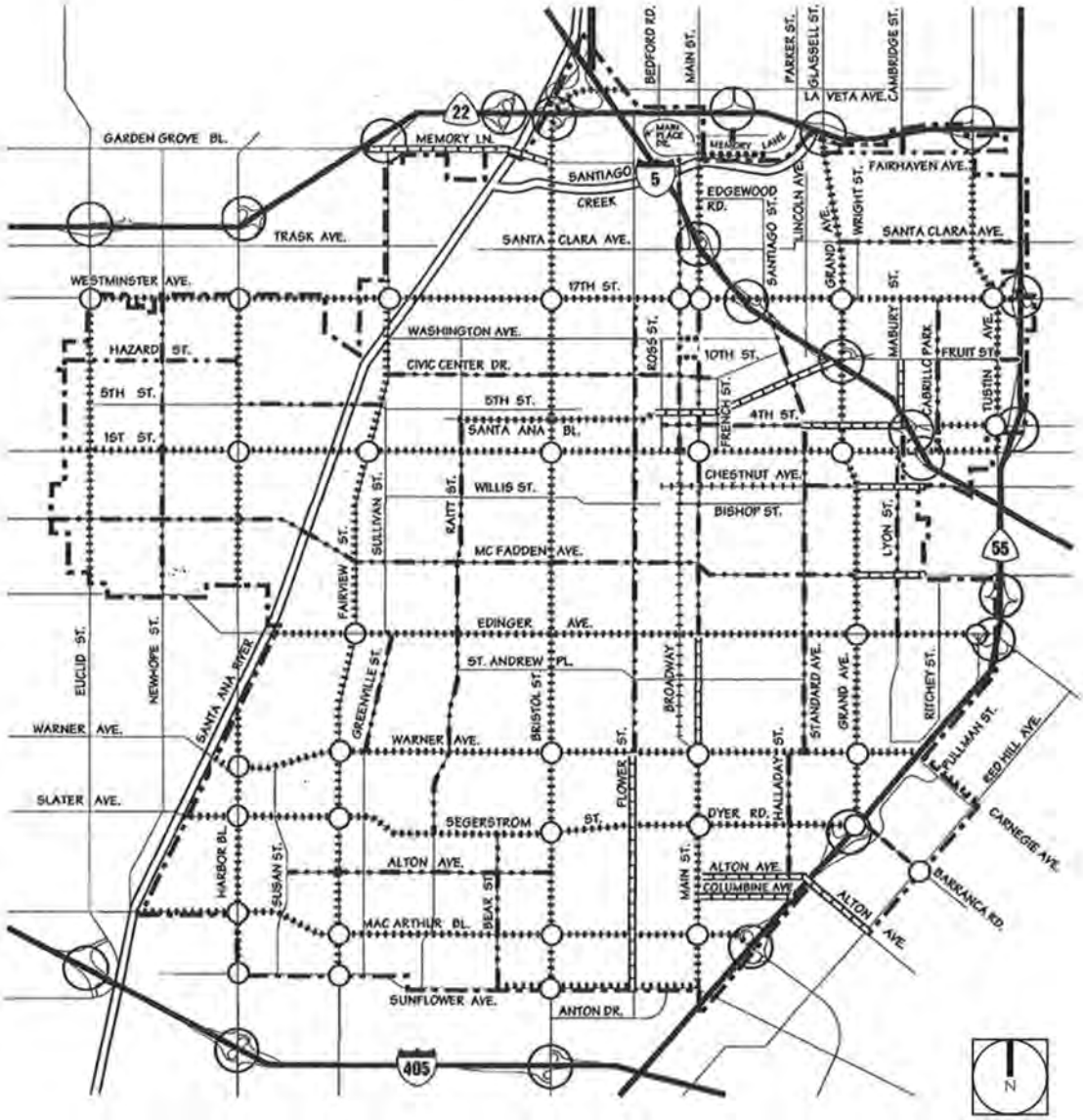

Street Classifications

- Freeway
- Principal
- Major Arterial
- Primary Arterial
- Secondary Arterial
- Commuter
- Local Commercial

- Enhanced Intersections
- Interchange
- City Limits

LSA

FIGURE 3-4

N

One Metro West
Traffic Impact Analysis

City of Santa Ana Master Plan of Streets and Highways

SOURCE:City of Santa Ana General Plan, Adopted February

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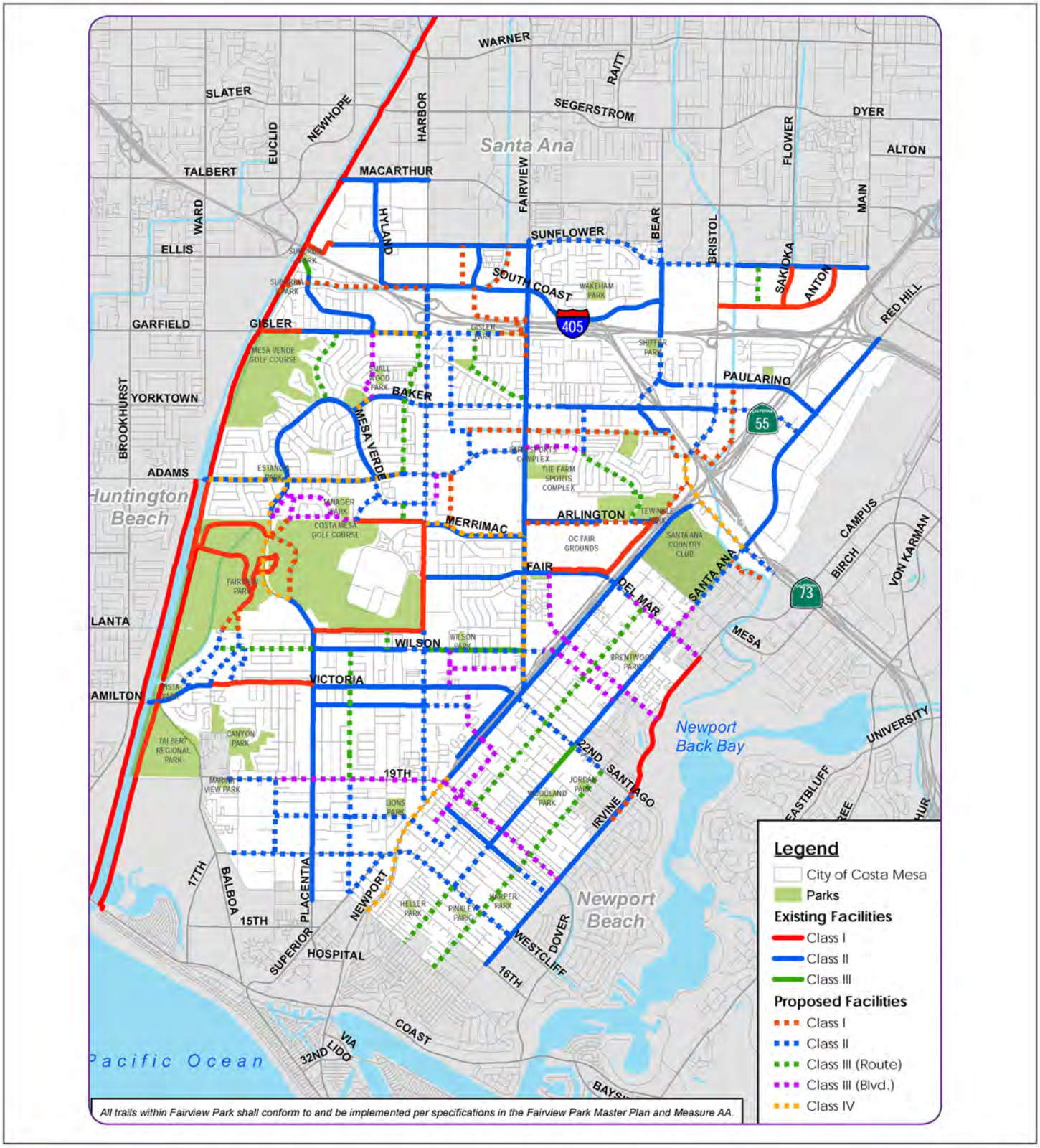

LSA

FIGURE 3-5

One Metro West
Traffic Impact Analysis

City of Costa Mesa Conceptual Bicycle Master Plan

SOURCE:City of Costa Mesa Active Transportation Plan

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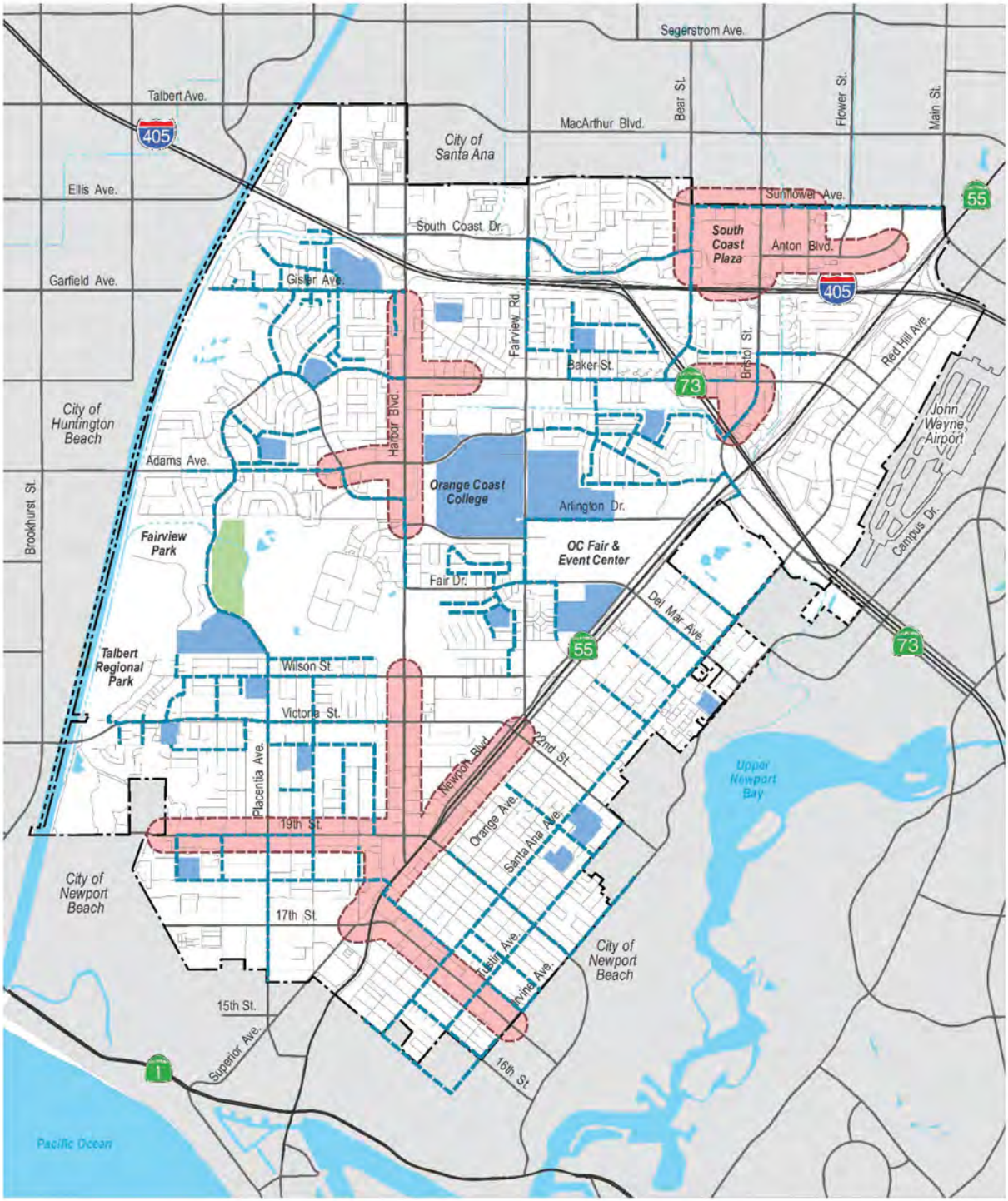

LSA

LEGEND

Pedestrian Priority Areas

Pedestrian Priority Areas

Suggested Route to School

Parks and Schools

Parks and Open Spaces

<all other values>

Schools and Colleges

City Boundaries

City Boundary

Sphere of Influence

N

FIGURE 3-6

One Metro West
Traffic Impact Analysis

City of Costa Mesa Pedestrian Opportunity Zones

SOURCE:City of Costa Mesa 2015-2035 General Plan

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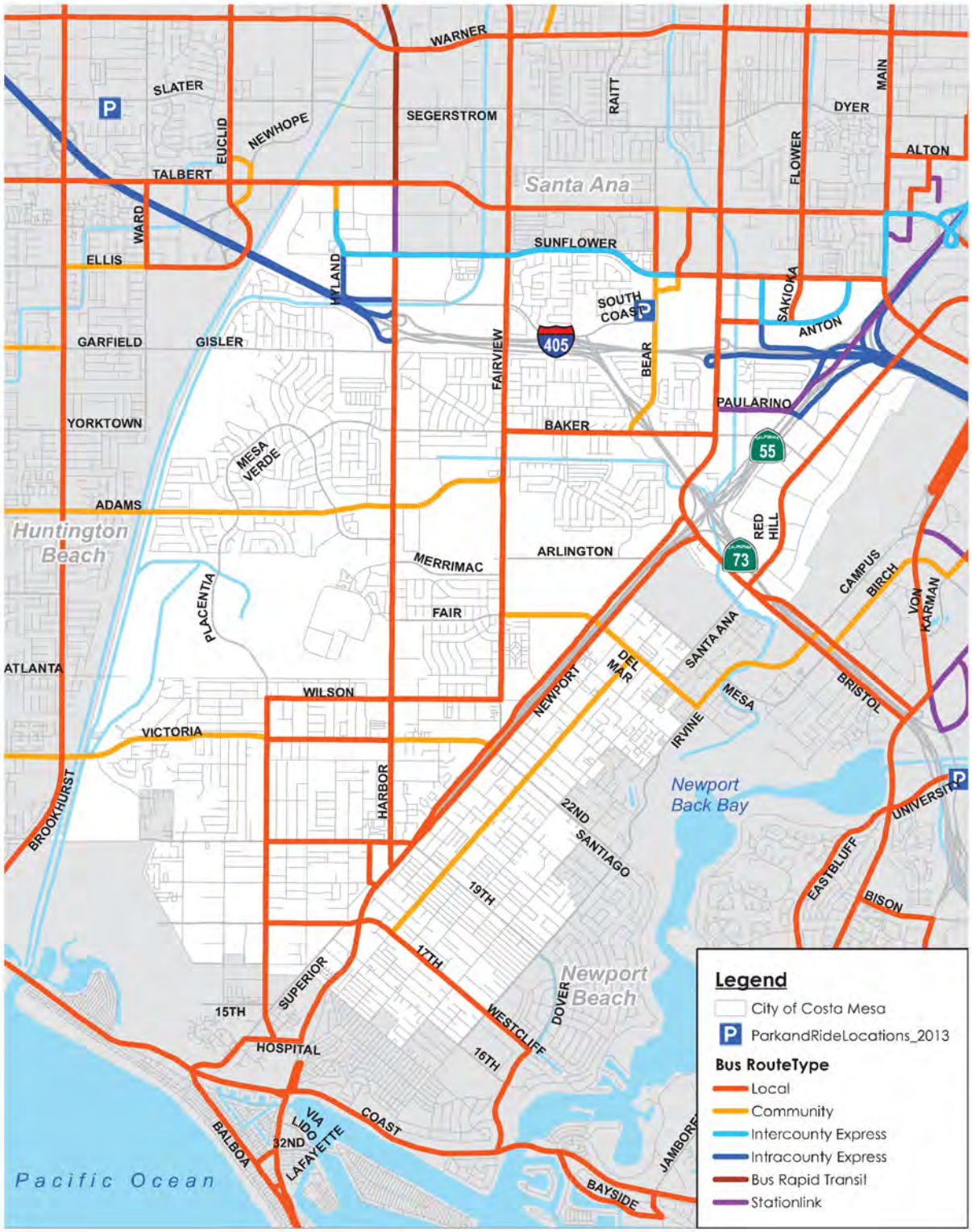

LSA

FIGURE 3-7

N

One Metro West
Traffic Impact Analysis

City of Costa Mesa Transit Corridors

SOURCE:City of Costa Mesa 2015-2035 General Plan

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4.0 TRAFFIC VOLUMES FOR BASELINE SCENARIOS

4.1 EXISTING TRAFFIC VOLUMES

Existing traffic volumes are based on a.m. and p.m. peak hour turning movement counts collected by Counts Unlimited in March 2019. However, due to ongoing construction activities related to the I-405 Improvement Project, some of the I-405 ramps on Fairview Road remained closed at the time the counts were collected. Also, some of the traffic on Fairview Street/Fairview Road was diverted because of the closure. Hence, for all the intersections on Fairview Street/Fairview Road, counts collected by Counts Unlimited in September 2018, before the beginning of construction activities, were used instead. A one percent growth was added to the September 2018 counts at the study intersections along Fairview Street/Fairview Road to develop year 2019 counts at these intersections. Detailed count sheets are provided in Appendix A. Figures 4-1 illustrates existing peak hour traffic volumes at study intersections.

Typically, freeway traffic volumes are developed using Annual Average Daily Traffic (AADT) volume data published by Caltrans. The most recent Caltrans AADT are from year 2017. These volumes were utilized to develop existing (2019) conditions freeway volumes which was used to prepare a LOS analysis. This LOS analysis is included in Appendix B. As shown in Appendix B, the LOS results along the freeway segment do not appropriately reflect the traffic conditions that currently exist. Therefore, existing freeway segment bidirectional volumes are derived from the I-405 Improvement Project Final Environmental Impact Report (FIER), dated March 2015. The FEIR analyzed include analysis under year 2009 and 2020 conditions. Freeway volumes for year 2019 were developed by interpolating the volumes between 2009 and 2020 provided in the No Build Alternative. For ramp influence areas, vehicles entering and exiting a ramp are based on peak hour turning movement counts shown in Figure 4-1. The percentage of trucks at study area freeway segments is reflective of the historic truck volume percentages from volume data published by Caltrans in 2017. For the project study area, trucks consist of 3.49 percent of the daily AADT volume. The daily percentage was applied to both peak hours to estimate the number of trucks during the peak hours. The resulting trucks were converted to Passenger Car Equivalent (PCE) volumes. The concept of PCE accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection in the same time that a particular type of truck could. Consistent with the HCM methodologies, a PCE factor of 2.0 was used for freeway segments and ramps. Table 4-A summarizes existing peak hour PCE volumes at study area freeway ramp merge/diverge areas and freeway segments.

4.2 FUTURE SHORT-TERM CUMULATIVE (2027) BASELINE TRAFFIC VOLUMES

According to the project applicant, the first phase of the project will be open by the year 2027. To present a future short-term cumulative traffic condition, a regional ambient growth rate of 1 percent per annum was identified and traffic volumes from approved/pending projects were developed, both of which were added to the existing traffic counts. Cumulative project information was obtained from City staff and from the adjacent jurisdictions of Fountain Valley and Santa Ana. Table 4-C lists the cumulative projects included in this analysis. Figure 4-2 illustrates the cumulative project locations. The trip generation for cumulative projects was developed using rates from the

Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th Edition) and from traffic studies conducted for these projects. As shown in Table 4-B, cumulative projects are expected to generate 2,774 trips in the a.m. peak hour, 2,618 trips in the p.m. peak hour, and 28,348 daily trips. Project trips for these cumulative projects were assigned to the roadway network based on their locations in relation to surrounding land uses and regional arterials. Figure 4-3 illustrates peak hour cumulative project trips at study area intersections. Figure 4-4 illustrates peak hour traffic volumes at study intersections under future short-term cumulative baseline conditions. Table 4-C summarizes future short-term cumulative baseline peak hour PCE volumes at study area freeway ramp merge/diverge areas and freeway segments. As part of the I-405 improvement project, the intersections of Euclid Street/I-405 Northbound Ramps – Newhope Street and I-405 Southbound Ramps/Ellis Avenue - Euclid Street intersection will be improved and scheduled to be completed before the project opening year 2027. As previously mentioned in Section 3.1, a second dedicated northbound left-turn lane will be added at the intersection of Euclid Street/I-405 Northbound Ramps – Newhope Street. At the intersection of I-405 Southbound Ramps/Ellis Avenue – Euclid Street, improvements consist of addition of a third dedicated eastbound left-turn lane and conversion of the existing westbound right-turn lane to a free right-turn lane. Therefore, these improvements have been implemented for this intersection under future short-term cumulative and General Plan build out conditions for the purpose of this analysis.

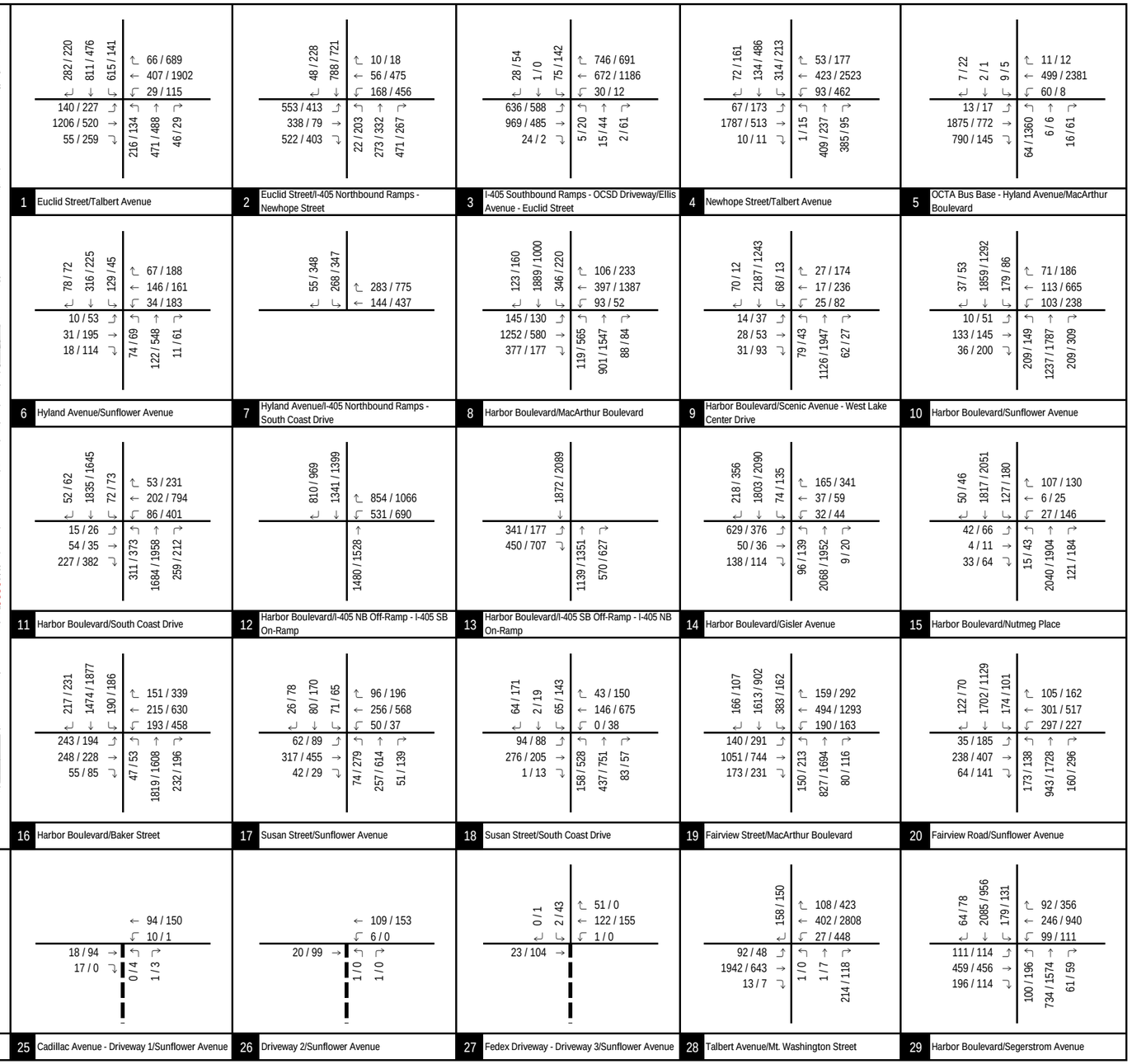
4.3 GENERAL PLAN BUILD OUT (2040) BASELINE PEAK HOUR TRAFFIC VOLUMES

General Plan build out conditions traffic volumes were developed using forecast volumes obtained from the Orange County Transportation Analysis Model (OCTAM) and by applying the National Cooperative Highway Research Program (NCHRP) post-processing methodologies. The methodology was applied to all study intersections. Figure 4-5 illustrates peak hour traffic volumes at study intersections under General Plan build out baseline conditions. Table 4-D summarizes General Plan build out PCE volumes at study area freeway ramp merge/diverge areas and freeway segments.

Detailed volume development worksheets are included in Appendix C.

4.4 LIST OF CHAPTER 4.0 FIGURES AND TABLES

- Figure 4-1: Existing Peak Hour Traffic Volumes
- Figure 4-2: Cumulative Project Locations
- Figure 4-3: Cumulative Projects Trip Assignment
- Figure 4-4: Future Short-Term Cumulative (2027) Baseline Peak Hour Traffic Volumes
- Figure 4-5: General Plan Build Out (2040) Baseline Peak Hour Traffic Volumes
- Table 4-A: Existing Freeway Segment and Ramp Traffic Volumes
- Table 4-B: Cumulative Project Trip Generation
- Table 4-C: Future Short-Term Cumulative (2027) Freeway Segment and Ramp Traffic Volumes
- Table 4-D: General Plan Build Out (2040) Freeway Segment and Ramp Traffic Volumes



LSA

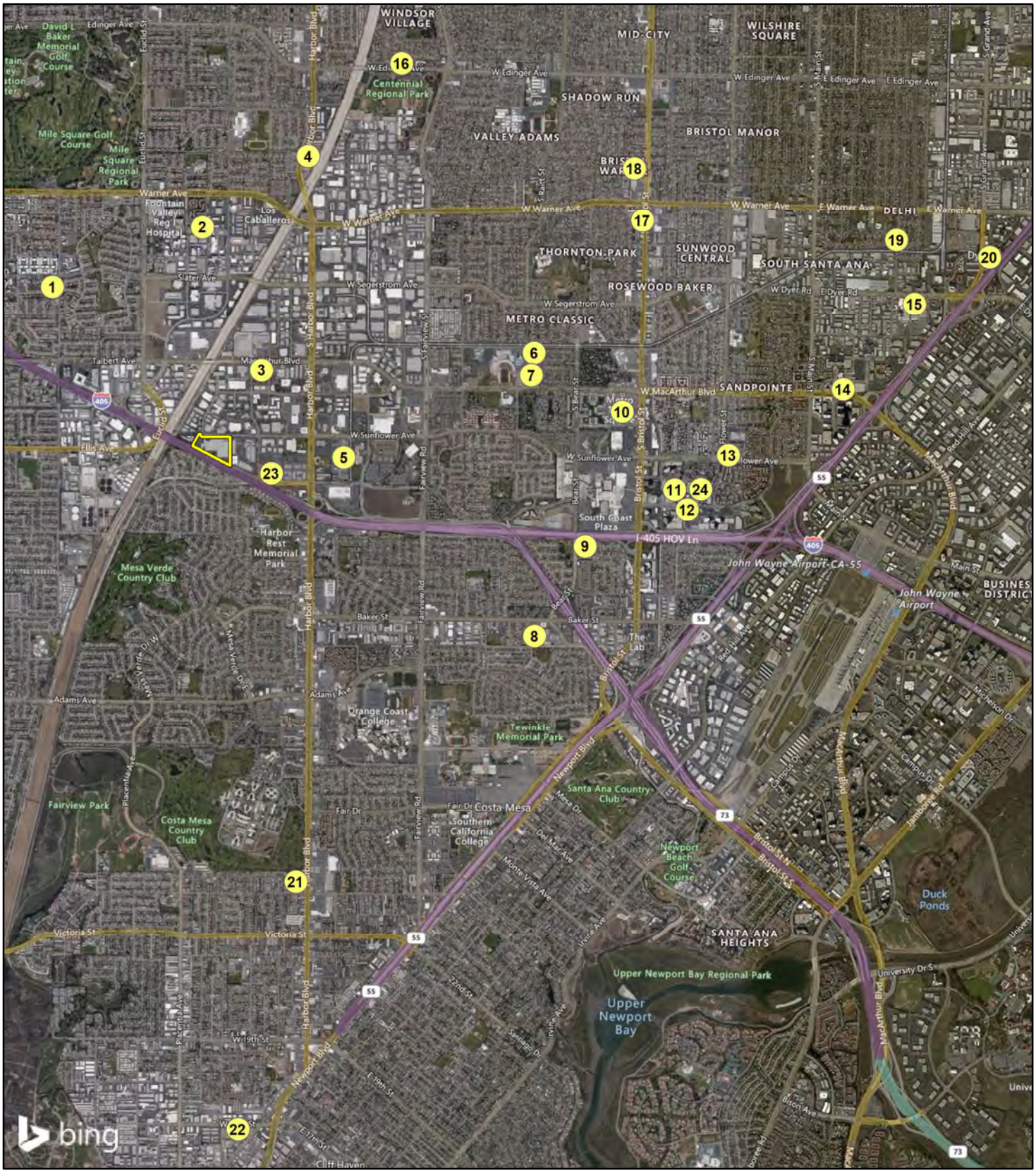
FIGURE 4-1

XXXX / YYYY
AM / PM Peak Hour Traffic Volumes

---- Project Driveway

One Metro West
Traffic Impact Analysis

Existing Peak Hour Traffic Volumes



LSA

LEGEND

Project Location

Cumulative Project Locations

N

0 2125 4250

FEET

FIGURE 4-2

One Metro West
Traffic Impact Analysis

Cumulative Project Locations

SOURCE: ESRI Streetmap, 2013; Bing Aerial, 2015.

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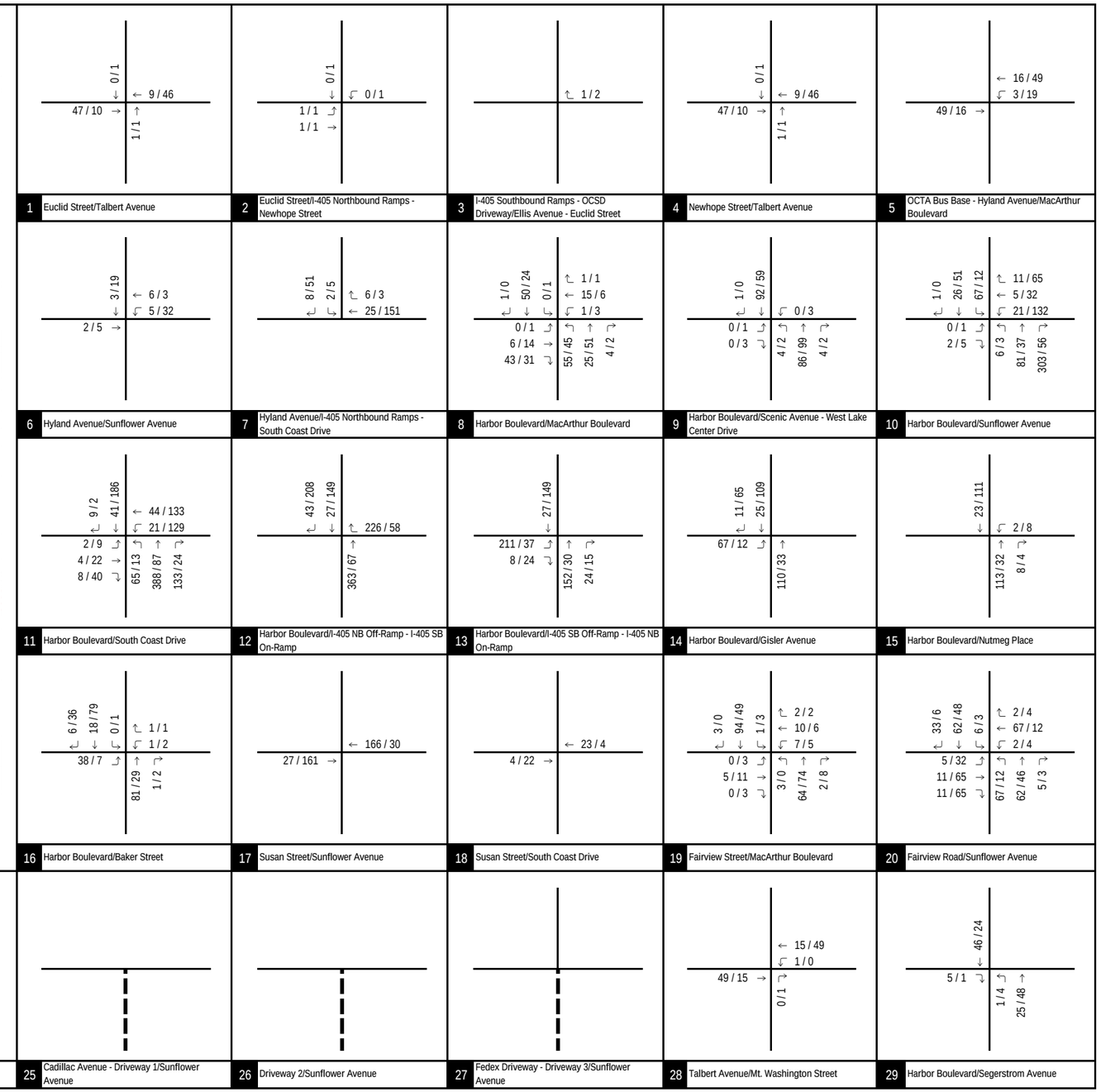
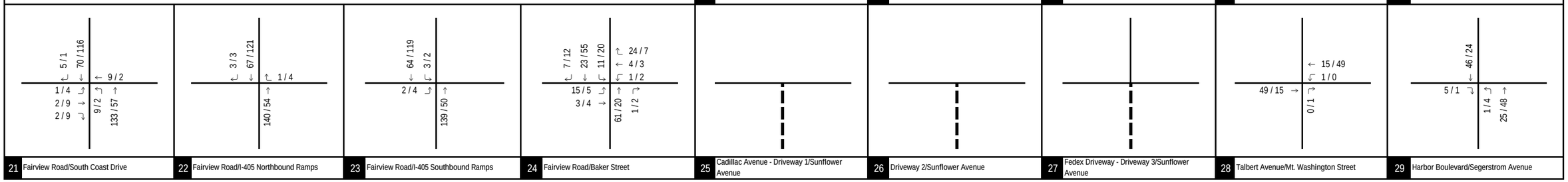




LSA

FIGURE 4-3

XXX / YYY

AM / PM Peak Hour Traffic Volumes

---- Project Driveway

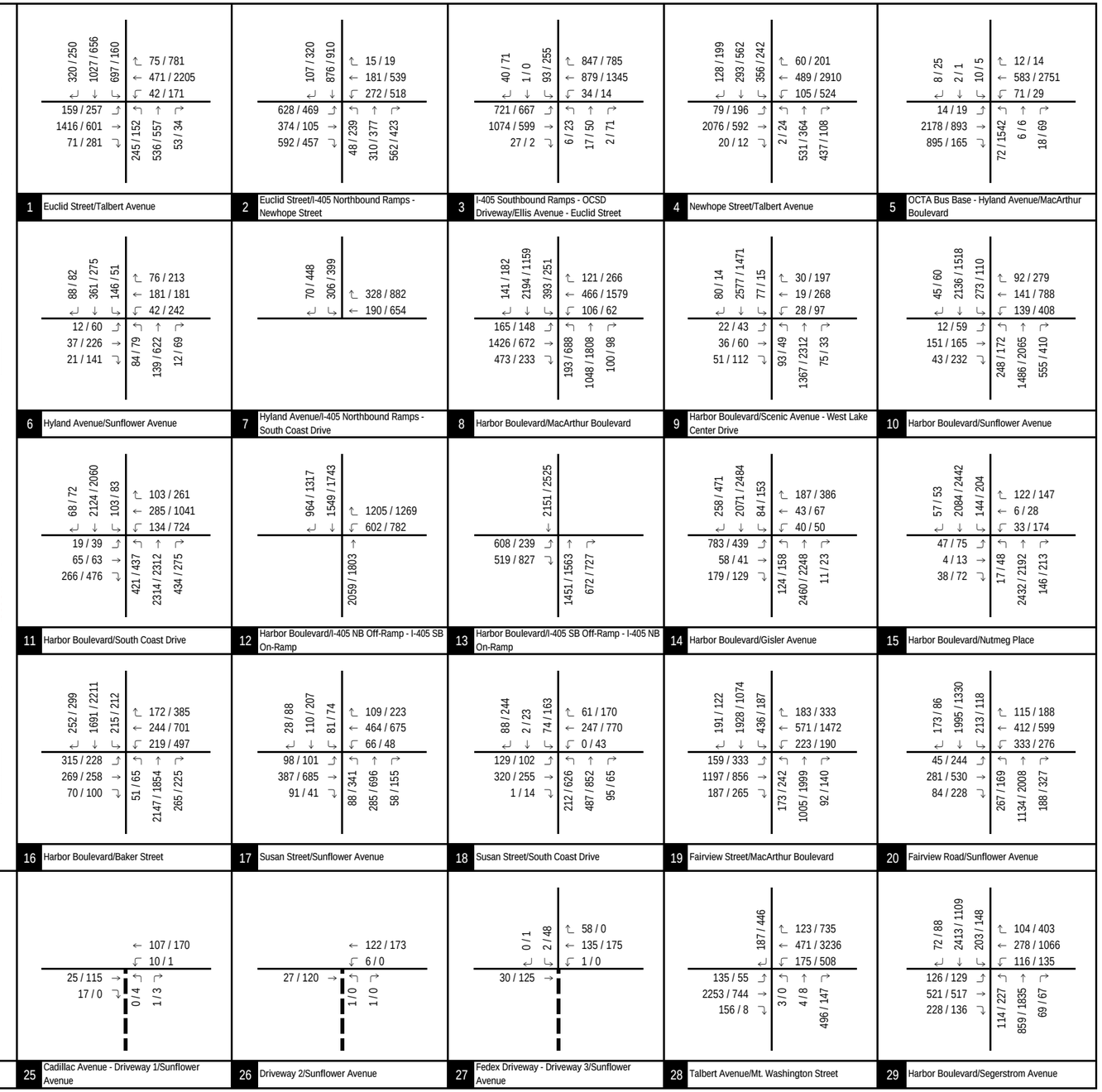
One Metro West

Traffic Impact Analysis

Cumulative Projects Trip Assignment

SEGERSTROM AVENUE
TALBERT AVENUE
NEWHOPE STREET
MACARTHUR BOULEVARD
FAIRVIEW STREET
SCENIC AVENUE
WEST LAKE CENTER DRIVE
EUCLID STREET
CADILLAC AVENUE
HYLAND AVENUE
HARBOR BOULEVARD
SUNFLOWER AVENUE
SUSAN STREET
ELLIS AVENUE
SOUTH COAST DRIVE
GISLER AVENUE
NUTMEG PLACE
BAKER STREET
405
LEGEND
Project Location
Project Driveway
Study Intersection
0
875
1750
FEET

| | | |



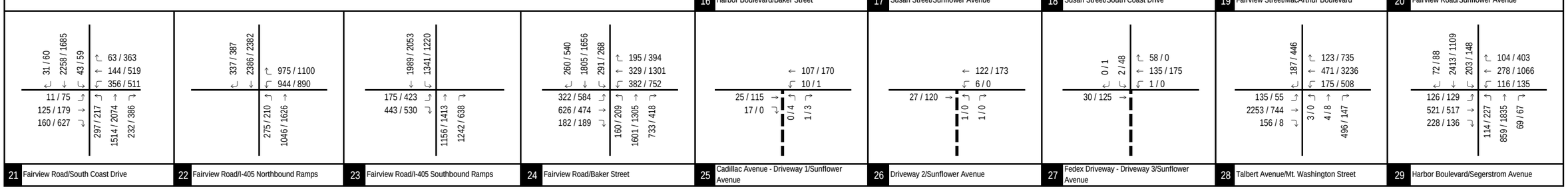


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FIGURE 4-5

XXXX / YYYY

AM / PM Peak Hour Traffic Volumes

---- Project Driveway

One Metro West

Traffic Impact Analysis

General Plan Build Out (2040) Baseline Peak Hour Traffic Volumes

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Table 4-A - Existing Freeway Segment and Ramp Traffic Volumes

Northbound													
		AM Peak Hour						PM Peak Hour					
I-405 Northbound	Type	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes
1 . South of Fairview Road On-Ramp	Basic			10,558			10,558			11,627			11,627
2 . Fairview Road On-Ramp	Ramp (Merge)	537	19	556			556	524	18	542			542
3 . Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic			11,114			11,114			12,169			12,169
4 . Harbor Boulevard On-Ramp	Ramp (Merge)	570	20	590			590	627	22	649			649
5 . Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic			11,704			11,704			12,818			12,818
6 . Hyland Avenue On-Ramp	Ramp (Merge)	199	7	206	-1	40	245	785	27	812	-1	25	836

Southbound													
		AM Peak Hour						PM Peak Hour					
I-405 Southbound	Type	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes
7 . Harbor Boulevard Off-Ramp	Ramp (Diverge)	791	28	819	-6	13	826	884	31	915	0	41	956
8 . Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic			14,841			14,841			12,005			12,005
9 . Harbor Boulevard Loop On-Ramp	Ramp (Merge)	810	28	838	-1	68	905	969	34	1,003	-2	43	1,044
10 . Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ram	Basic			15,679	-1	68	15,746			13,008	-2	43	13,049
11 . Harbor Boulevard Slip-On Ramp	Ramp (Merge)	1,153	40	1,193			1,193	691	24	715			715
12 . Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)			16,872	-1	68	16,939			13,723	-2	43	13,764

LSA

Table 4-B - Cumulative Projects Trip Generation

Land Use	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
1. Single Family Homes	12	DU							
10460 Slater Ave, Fountain Valley									
Trips/Unit[1]			0.19	0.55	0.74	0.62	0.37	0.99	9.44
Trip Generation			2	7	9	7	4	11	113
2. Wellbrook Assisted Living	162	Beds							
11360 Warner Ave, Fountain Valley									
Trip Generation[2]			20	9	29	23	23	46	444
3. Harbor Gateway Industrial Building	100.00	TSF							
1585 MacArthur Blvd, Costa Mesa									
Trips/Unit[3]			0.62	0.08	0.70	0.08	0.55	0.63	4.96
Trip Generation			62	8	70	8	55	63	496
4. Affordable Housing Project	50	DU							
16790 Harbor Blvd, Fountain Valley									
Trips/Unit[4]			0.11	0.35	0.46	0.35	0.21	0.56	7.32
Trip Generation			6	18	24	18	11	29	366
5. The Press	665.00	TSF							
1375 Sunflower Street, Costa Mesa									
Trips/Unit[5]			1.00	0.16	1.16	0.18	0.97	1.15	9.74
Trip Generation			665	106	771	120	645	765	6,477
6. Christ Our Savior Catholic Parish	46.31	TSF							
2000 W. Alton Ave, Santa Ana									
Trips/Unit[6]			0.20	0.13	0.33	0.22	0.27	0.49	6.95
Trip Generation			9	6	15	10	13	23	322
7. Shea Homes	42	DU							
2001 W. MacArthur Boulevard, Santa Ana									
Trips/Unit[1]			0.19	0.55	0.74	0.62	0.37	0.99	9.44
Trip Generation			8	23	31	26	16	42	396
8. DeNova Homes	56	DU							
929 Baker St, Costa Mesa									
Proposed Project Trip Generation[7]			11	32	43	35	21	56	533
Existing Self-Storage[7]			(5)	(7)	(12)	(8)	(8)	(16)	(167)
Net Trip Generation[7]			6	25	31	27	13	40	366
9. Education First	68	TSF							
3150 Bear Street, Costa Mesa									
Trips/Unit[8]			0.84	0.25	1.09	0.37	0.80	1.17	26.04
Trip Generation			57	17	74	25	54	79	1,771
10. Metro Town Square Expansion	6.00	TSF							
3719 S. Plaza Drive, Santa Ana									
Trips/Unit[9]			5.47	4.47	9.94	6.06	3.71	9.77	112.18
Trip Generation			33	27	60	36	22	58	673
Pass-by Trips[10]			0	0	0	(15)	(9)	(24)	(289)
Net Trip Generation			33	27	60	21	13	34	384
11. Orange County Museum of Art	66.75	TSF							
3333 Avenue of the Arts, Costa Mesa									
Trips/Unit[11]			0.24	0.04	0.28	0.03	0.15	0.18	2.80
Trip Generation			16	3	19	2	10	12	187

LSA

Table 4-B - Cumulative Projects Trip Generation

Land Use	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
12. Symphony Apartments	393	DU							
595 Anton Blvd, Costa Mesa									
Proposed Project Trip Generation[12]			41	163	204	163	94	257	2,770
Existing Entitled Quality Restaurant[12]			(6)	(6)	(12)	(75)	(36)	(16)	(1,336)
Net Trip Generation[12]			35	157	192	88	58	146	1,434
13. Legacy Sunflower	226	DU							
651 W. Sunflower Ave, Santa Ana									
Trip Generation[13]			21	60	81	60	39	99	1,229
14. Legado at the Met	278	DU							
200 E. First American Way, Santa Ana									
Trip Generation[14]			30	124	154	121	67	188	2,015
15. Industrial Campus Development	495.67	TSF							
666 E. Dyer Road, Santa Ana									
Trips/Unit[15]			0.32	0.08	0.40	0.08	0.32	0.40	3.37
Trip Generation			159	40	199	40	159	199	1,670
16. Haphan Housing	18	DU							
3025 W Edinger Avenue, Santa Ana									
Trips/Unit[4]			0.11	0.35	0.46	0.35	0.21	0.56	7.32
Trip Generation			2	6	8	6	4	10	132
17. South Coast Speedwash									
2402 S Bristol Street, Santa Ana									
Carwash	26.15	TSF							
Trips/Unit[16]			4.49	4.49	8.98	7.10	7.10	14.20	163.09
Trip Generation			117	117	234	186	186	372	4,265
Pass-by-trips			(73)	(73)	(145)	(104)	(104)	(208)	(2,517)
Net Trip Generation			44	44	89	82	82	164	1,748
Commercial Retail/Restaurant	8.18	TSF							
Trips/Unit[17]			31.27	31.27	62.54	25.05	24.06	49.11	762.28
Trip Generation			256	256	512	205	197	402	6,238
Pass-by-trips			0	0	0	(105)	(100)	(205)	(3,181)
Net Trip Generation			256	256	512	100	97	197	3,057
	Net Trip Generation		300	300	601	182	179	361	4,805
18. Bristol Office Plaza	7.50	TSF							
1400 W St Gertrude Place Santa Ana, Ca									
Trips/Unit[5]			1.00	0.16	1.16	0.18	0.97	1.15	9.74
Trip Generation			8	1	9	1	7	8	73
19. Our Lady of Guadalupe Office	6.37	TSF							
542 E Central Santa Ana, Ca									
Trips/Unit[5]			1.00	0.16	1.16	0.18	0.97	1.15	9.74
Trip Generation			6	1	7	1	6	7	62
20. Tapestry by Hilton and Restaurant									
1580 E Warner Avenue Santa Ana									
Hotel	84.38	TSF							
Trips/Unit[18]			0.28	0.19	0.47	0.36	0.24	0.60	8.36
Trip Generation			24	16	40	30	20	50	705

Table 4-B - Cumulative Projects Trip Generation

Land Use	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
21. 2277 Harbor Boulevard	200	DU							
2277 Harbor Boulevard									
Trips/Unit[4]			0.11	0.35	0.46	0.35	0.21	0.56	7.32
Trip Generation			22	70	92	70	42	112	1,464
22. 17 West - The Lofts	177	DU							
671 W. 17th Street									
Trips/Unit[4]			0.11	0.35	0.46	0.35	0.21	0.56	7.32
Trip Generation			19	62	81	62	37	99	1,296
23. VANS Headquarter Expansion	91.02	TSF							
1588 South Coast Drive									
Trips/Unit[5]			1.00	0.16	1.16	0.18	0.97	1.15	9.74
Trip Generation			91	15	106	16	88	104	887
24. Avenue of the Arts Hotel Expansion	150	RM							
3350 Avenue of the Arts									
Trips/Unit[19]			0.28	0.19	0.47	0.31	0.29	0.60	8.36
Trip Generation			42	29	71	47	44	91	1,254
Total Trip Generation			**1,643**	**1,130**	**2,774**	**1,011**	**1,607**	**2,618**	**28,348**

Notes:

DU=Dwelling Units; TSF= Thousand Square Feet; RM=Rooms

[1] Rates based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th Edition) for Land Use 210 – "Single-Family Detached Housing", Setting/Location - "General Urban/Suburban."

[2] Trip generation obtained from the *Welbrook Senior Living Traffic Impact Analysis* prepared by PlaceWorks in October 2016.

[3] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 110 – "General Light Industrial", Setting/Location - "General Urban/Suburban."

[4] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 220 – "Multifamily Housing (Low-Rise)", Setting/Location - "General Urban/Suburban."

[5] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 710 – "General Office Building", Setting/Location - "General Urban/Suburban."

[6] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 560 – "Church", Setting/Location - "General Urban/Suburban."

[7] Trip generation obtained from the *De Nova Homes Baker Street Residential Project Traffic Impact Analysis* prepared by Transpo Group in January 2016.

[8] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 550 – "University/College", Setting/Location - "General Urban/Suburban."

[9] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 932 – "High-Turnover (Sit-Down) Restaurant", Setting/Location - "General Urban/Suburban."

[10] Pass-by rates from the ITE *Trip Generation Handbook* (3rd Edition) for Land Use 932 - "High-Turnover (Sit-Down) Restaurant." A pass-by rate of 43% was used for the p.m. peak hour. No a.m. peak and daily pass-by rates are provided; therefore, the p.m. pass-by rate was used as the daily pass-by rate.

[11] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 580 – "Museum", Setting/Location - "General Urban/Suburban." Since daily rates are not available for this

[12] Trip generation obtained from the *Symphony Apartments Traffic Impact Analysis Report* prepared by Linscott, Law & Greenspan, Engineers in July 2014.

[13] Trip generation obtained from the *Legacy Sunflower Apartments Traffic Impact Analysis Report* prepared by Linscott, Law & Greenspan, Engineers in January 2019.

[14] Trip generation obtained from *The Met at South Coast Traffic Impact Analysis Report* prepared by Linscott, Law & Greenspan, Engineers in November 2011.

[15] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 130 – "Industrial Park", Setting/Location - "General Urban/Suburban."

[16] Trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual(10th Edition) for Land Use 948 - "Automated Car Wash", Setting/Location - "General Urban/Suburban." Only p.m. peak hour rates are available for this land use in the ITE manual. The a.m. peak hour and daily rates were obtained by using the p.m. peak hour trip generation rate ratio between Land Use 948 and Land Use 949 - "Car Wash and Detail Center" and applying the ratio to the a.m. peak hour and daily rates for Land Use 949. Also, the p.m. peak hour splits for Land Use 948 were used for the a.m. peak hour.

[17] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 851 – "Convenience Market", Setting/Location - "General Urban/Suburban."

[18] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 310 – "Hotel", Setting/Location - "General Urban/Suburban."

[19] Rates based on the ITE *Trip Generation Manual* (10th Edition) for Land Use 310 – "Hotel", Setting/Location - "General Urban/Suburban."

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Table 4-C - Future Short-Term Cumulative (2027) Freeway Segment and Ramp Traffic Volumes

Northbound																	
		AM Peak Hour								PM Peak Hour							
I-405 Northbound	Type	Existing (2019) NP ML Volumes	Cumul Proj Vol	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes	Existing (2019) NP ML Volumes	Cumul Proj Vol	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes
1 . South of Fairview Road On-Ramp	Basic	10,558	2			11,405			11,405	11,627	2			12,559			12,559
2 . Fairview Road On-Ramp	Ramp (Merge)			583	20	603			603			569	20	589			589
3 . Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic					12,008			12,008					13,148			13,148
4 . Harbor Boulevard On-Ramp	Ramp (Merge)			640	22	662			662			692	24	716			716
5 . Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic					12,670			12,670					13,864			13,864
6 . Hyland Avenue On-Ramp	Ramp (Merge)			248	9	257	-1	40	296			1,050	37	1,087	-1	25	1,111

Southbound																	
		AM Peak Hour								PM Peak Hour							
I-405 Southbound	Type	Existing (2019) NP ML Volumes	Cumul Proj Vol	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes	Existing (2019) NP ML Volumes	Cumul Proj Vol	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes
7 . Harbor Boulevard Off-Ramp	Ramp (Diverge)			1,073	37	1,110	-6	13	1,117			1,016	35	1,051	0	41	1,092
8 . Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic					16,030			16,030					12,965			12,965
9 . Harbor Boulevard Loop On-Ramp	Ramp (Merge)			918	32	950	-1	68	1,017			1,254	44	1,298	-2	43	1,339
10 . Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ram	Basic					16,980	-1	68	17,047					14,263	-2	43	14,304
11 . Harbor Boulevard Slip-On Ramp	Ramp (Merge)			1,245	43	1,288			1,288			746	26	772			772
12 . Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)					18,268	-1	68	18,335					15,035	-2	43	15,076

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Table 4-D - General Plan Build Out (2040) Freeway Segment and Ramp Traffic Volumes

Northbound													
		AM Peak Hour						PM Peak Hour					
I-405 Northbound	Type	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes
1 . South of Fairview Road On-Ramp	Basic			11,975			11,975			13,187			13,187
2 . Fairview Road On-Ramp	Ramp (Merge)	612	21	634			634	597	21	618			618
3 . Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic			12,609			12,609			13,805			13,805
4 . Harbor Boulevard On-Ramp	Ramp (Merge)	672	23	695			695	727	25	752			752
5 . Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic			13,304			13,304			14,557			14,557
6 . Hyland Avenue On-Ramp	Ramp (Merge)	260	9	269	-1	40	308	1,102	38	1,141	-1	25	1,165

Southbound													
		AM Peak Hour						PM Peak Hour					
I-405 Southbound	Type	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes	No Project Ramp Volumes	Ramp Truck Volumes	No Project PCE Volumes	Existing Site Trips	Project Trips	With Project PCE Volumes
7 . Harbor Boulevard Off-Ramp	Ramp (Diverge)	1,126	39	1,166	-6	13	1,173	1,067	37	1,104	0	41	1,145
8 . Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic			16,831			16,831			13,613			13,613
9 . Harbor Boulevard Loop On-Ramp	Ramp (Merge)	964	34	997	-1	68	1,064	1,317	46	1,363	-2	43	1,404
10 . Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ram	Basic			17,828	-1	68	17,895			14,976	-2	43	15,017
11 . Harbor Boulevard Slip-On Ramp	Ramp (Merge)	1,307	46	1,353			1,353	783	27	811			811
12 . Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)			19,181	-1	68	19,248			15,787	-2	43	15,828

5.0 PROJECT TRAFFIC

5.1 PROJECT TRIP GENERATION

The development of trip generation for the project was the subject of much research and collaboration between LSA and the City of Costa Mesa. A number of multifamily residential projects have been proposed and analyzed, and some approved, in the City where trip generation rates were established and vetted through the CEQA and entitlement process. While LSA originally recommended use of the ITE *Trip Generation Manual* (10th Edition) for the residential use in the proposed project, the City directed LSA to use trip rates from the Mitigated Negative Declaration for the Westside Lofts Project. These rates are higher than the ITE rates for this specific use, generating more than 2 trips a day for each dwelling unit. The Westside Lofts Project residential trip rates are similar to and slightly greater than rate schedules for multifamily residential use in previous editions of the ITE manual. Based on ITE Trip Generation rates for multifamily, the project would generate 437 net trips in the a.m. peak hour and 533 net trips in the p.m. peak hour. Based on the Westside Lofts Project residential trip rates, the project would generate 485 net trips in the a.m. peak hour and 590 net trips in the p.m. peak hour. As such, the trip generation for the residential component represents a higher standard for trip making for more suburban setting multifamily residential use and does not reflect the context (mixed use in a more urban setting) or the intent of the One Metro West project (active transportation and linked (multi-purpose) trips within the greater SOCO/South Coast Metro environment.

As for the non-residential uses, the trip generation was developed using rates from the ITE *Trip Generation Manual* (10th Edition) for Land Uses 411 – "Public Park," 495 – "Recreational Community Center", 710 – "General Office Building," and 850 – "Supermarket." These rates are industry standards for the specific land use types and have been used in other traffic impact analyses in the City of Costa Mesa.

Since the project is a mixed-use development, it is estimated that a certain percentage of trips between the land uses will be made on site and these internal trips do not utilize the major street system. The internal trips can be made either by walking within the project site or by vehicles using internal roadways without using external streets.

An internal capture rate of 10 percent was used for both residential and non-residential uses based on City experience at other South Coast Metro locations. It should be noted that the internal trip capture does not account for investments made into active transportation for trips off site (e.g., bicycle amenities, Santa Ana River Trail, enhanced connections for walking) and the proximity of other destinations and attractions within walking distance (e.g., SOCO). Vehicular trip reductions could be greater when considering the local context of attractions, destinations and networks linking them. The internal capture rate was applied to the overall trip generation for both uses to determine the number of internal trips for these uses. Further, the internal trips were subtracted from the overall trip generation to establish the total external trips for the uses.

Trip credits were taken for the existing industrial use to be demolished for the development of the project. The credits were calculated by obtaining existing peak hour and daily counts at the existing project driveways. The existing driveway traffic counts are included in Appendix A. Table 5-A

summarizes the project trip generation, which shows the proposed project will generate 498 net trips in the a.m. peak hour, 662 net trips in the p.m. peak hour, and 6,800 net daily trips.

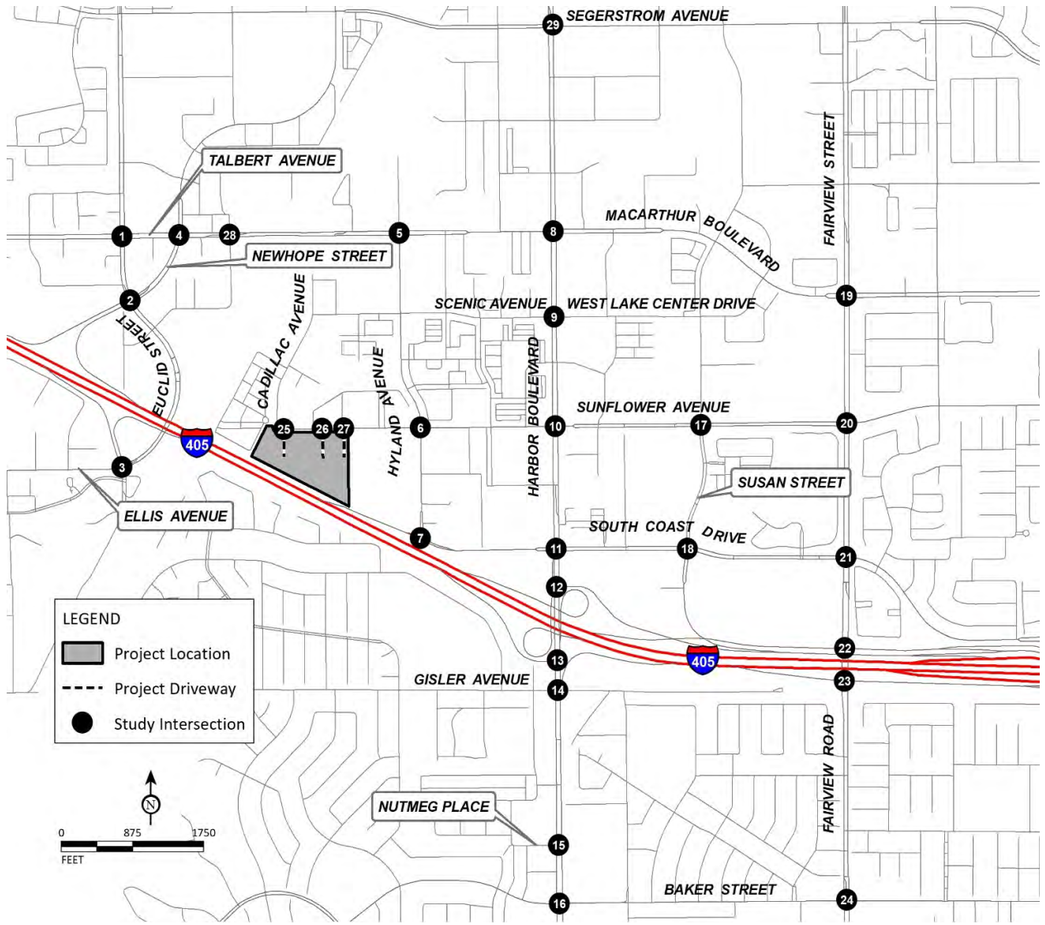
5.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

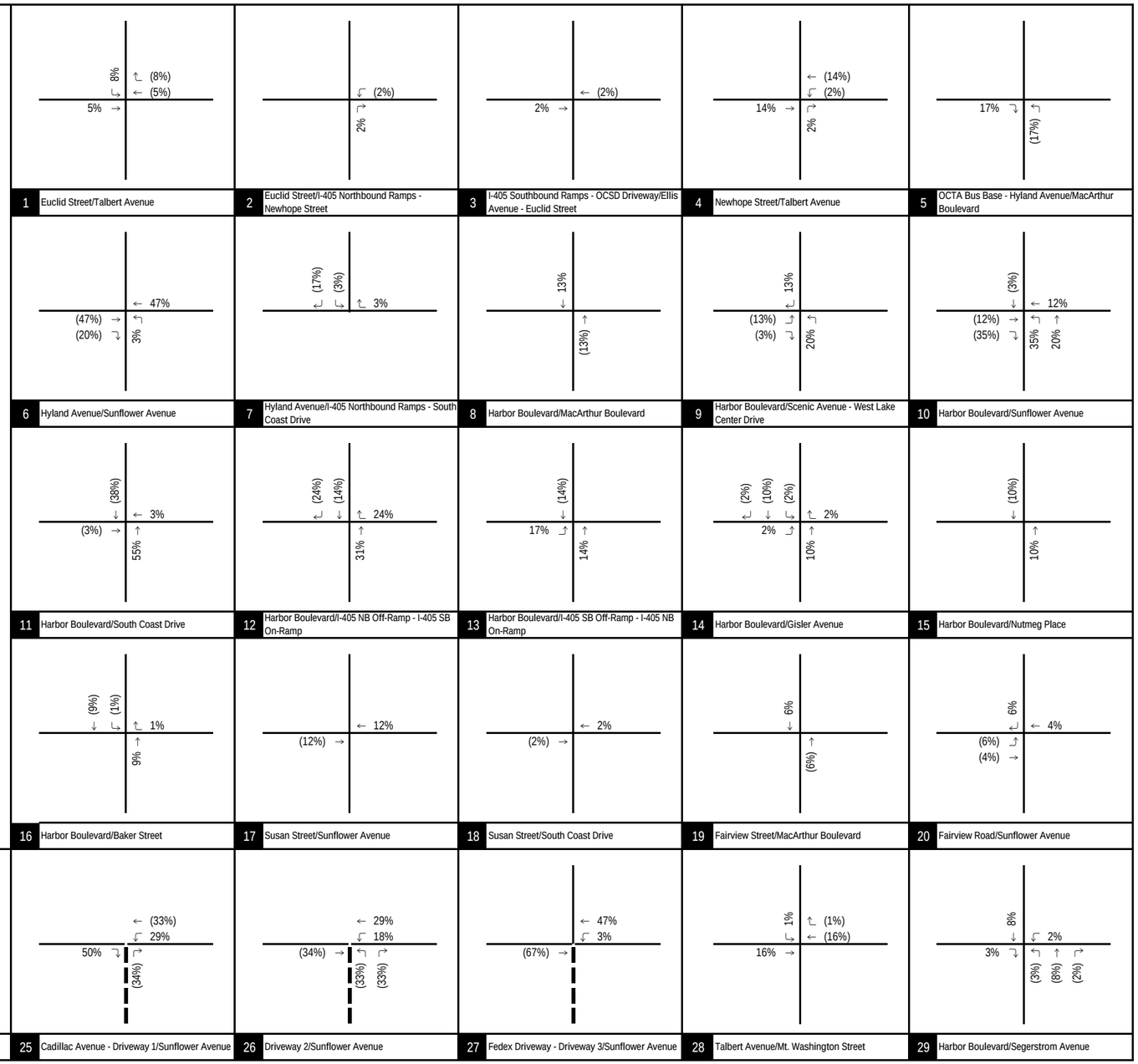
The project trip distributions were developed using select zone model runs obtained from OCTAM. Three separate distributions were considered for the existing use, and the proposed residential and non-residential uses. The select zone model plots for the proposed project have been included in Appendix D. Figures 5-1A and 5-1B illustrate the trip distribution for the existing use, under a.m. and p.m. peak hours, respectively. Figures 5-2 and 5-3 illustrate the project trip distributions for the residential and non-residential uses at the study intersections.

The trip generation for each land use was applied to the corresponding trip distribution pattern to develop the trip assignment for the land use. Figure 5-4 illustrates the trip assignment for the existing land use. Figures 5-5 and 5-6 illustrate the trip assignments for the residential and non-residential uses at the study intersections, respectively. The final project trip assignment was developed by eliminating the trips from the existing use at each study intersection and adding back the trip assignment from the proposed project. Figure 5-7 illustrates the total net project trip assignment.

5.3 LIST OF CHAPTER 5.0 FIGURES AND TABLES

- Figure 5-1A: Trip Distribution – Existing Use (a.m. peak hour)
- Figure 5-1B: Trip Distribution- Existing Use (p.m. peak hour)
- Figure 5-2: Project Trip Distribution – Residential
- Figure 5-3: Project Trip Distribution – Non-Residential
- Figure 5-4: Trip Assignment – Existing Use
- Figure 5-5: Project Trip Assignment – Residential
- Figure 5-6: Project Trip Assignment – Non-Residential
- Figure 5-7: Total Net Project Trip Assignment
- Table 5-A: Project Trip Generation





LSA

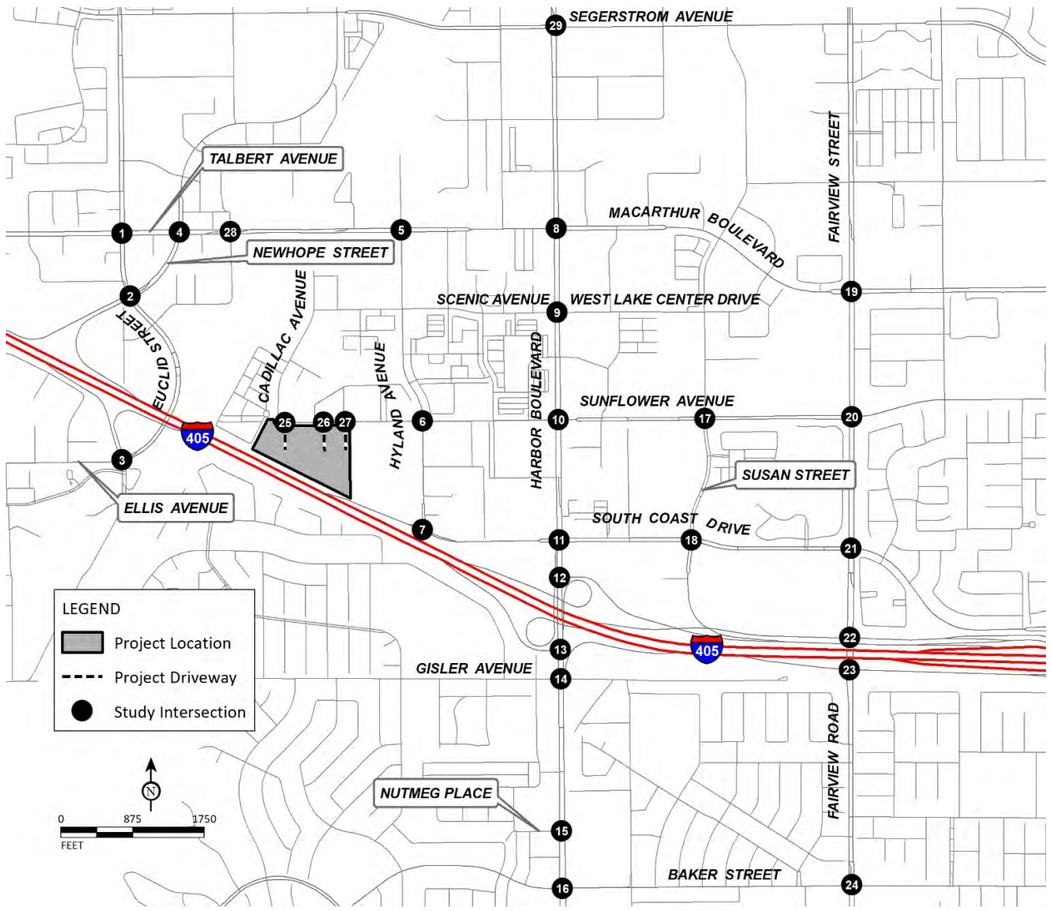
FIGURE 5-1A

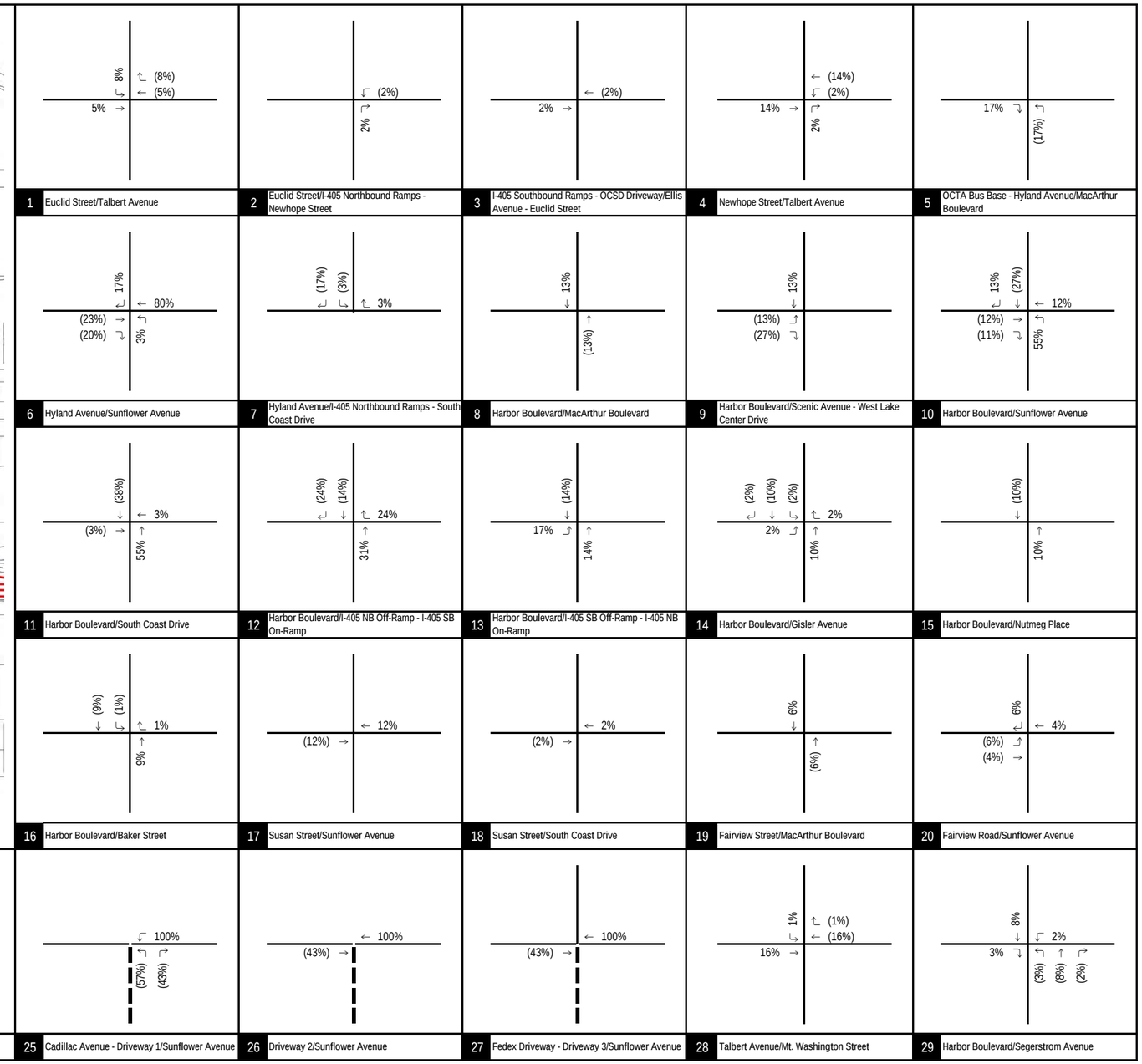
XX% (YY%)
Inbound (Outbound) Distribution

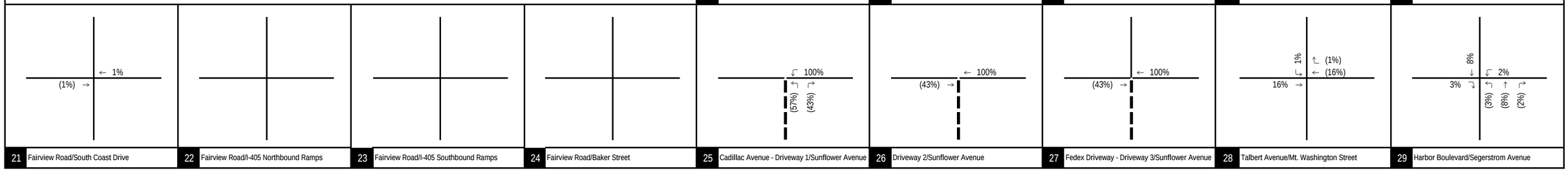
-- Project Driveway

One Metro West
Traffic Impact Analysis

Trip Distribution - Existing Use (A.M. Peak Hour)







LSA

FIGURE 5-1B

XX% (YY%)
Inbound (Outbound) Distribution

-- Project Driveway

One Metro West
Traffic Impact Analysis

Trip Distribution - Existing Use (P.M. Peak Hour)

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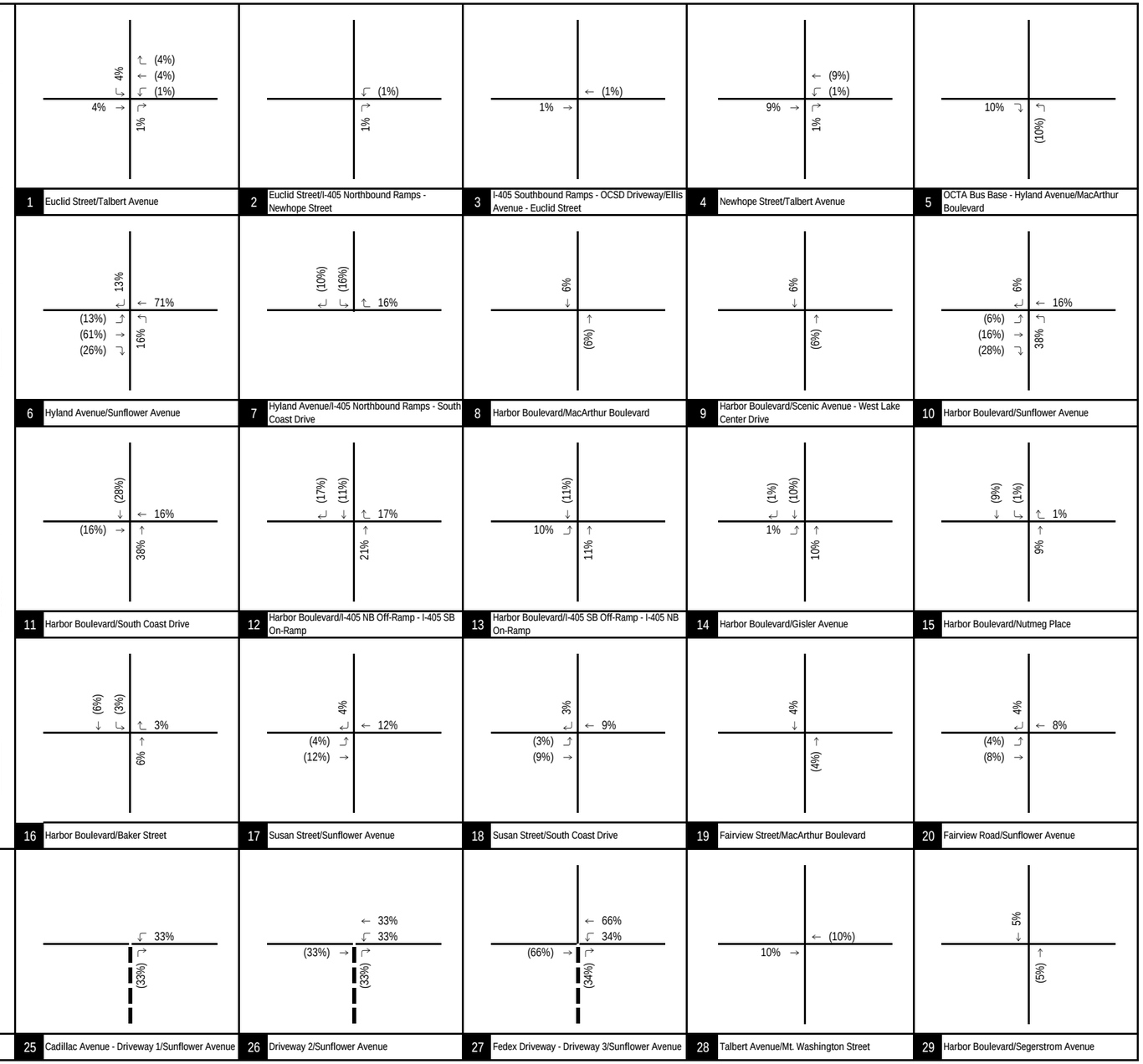
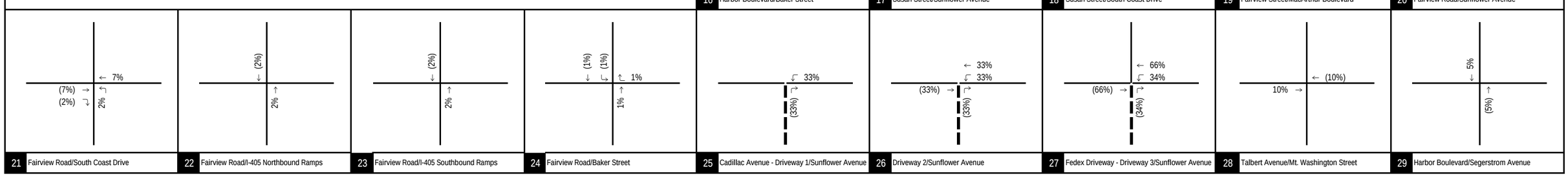




LSA

FIGURE 5-2

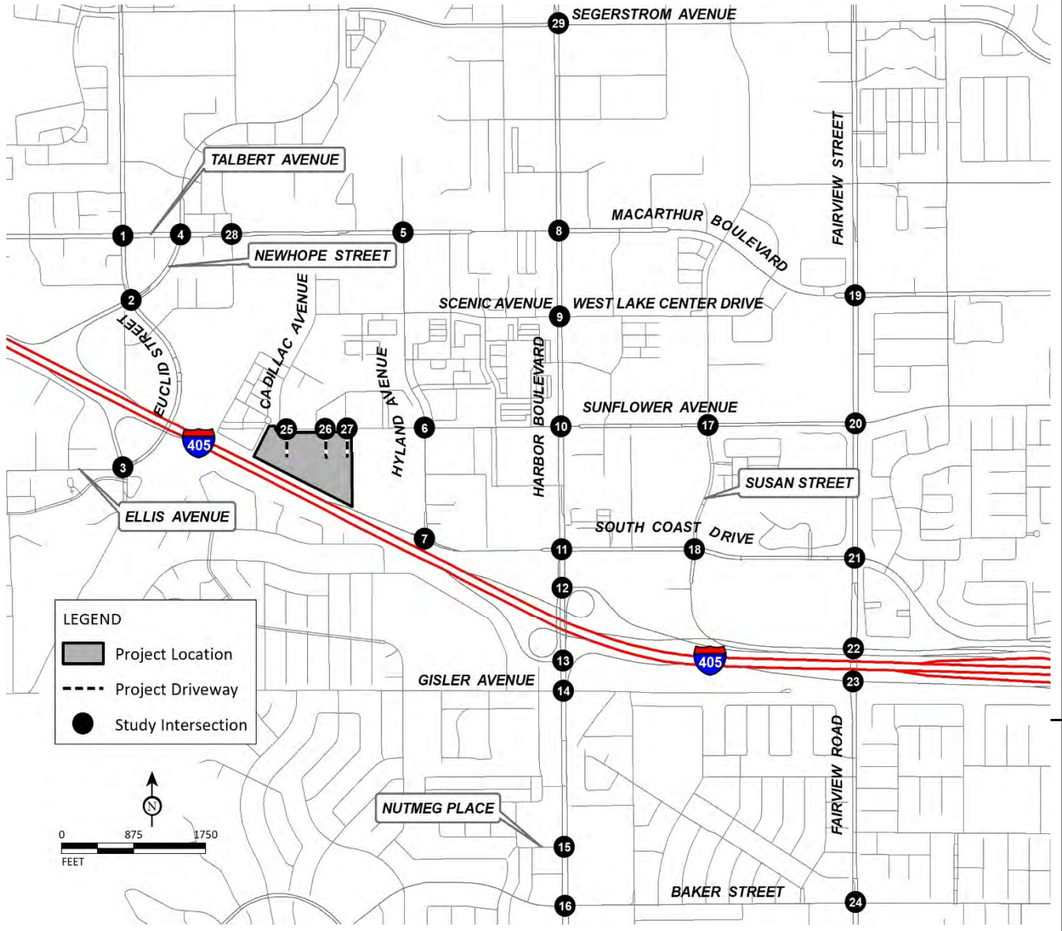
XX% (YY%)
Inbound (Outbound) Distribution

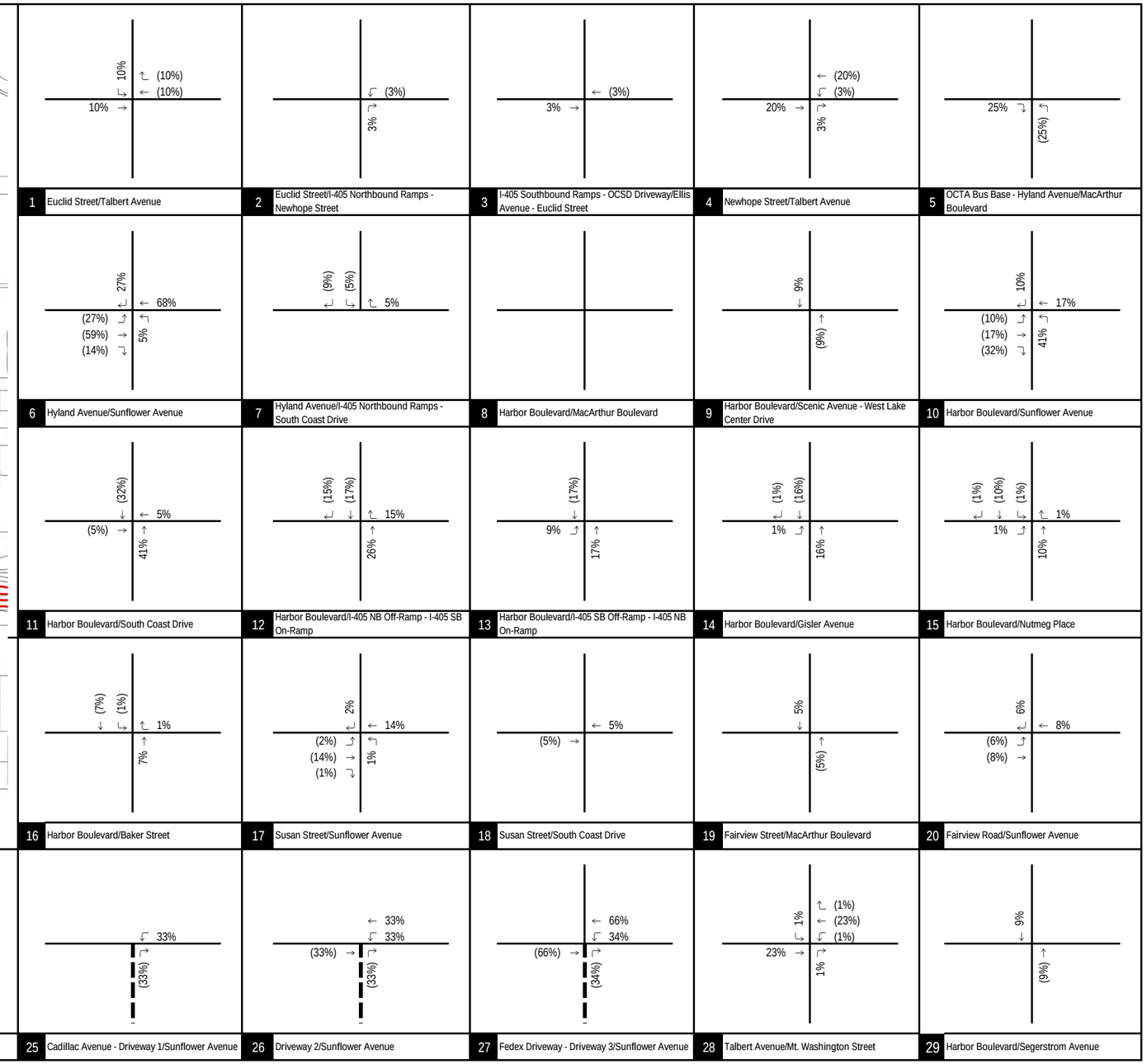
-- Project Driveway

One Metro West
Traffic Impact Analysis

Project Trip Distribution - Residential

R:\RSE1801 South Coast Metro West\Traffic\January 2020\z45_Dist_Res.xlsx 1/17/2020





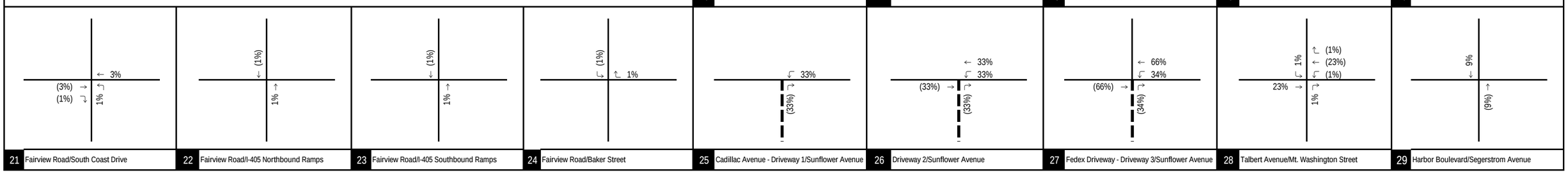


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FIGURE 5-3

XX% (YY%)
Inbound (Outbound) Distribution

---- Project Driveway

One Metro West
Traffic Impact Analysis

Project Trip Distribution - Non-Residential

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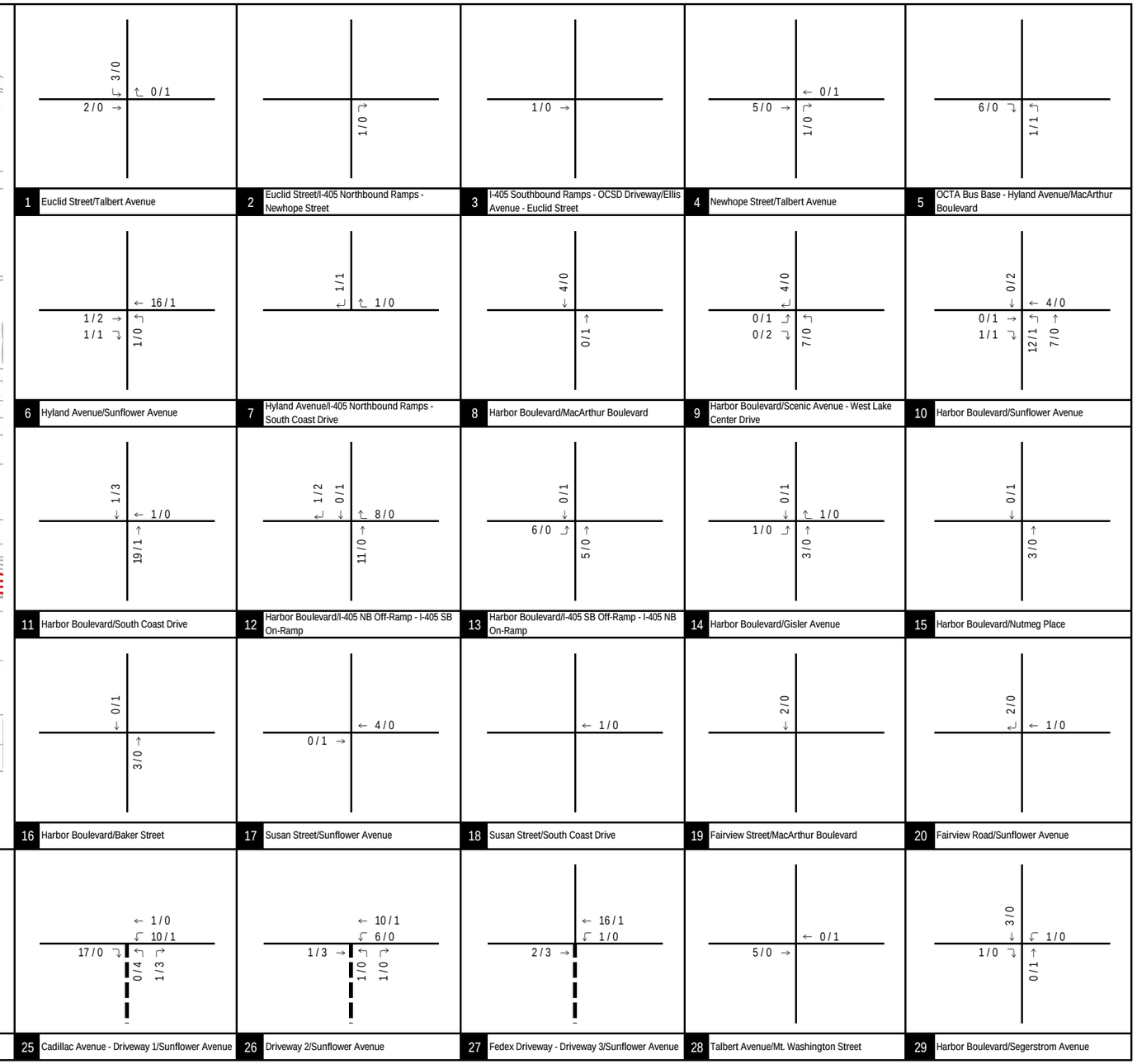

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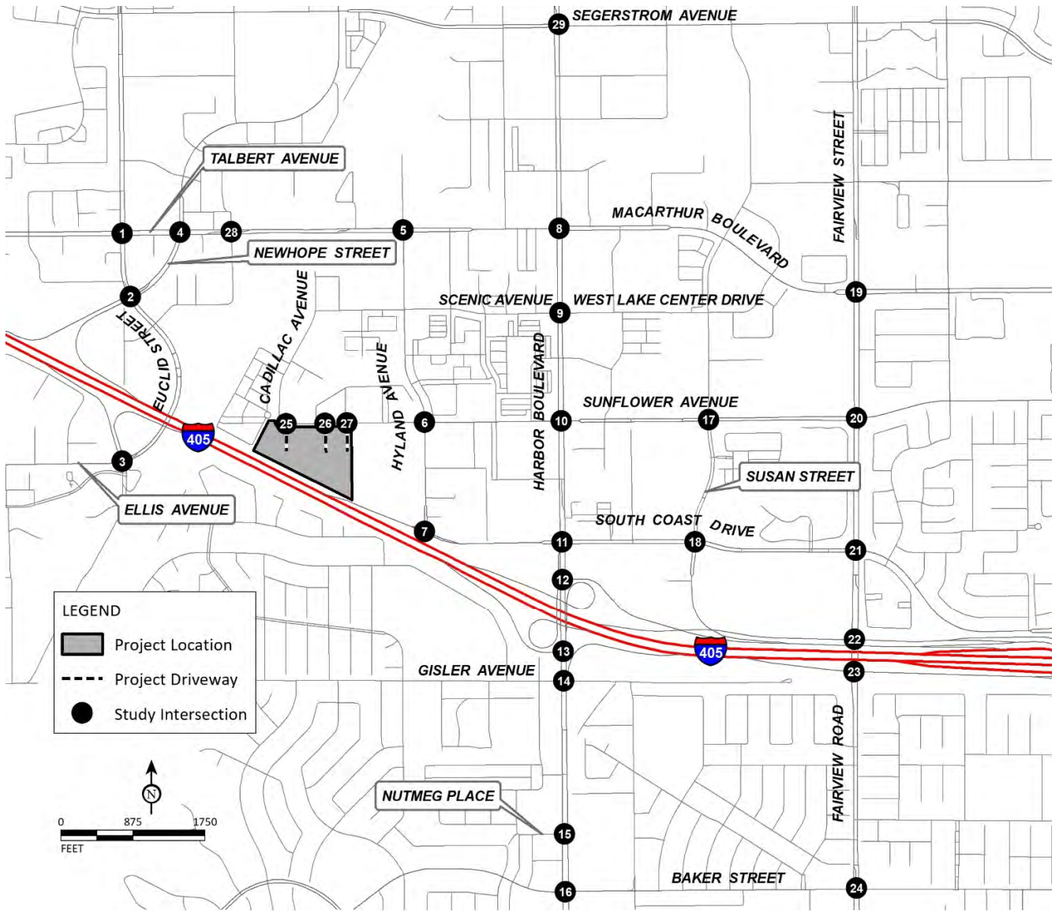
FIGURE 5-4

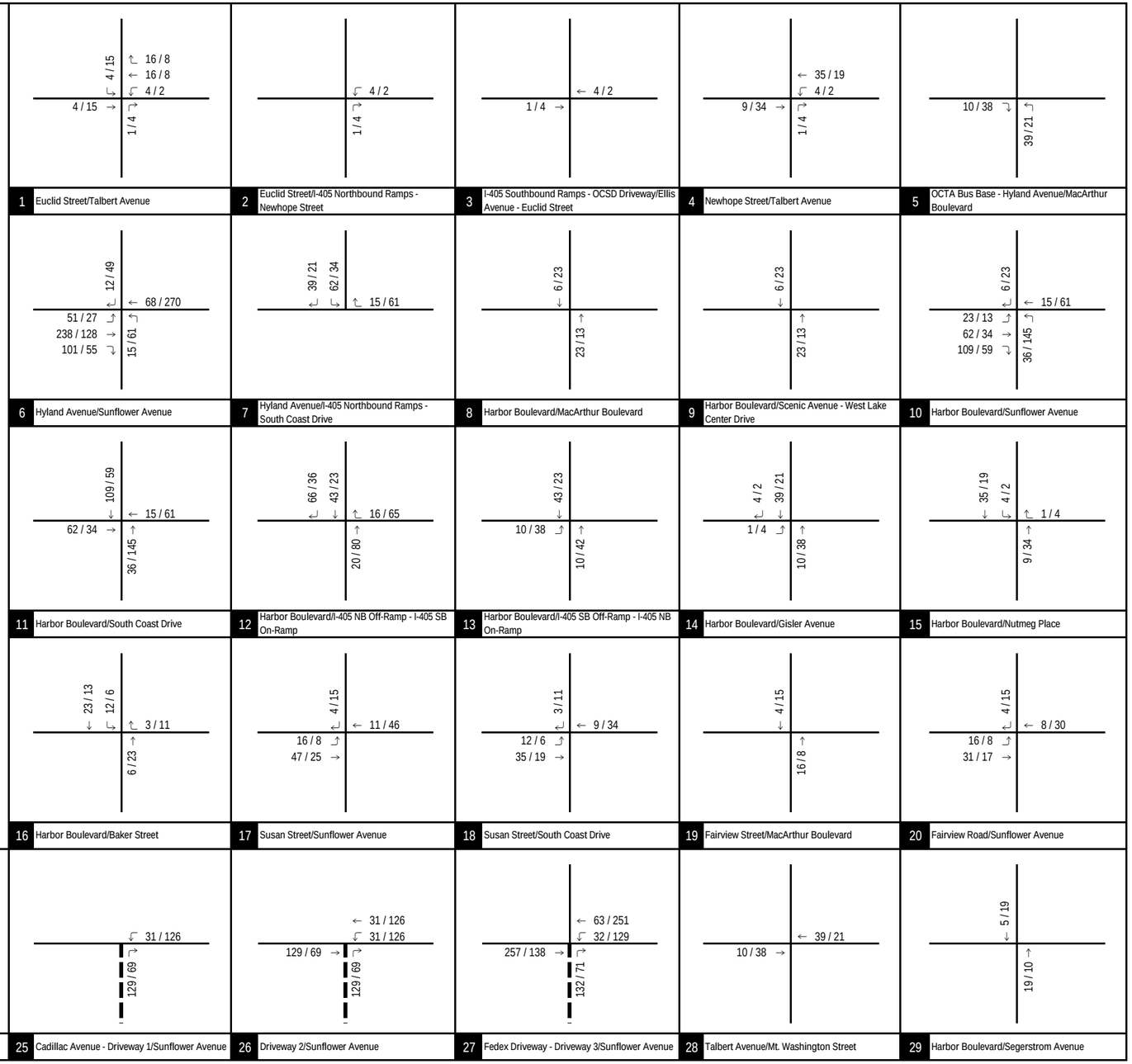
XX / YY
AM / PM Peak Hour Traffic Volumes

-- Project Driveway

One Metro West
Traffic Impact Analysis

Trip Assignment - Existing Use





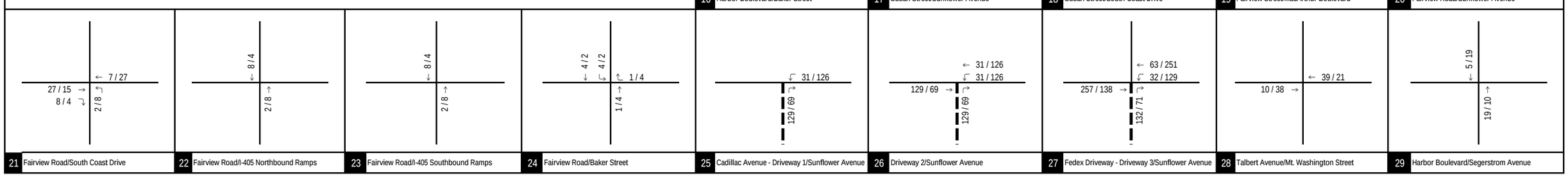


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FIGURE 5-5

XXX / YYY
AM / PM Peak Hour Traffic Volumes

-- Project Driveway

One Metro West
Traffic Impact Analysis

Project Trip Assignment - Residential

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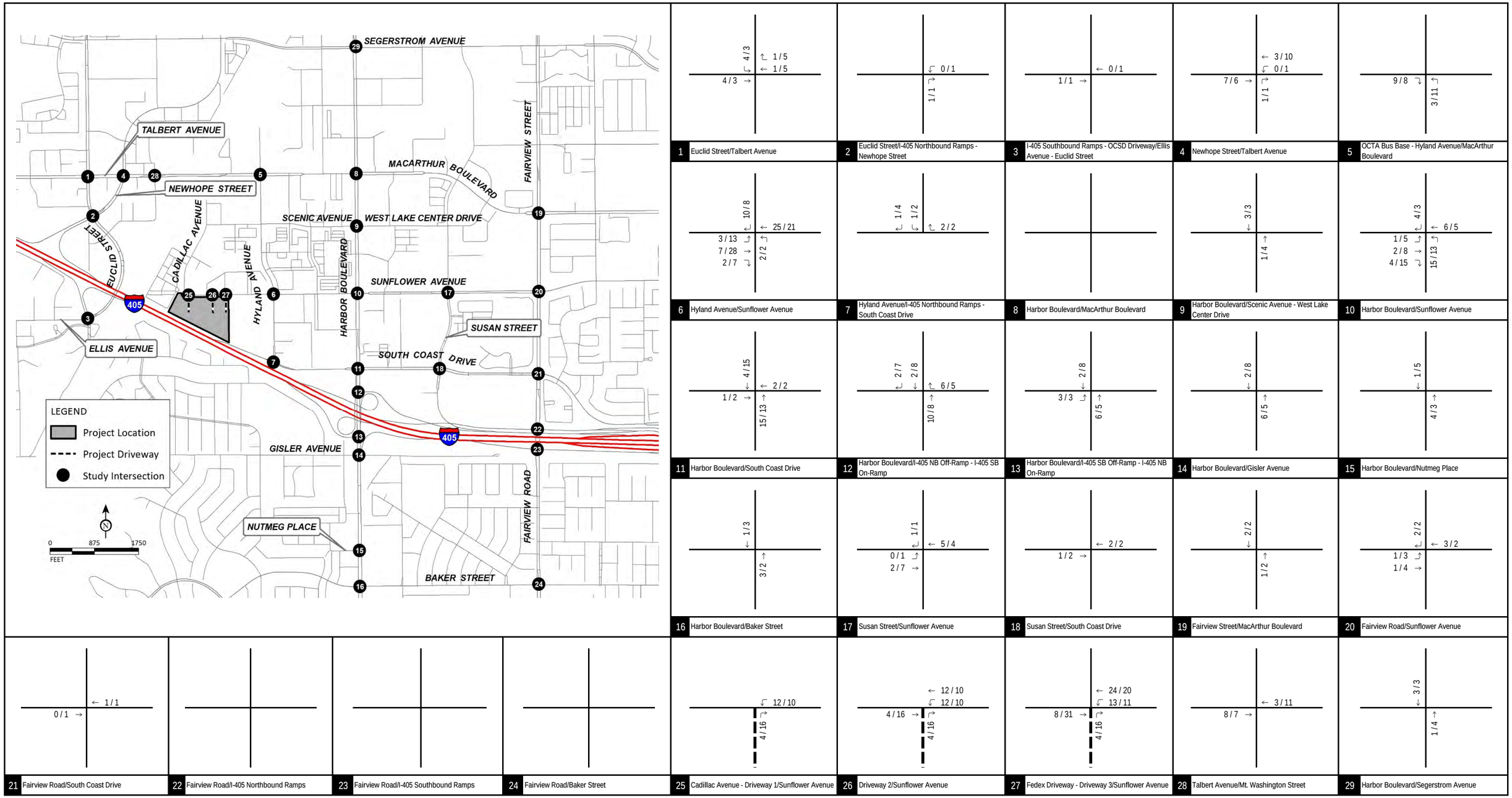

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FIGURE 5-6

XX / YY
AM / PM Peak Hour Traffic Volumes

-- Project Driveway

One Metro West
Traffic Impact Analysis

Project Trip Assignment - Non-Residential

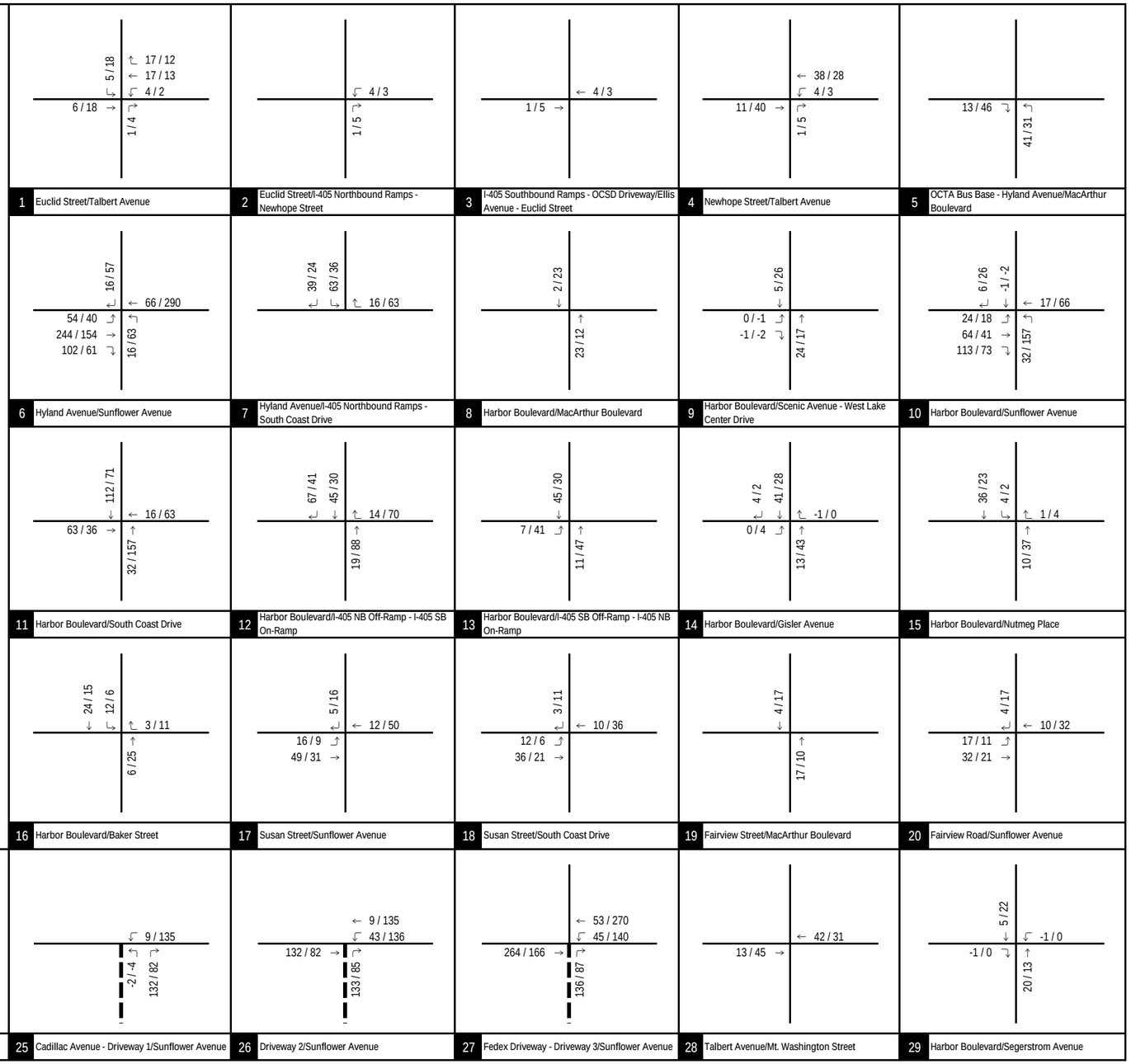

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FIGURE 5-7

XXX / YYY
AM / PM Peak Hour Traffic Volumes

-- Project Driveway

One Metro West
Traffic Impact Analysis

Total Net Project Trip Assignment

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LSA

Table 5-A - Project Trip Generation

Land Use	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Existing Uses								
General Light Industrial	345.41 TSF							
Trip Generation[1]		34	3	37	1	7	8	429
Proposed Uses								
Apartment	1,057 DU							
Trip Generation[2]		106	433	539	423	233	656	7,103
Internal Capture[7]		(11)	(43)	(54)	(42)	(23)	(66)	(710)
Net Project Trip Generation (Residential)		95	390	485	381	210	590	6,393
Public Park	1.50 AC							
Trips/Unit[3]		0.01	0.01	0.02	0.06	0.05	0.11	0.78
Trip Generation		0	0	0	0	0	0	1
Community Center	1.50 TSF							
Trips/Unit[4]		1.16	0.60	1.76	1.09	1.22	2.31	28.82
Trip Generation		2	1	3	2	2	4	43
General Office Building	25.00 TSF							
Trips/Unit[5]		1.00	0.16	1.16	0.18	0.97	1.15	9.74
Trip Generation		25	4	29	5	24	29	244
Supermarket	6.00 TSF							
Trips/Unit[6]		2.29	1.53	3.82	4.71	4.53	9.24	106.78
Trip Generation		14	9	23	28	27	55	641
		41	14	55	35	53	88	929
Internal Capture[7]		(4)	(1)	(5)	(4)	(5)	(9)	(93)
Net Project Trip Generation (Non-Residential)		37	13	50	31	48	79	836
Project Trip Generation		98	399	498	411	250	662	6,800

Notes:

TSF = Thousand Square Feet; DU = Dwelling Units; AC = Acres

[1] Trip generation is based on driveway counts (peak hours and daily) collected on September 11, 2019.

[2] Trip generation obtained from the Westside Lofts IS/MND.

[3] Rates based on Land Use 411 - "Public Park" from the ITE *Trip Generation Manual,* 10th Edition, Setting/Location - "General Urban/Suburban."

[4] Rates based on Land Use 495 - "Recreational Community Center" from the ITE *Trip Generation Manual,* 10th Edition, Setting/Location - "General Urban/Suburban."

[5] Rates based on Land Use 710 - "General Office Building" from the ITE *Trip Generation Manual,* 10th Edition, Setting/Location - "General Urban/Suburban."

[6] Rates based on Land Use 850 - "Supermarket" from the ITE *Trip Generation Manual,* 10th Edition, Setting/Location - "General Urban/Suburban."

[7] An internal capture rate of 10 percent has been used based on City experience at other South Coast Metro locations.

6.0 TRAFFIC VOLUMES FOR WITH PROJECT SCENARIOS

Existing, future short-term cumulative, and General Plan build out plus project traffic volumes were developed by subtracting the trips for the existing uses from the corresponding baseline scenarios and adding the project traffic. Figures 6-1, 6-2, and 6-3 illustrate the "plus project" peak hour traffic volumes at study intersections under existing, future short-term cumulative, and General Plan build out conditions, respectively.

Previously referenced Tables 4-A, 4-C, and 4-D summarize peak hour PCE volumes at study area freeway ramp merge/diverge areas and freeway segments under existing plus project conditions, future short-term cumulative (2027) plus project conditions, and General Plan build out (2040) plus project conditions, respectively.

Detailed volume development worksheets are included in Appendix C.

6.1 LIST OF CHAPTER 6.0 FIGURES

- Figure 6-1: Existing Plus Project Peak Hour Traffic Volumes
- Figure 6-2: Future Short-Term Cumulative (2027) Plus Project Peak Hour Traffic Volumes
- Figure 6-3: General Plan Build Out (2040) Plus Project Peak Hour Traffic Volumes

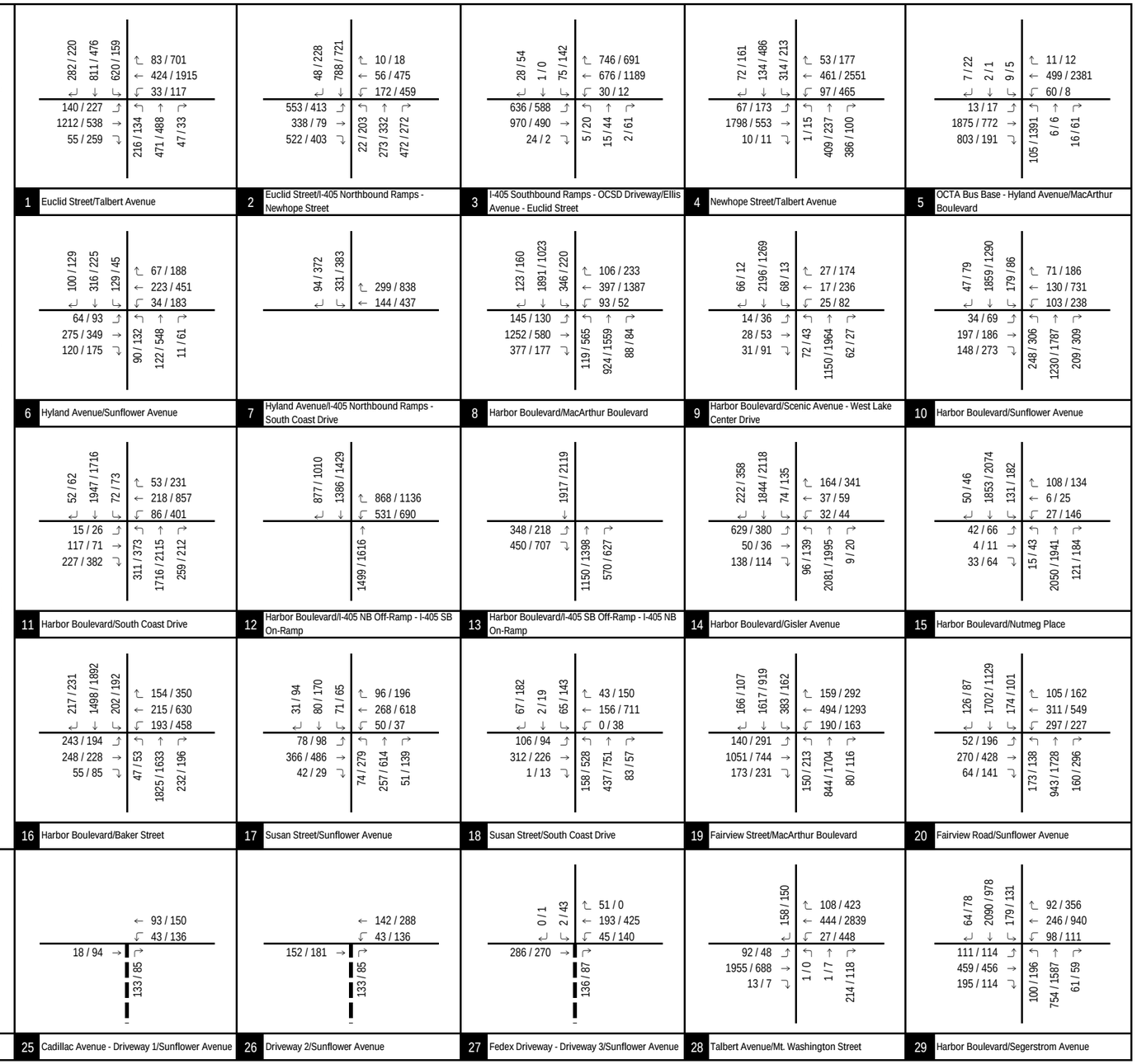

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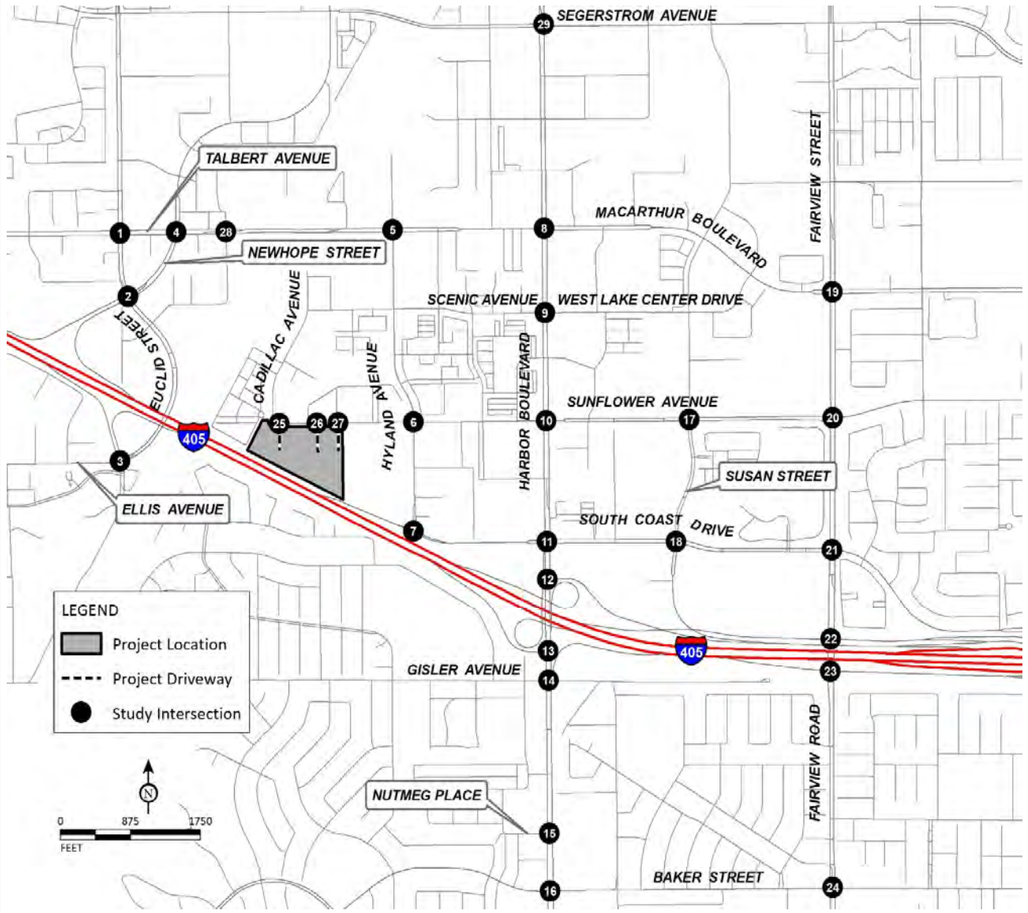
FIGURE 6-1

XXXX / YYYY
AM / PM Peak Hour Traffic Volumes

---- Project Driveway

One Metro West
Traffic Impact Analysis

Existing Plus Project Peak Hour Traffic Volumes



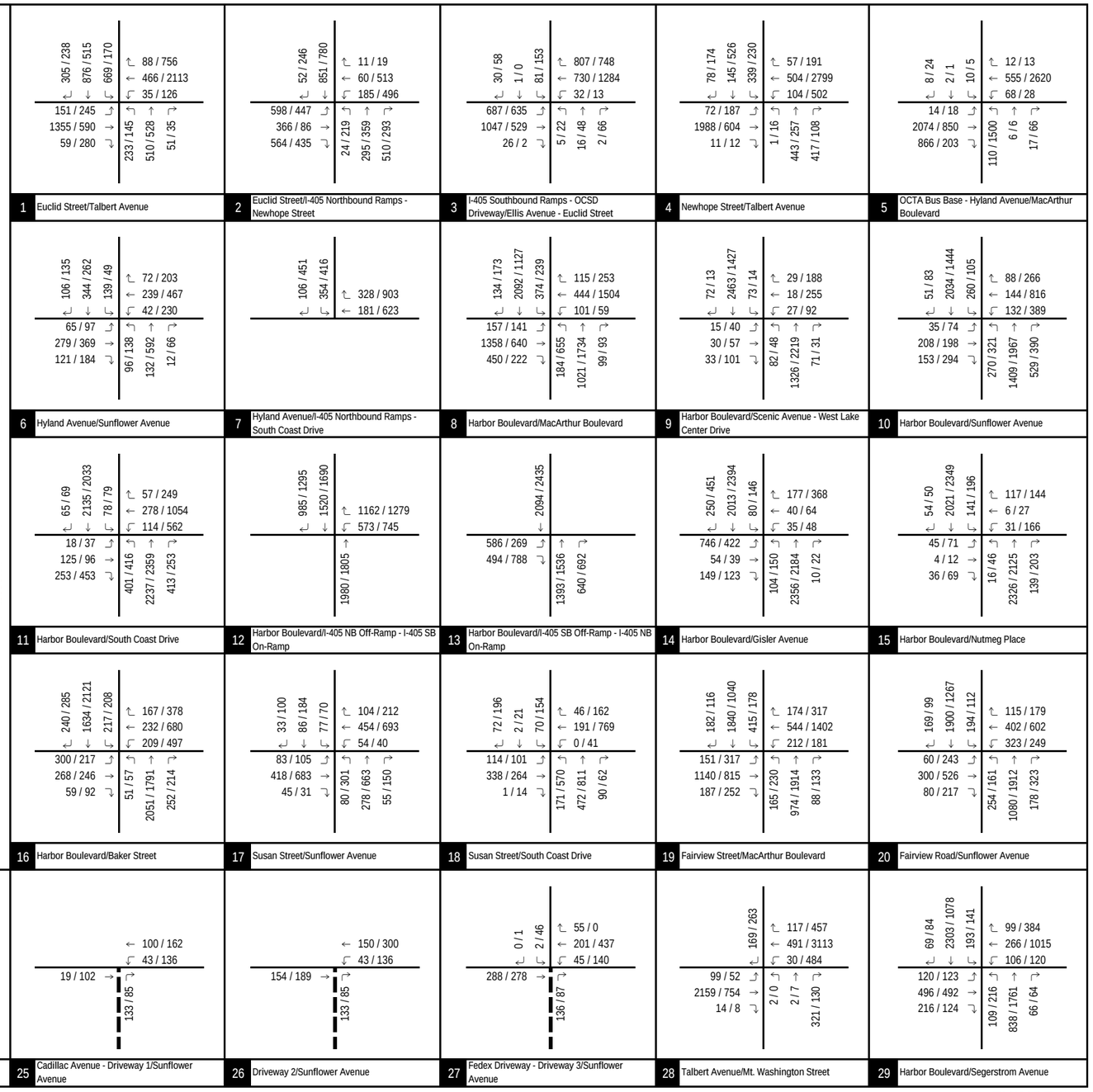


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FIGURE 6-2

XXXX / YYYY
AM / PM Peak Hour Traffic Volumes

-- Project Driveway

One Metro West
Traffic Impact Analysis

Future Short-Term Cumulative (2027) Plus Project Peak Hour Traffic Volumes

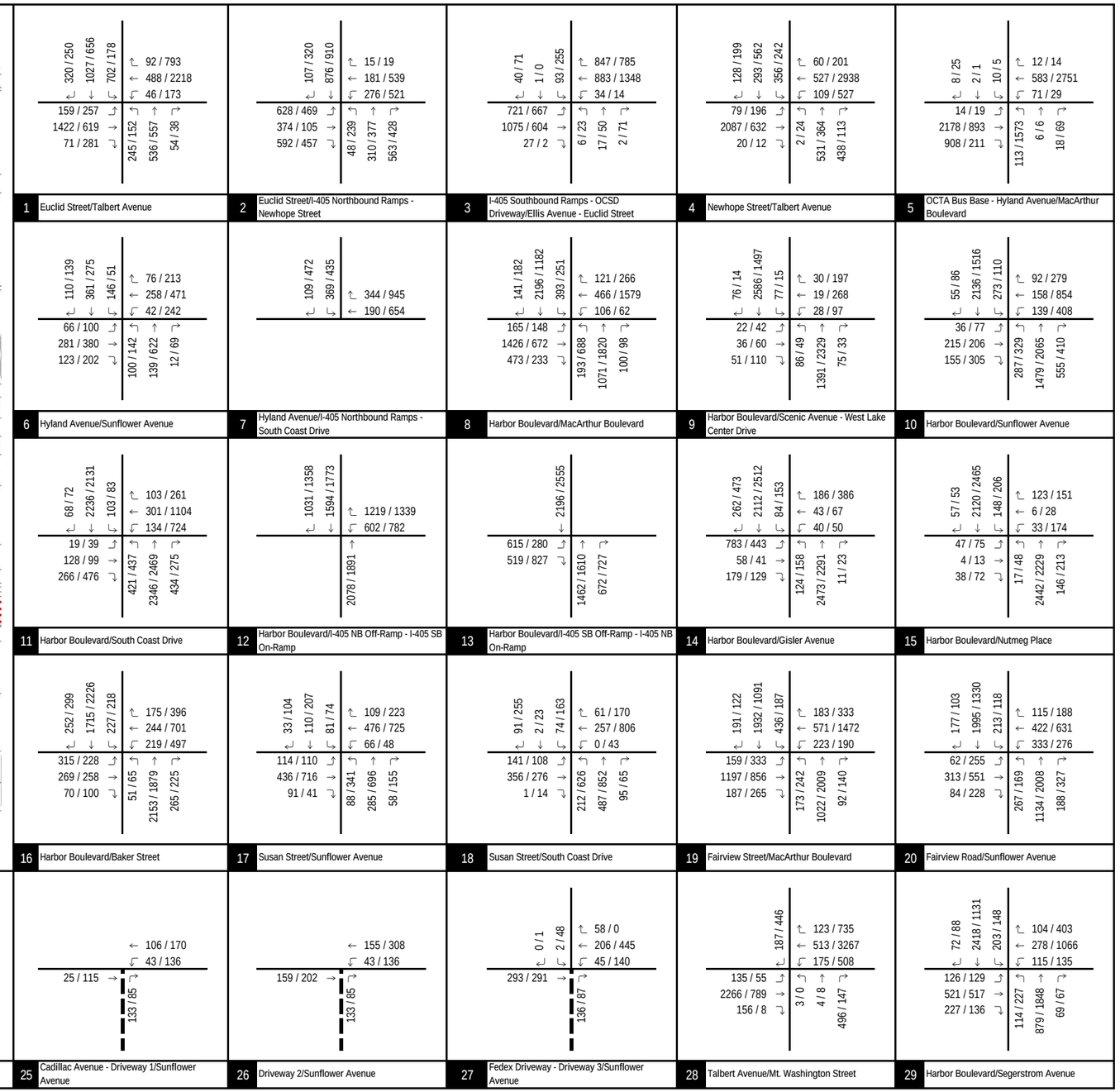

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FIGURE 6-3

XXXX / YYYY
AM / PM Peak Hour Traffic Volumes

-- Project Driveway

One Metro West
Traffic Impact Analysis

General Plan Build Out (2040) Plus Project Peak Hour Traffic Volumes

7.0 INTERSECTION AND FREEWAY LEVELS OF SERVICE

7.1 EXISTING INTERSECTION AND FREEWAY LEVELS OF SERVICE

Previously referenced Figure 3-1 illustrates existing study geometrics and traffic control. An intersection LOS analysis was conducted for existing conditions using the methodologies previously discussed. Table 7-A summarizes the results of the analysis and shows that the following intersections are currently operating at an unsatisfactory LOS:

- I-405 Southbound Ramps/Ellis Avenue - Euclid Street (p.m. peak hour only); and
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours).

Table 7-B summarizes the existing peak hour ramp merge/diverge and freeway segment LOS and shows that the following are currently operating at a deficient LOS:

I-405 Northbound

- Hyland Avenue On-Ramp (p.m. peak hour only).

I-405 Southbound

- Harbor Boulevard Off-Ramp (a.m. peak hour only);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
- Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

7.2 EXISTING PLUS PROJECT INTERSECTION AND FREEWAY LEVELS OF SERVICE

Analysis of the existing with project scenario is provided for CEQA compliance to identify direct project impacts if the project were to be built and in operation today. This scenario eliminates the effects of ambient growth and other cumulative projects and deals specifically with project impacts.

As previously referenced Figure 1-3 illustrates the proposed modifications along Sunflower Avenue that will be implemented with the development of the project. Figure 7-1 illustrates the existing plus project intersection geometrics and traffic control. An intersection LOS analysis was conducted for existing plus project conditions using the methodologies previously discussed. Previously referenced Table 7-A summarizes the results of the analysis and shows that the following intersections are forecast to operate at an unsatisfactory LOS under existing plus project conditions:

- I-405 Southbound Ramps/Ellis Avenue - Euclid Street (p.m. peak hour only); and
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours).

These intersections operate at an unsatisfactory LOS even under existing conditions. All other intersections are forecast to operate at a satisfactory LOS. The intersection of I-405 Southbound Ramps/Ellis Avenue - Euclid Street, will be reconfigured as part of the *I-405 Improvement Project*. Therefore, future scenarios consider the *I-405 Improvement Project* geometry at this intersection. As such, this intersection will operate at a satisfactory LOS under all future scenarios with implementation of the reconfigured geometry. Therefore, no mitigations have been proposed for this intersection.

Based on the Cities' criteria for determining significant traffic impacts (as described in the Methodology section of this report), a project impact occurs at the intersection of Talbert Avenue/Mt. Washington Street. This intersection operates at a deficient LOS under existing without project conditions. The project adds to the existing deficiency and will be paying its fair share for implementation of improvements at these intersection.

Previously referenced Table 7-B summarizes the existing plus project peak hour ramp merge/diverge and freeway segment LOS and shows that the following are forecast to operate at a deficient LOS:

I-405 Northbound

- Hyland Avenue On-Ramp (p.m. peak hour only).

I-405 Southbound

- Harbor Boulevard Off-Ramp (a.m. peak hour only);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
- Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

As summarized in Table 7-B, these freeway segments, ramp merge/diverge areas, and weaving areas operate at a deficient LOS under existing conditions. The project adds to the existing deficiency.

7.3 FUTURE SHORT-TERM CUMULATIVE (2027) BASELINE INTERSECTION AND FREEWAY LEVELS OF SERVICE

An intersection LOS analysis was conducted for future short-term cumulative baseline conditions using the methodologies previously discussed. Table 7-C summarizes the results of the analysis and shows that the following intersections are forecast to operate at an unsatisfactory LOS under future short-term cumulative baseline conditions:

- Euclid Street/Talbert Avenue (p.m. peak hour only);
- Harbor Boulevard/Scenic Avenue – West Lake Center Drive (p.m. peak hour only (based on both City of Costa Mesa and City of Santa Ana LOS standards));

- Fairview Street/MacArthur Boulevard (p.m. peak hour only);
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours); and
- Harbor Boulevard/Segerstrom Avenue (both a.m. and p.m. peak hours).

Table 7-D summarizes the future short-term cumulative baseline peak hour ramp merge/diverge and freeway segment LOS and shows that the following are forecast to operate at a deficient LOS:

I-405 Northbound

- Fairview Road On-Ramp (p.m. peak hour only);
- Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
- Harbor Boulevard On-Ramp (p.m. peak hour only);
- Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (p.m. peak hour only); and
- Hyland Avenue On-Ramp (p.m. peak hour only).

I-405 Southbound

- Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
- Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

7.4 FUTURE SHORT-TERM CUMULATIVE (2027) PLUS PROJECT INTERSECTION AND FREEWAY LEVELS OF SERVICE

An intersection LOS analysis was conducted for future short-term cumulative plus project conditions using the methodologies previously discussed. Table 7-C summarizes the results of the analysis and shows that the following intersections are forecast to operate at an unsatisfactory LOS under future short-term cumulative plus project conditions:

- Euclid Street/Talbert Avenue (p.m. peak hour only);
- Harbor Boulevard/Scenic Avenue – West Lake Center Drive (p.m. peak hour only (based on both City of Costa Mesa and City of Santa Ana LOS standards));
- Fairview Street/MacArthur Boulevard (p.m. peak hour only);
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours); and
- Harbor Boulevard/Segerstrom Avenue (both a.m. and p.m. peak hours).

All five intersections are forecast to operate at an unsatisfactory LOS even under future short-term cumulative baseline conditions.

Based on the Cities' criteria for determining significant traffic impacts (as described in the Methodology section of this report), a project impact occurs at the intersection of Talbert Avenue/Mt. Washington Street. This intersection is also forecast to operate at a deficient LOS under future short-term cumulative baseline conditions. The project adds to the forecast deficiency and will be paying its fair share for implementation of improvements at this intersection. At the other four intersections, based on the jurisdictional project impact criteria, the project will not have a significant impact.

Table 7-D summarizes the future short-term cumulative plus project peak hour ramp merge/diverge and freeway segment LOS and shows that the following are forecast to operate at a deficient LOS:

I-405 Northbound

- Fairview Road On-Ramp (p.m. peak hour only);
- Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
- Harbor Boulevard On-Ramp (p.m. peak hour only);
- Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (p.m. peak hour only); and
- Hyland Avenue On-Ramp (p.m. peak hour only).

I-405 Southbound

- Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (a.m. peak hour only);
- Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
- Harbor Boulevard Slip-On Ramp (a.m. peak hour only); and
- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (a.m. peak hour only).

All these freeway segments, ramp merge/diverge areas operate at a deficient LOS under future short-term cumulative baseline conditions. The project adds to the forecasted deficiency.

7.5 GENERAL PLAN BUILD OUT (2040) BASELINE INTERSECTION AND FREEWAY LEVELS OF SERVICE

An intersection LOS analysis was conducted for General Plan build out baseline conditions using the methodologies previously discussed. Table 7-E summarizes the results of this analysis and shows that the following intersections are forecast to operate at an unsatisfactory LOS under General Plan build out baseline conditions:

- Euclid Street/Talbert Avenue (p.m. peak hour only);
- Newhope Street/Talbert Avenue (a.m. peak hour only);
- Harbor Boulevard/Scenic Avenue – West Lake Center Drive (p.m. peak hour only (based on both City of Costa Mesa and City of Santa Ana LOS standards));
- Susan Street/South Coast Drive (p.m. peak hour only);
- Fairview Street/MacArthur Boulevard (p.m. peak hour only);
- Fairview Road/South Coast Drive (p.m. peak hour only);
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours); and
- Harbor Boulevard/Segerstrom Avenue (both a.m. and p.m. peak hours).

Table 7-F summarizes the General Plan build out baseline peak hour ramp merge/diverge and freeway segment LOS and shows that the following are forecast to operate at a deficient LOS:

I-405 Northbound

- South of Fairview Road On-Ramp (p.m. peak hour only);
- Fairview Road On-Ramp (p.m. peak hour only);
- Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
- Harbor Boulevard On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (both a.m. and p.m. peak hours); and
- Hyland Avenue On-Ramp (both a.m. and p.m. peak hours).

I-405 Southbound

- Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
- Harbor Boulevard Slip-On Ramp (both a.m. and p.m. peak hours); and
- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (both a.m. and p.m. peak hours).

7.6 GENERAL PLAN BUILD OUT (2040) PLUS PROJECT LEVELS OF SERVICE

An intersection LOS analysis was conducted for General Plan build out baseline conditions using the methodologies previously discussed. Table 7-E summarizes the results of this analysis and shows that the following intersections are forecast to operate at an unsatisfactory LOS under General Plan build out plus project conditions:

- Euclid Street/Talbert Avenue (p.m. peak hour only);
- Newhope Street/Talbert Avenue (a.m. peak hour only);
- Harbor Boulevard/Scenic Avenue – West Lake Center Drive (p.m. peak hour only (based on both City of Costa Mesa and City of Santa Ana LOS standards));
- Susan Street/South Coast Drive (p.m. peak hour only);
- Fairview Street/MacArthur Boulevard (p.m. peak hour only);
- Fairview Road/South Coast Drive (p.m. peak hour only);
- Talbert Avenue/Mt. Washington Street (both a.m. and p.m. peak hours); and
- Harbor Boulevard/Segerstrom Avenue (both a.m. and p.m. peak hours).

All eight intersections are forecast to operate at an unsatisfactory LOS even under future General Plan build out baseline conditions.

Based on the Cities' criteria for determining significant traffic impacts (as described in the Methodology section of this report), a cumulative project impact occurs at the intersections of Susan Street/South Coast Drive and Talbert Avenue/Mt. Washington Street. At the other six intersections, based on the jurisdictional project impact criteria, the project will not have a significant impact.

Table 7-F summarizes the General Plan build out plus project peak hour ramp merge/diverge and freeway segment LOS and shows that the following are forecast to operate at a deficient LOS:

I-405 Northbound

- South of Fairview Road On-Ramp (p.m. peak hour only);
- Fairview Road On-Ramp (p.m. peak hour only);
- Fairview Road On-Ramp and Harbor Boulevard On-Ramp (p.m. peak hour only);
- Harbor Boulevard On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp (both a.m. and p.m. peak hours); and
- Hyland Avenue On-Ramp (both a.m. and p.m. peak hours).

I-405 Southbound

- Harbor Boulevard Off-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp (both a.m. and p.m. peak hours);
- Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp (a.m. peak hour only);
- Harbor Boulevard Slip-On Ramp (both a.m. and p.m. peak hours); and

- Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp (both a.m. and p.m. peak hours).

All these freeway segments, ramp merge/diverge areas are forecast to operate at a deficient LOS under General Plan build out baseline conditions. The project adds to the forecasted deficiency.

Detailed intersection level of service worksheets are provided in Appendix E. Detailed freeway level of service worksheets are provided in Appendix F.

7.7 LIST OF CHAPTER 7.0 FIGURES AND TABLES

- Figure 7-1: Existing with Project Study Intersection Geometrics and Traffic Control
- Table 7-A: Existing Intersection Levels of Service
- Table 7-B: Existing Freeway Segment and Ramp Levels of Service
- Table 7-C: Future Short-Term Cumulative (2027) Intersection Levels of Service
- Table 7-D: Future Short-Term Cumulative (2027) Freeway Segment and Ramp Levels of Service
- Table 7-E: General Plan Build Out (2040) Intersection Levels of Service
- Table 7-F: General Plan Build Out (2040) Freeway Segment and Ramp Levels of Service

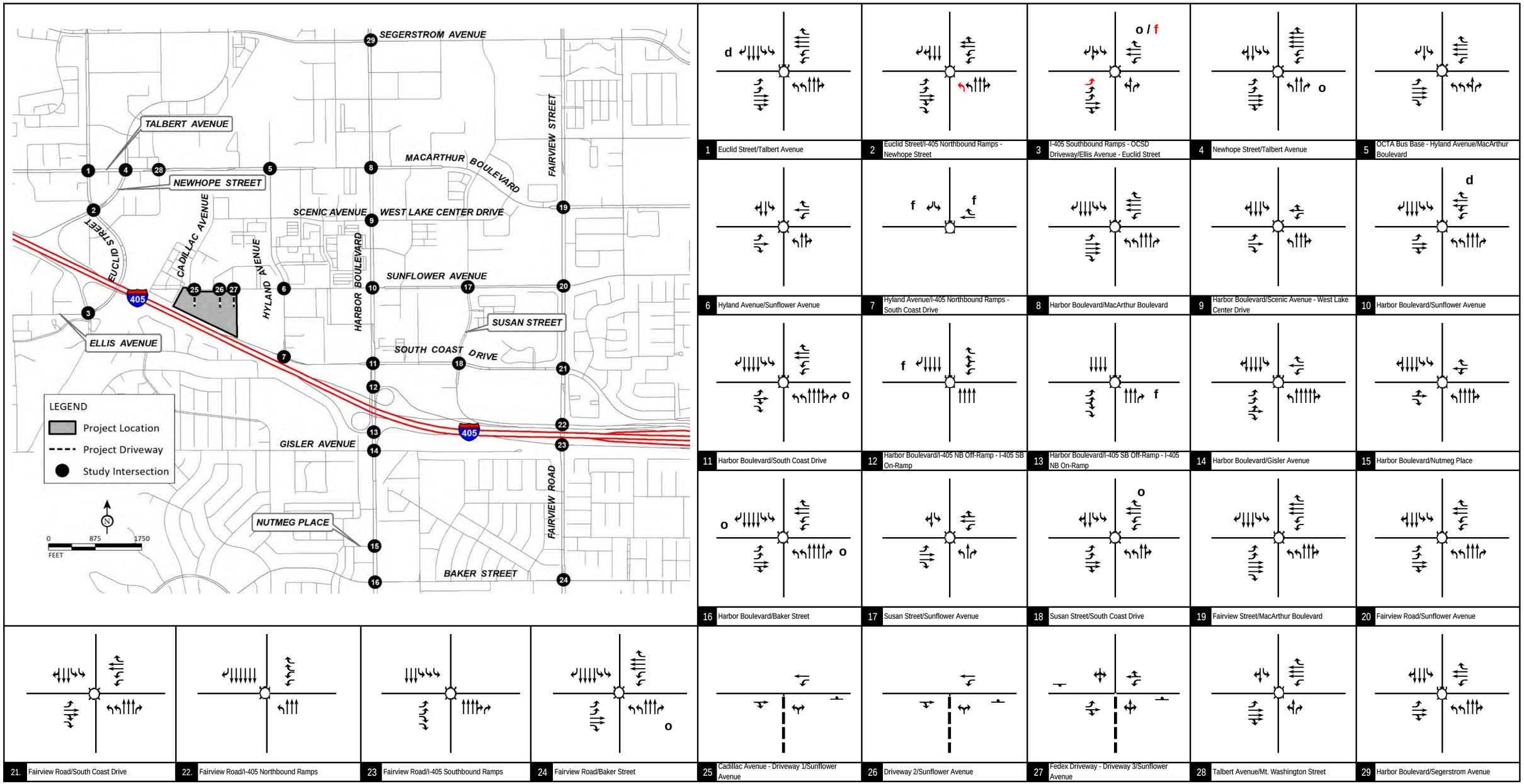

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FIGURE 7-1

Legend

- Signal
- Stop Sign
- d Defacto right turn
- f Free right-turn
- o Right-turn overlap
- Project Driveway
- Future I-405 Improvement Project Intersection Improvements (Years 2027 and Beyond)

One Metro West
Traffic Impact Analysis

Existing with Project Study Intersection Geometrics and Traffic Control

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Table 7-A - Existing Intersection Level of Service Summary

Study Intersection No.	Intersection	Jursidiction	Traffic Control	Existing				Existing Plus Project				Peak-Hour Δ		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	AM	PM	
1	Euclid Street/Talbert Avenue	City of Fountain Valley	Signal	0.66	B	0.85	D	0.68	B	0.86	D	0.02	0.01	No
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	0.96	**E**	0.77	C	0.96	**E**	0.77	C	0.00	0.00	No
	HCM			30.70	C	34.80	C	30.80	C	34.80	C	-	-	No
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street[1]	Caltrans	Signal	0.77	C	0.76	C	0.77	C	0.76	C	0.00	0.00	No
	HCM			41.10	D	73.00	**E**	41.10	D	73.00	**E**	-	-	**Yes**
4	Newhope Street/Talbert Avenue	City of Fountain Valley	Signal	0.82	D	0.73	C	0.82	D	0.74	C	0.00	0.01	No
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	City of Costa Mesa	Signal	0.57	A	0.75	C	0.58	A	0.75	C	0.01	0.00	No
		City of Santa Ana		0.60	A	0.75	C	0.61	B	0.75	C	0.01	0.00	No
6	Hyland Avenue/Sunflower Avenue	City of Costa Mesa	Signal	0.28	A	0.60	A	0.40	A	0.63	B	0.12	0.03	No
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.29	A	0.51	A	0.32	A	0.54	A	0.03	0.03	No
	HCM			23.20	C	21.20	C	23.20	C	21.20	C	-	-	No
8	Harbor Boulevard/MacArthur Boulevard	Ciy of Costa Mesa	Signal	0.76	C	0.77	C	0.76	C	0.77	C	0.00	0.00	No
		City of Santa Ana		0.77	C	0.78	C	0.77	C	0.78	C	0.00	0.00	No
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	City of Costa Mesa	Signal	0.64	B	0.82	D	0.64	B	0.82	D	0.00	0.00	No
		City of Santa Ana		0.65	B	0.83	D	0.66	B	0.83	D	0.01	0.00	No
10	Harbor Boulevard/Sunflower Avenue	City of Costa Mesa	Signal	0.57	A	0.72	C	0.61	B	0.76	C	0.04	0.04	No
		City of Santa Ana		0.58	A	0.72	C	0.62	B	0.76	C	0.04	0.04	No
11	Harbor Boulevard/South Coast Drive	City of Costa Mesa	Signal	0.50	A	0.68	B	0.60	A	0.70	B	0.10	0.02	No
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.61	B	0.69	B	0.61	B	0.73	C	0.00	0.04	No
	HCM			14.90	B	20.60	C	15.00	B	21.60	C	-	-	No
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.50	A	0.64	B	0.51	A	0.64	B	0.01	0.00	No
	HCM			10.00	A	12.70	B	10.00	A	12.90	B	-	-	No
14	Harbor Boulevard/Gisler Avenue	City of Costa Mesa	Signal	0.58	A	0.72	C	0.59	A	0.73	C	0.01	0.01	No
15	Harbor Boulevard/Nutmeg Place	City of Costa Mesa	Signal	0.49	A	0.55	A	0.49	A	0.56	A	0.00	0.01	No
16	Harbor Boulevard/Baker Street	City of Costa Mesa	Signal	0.54	A	0.60	A	0.54	A	0.60	A	0.00	0.00	No
17	Susan Street/Sunflower Avenue	City of Costa Mesa	Signal	0.38	A	0.72	C	0.40	A	0.75	C	0.02	0.03	No
		City of Santa Ana		0.38	A	0.73	C	0.40	A	0.75	C	0.02	0.02	No
18	Susan Street/South Coast Drive	City of Costa Mesa	Signal	0.39	A	0.75	C	0.40	A	0.77	C	0.01	0.02	No
19	Fairview Street/MacArthur Boulevard	City of Santa Ana	Signal	0.69	B	0.84	D	0.69	B	0.84	D	0.00	0.00	No
20	Fairview Road/Sunflower Avenue	City of Costa Mesa	Signal	0.68	B	0.65	B	0.70	B	0.66	B	0.02	0.01	No
		City of Santa Ana		0.68	B	0.65	B	0.70	B	0.66	B	0.02	0.01	No
21	Fairview Road/South Coast Drive	City of Costa Mesa	Signal	0.69	B	0.77	C	0.70	B	0.76	C	0.01	(0.01)	No
22	Fairview Road/I-405 Northbound Ramps	Caltrans	Signal	0.64	B	0.64	B	0.64	B	0.64	B	0.00	0.00	No
	HCM			29.10	C	21.30	C	29.10	C	21.60	C	-	-	No
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.82	D	0.62	B	0.82	D	0.62	B	0.00	0.00	No
	HCM			20.90	C	16.20	B	20.90	C	16.20	B	-	-	No
24	Fairview Road/Baker Street	City of Costa Mesa	Signal	0.66	B	0.64	B	0.66	B	0.64	B	0.00	0.00	No
25	Cadillac Avenue - Driveway 1/Sunflower Avenue *HCM*	City of Costa Mesa	OWSC	8.40	A	9.50	A	8.90	A	9.20	A	-	-	No
26	Driveway 2/Sunflower Avenue *HCM*	City of Costa Mesa	OWSC	8.80	A	0.00	A	9.90	A	9.80	A	-	-	No
27	Fedex Driveway - Driveway 3/Sunflower Avenue *HCM*	City of Costa Mesa	TWSC	9.90	A	10.40	B	15.00	C	23.10	C	-	-	No
28	Talbert Avenue/Mt. Washington Street *HCM*	City of Fountain Valley	TWSC	>100	**F**	>100	**F**	>100	**F**	>100	**F**	-	-	**Yes**
29	Harbor Boulevard/Segerstrom Avenue	City of Santa Ana	Signal	0.85	D	0.85	D	0.85	D	0.85	D	0.00	0.00	No

Notes:

Δ = change

Delay is reported in seconds.

HCM = Highway Capacity Manual

OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control

I-405 = Interstate 405

ICU = Intersection Capacity Utilization

LOS = Level of Service

For OWSC and TWSC intersections, the reported delay is for the worst-case movement.

Bold Indicates deficient LOS

1 Intersection geometry changes in future scenarios as part of the *I-405 Improvement Project*

LSA

Table 7-B - Existing Freeway Segment and Ramp Levels of Service

I-405 Freeway	Type	Mainline Lanes	Without Project						With Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound														
1 . South of Fairview Road On-Ramp	Basic	6	58.2	32.2	D	55.9	36.9	E	58.2	32.2	D	55.9	36.9	E
2 . Fairview Road On-Ramp	Ramp (Merge)	6	54.0	31.8	D	51.0	35.6	E	54.0	31.8	D	51.0	35.6	E
3 . Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic	6	57.2	34.4	D	54.3	39.7	E	57.2	34.4	D	54.3	39.7	E
4 . Harbor Boulevard On-Ramp	Ramp (Merge)	6	52.7	34.1	D	45.3	40.5	E	52.7	34.1	D	45.3	40.5	E
5 . Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic	6	55.5	37.4	E	51.7	44.0	E	55.5	37.4	E	51.7	44.0	E
6 . Hyland Avenue On-Ramp	Ramp (Merge)	6	53.0	33.5	D	-	-	**F**	52.8	33.8	D	-	-	**F**
Southbound														
7 . Harbor Boulevard Off-Ramp	Ramp (Diverge)	6	-	-	**F**	53.1	33.0	D	-	-	**F**	53.0	33.2	D
8 . Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic	6	-	-	**F**	54.6	39.0	E	-	-	**F**	54.6	39.0	E
9 . Harbor Boulevard Loop On-Ramp	Ramp (Merge)	6	-	-	**F**	42.5	38.4	E	-	-	**F**	-	-	**F**
10 . Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	Basic	7	-	-	**F**	56.4	35.1	E	-	-	**F**	56.4	35.2	E
11 . Harbor Boulevard Slip-On Ramp	Ramp (Merge)	7	-	-	**F**	31.7	42.4	E	-	-	**F**	30.7	42.7	E
12 . Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)	7	-	-	**F**	53.9	35.5	E	-	-	**F**	53.9	35.6	E

Notes:
I-405 = Interstate 405
mi/hr : miles per hour
pc/mi/ln: passanger cars per mile per lane
Bold Indicates deficient LOS

LSA

Table 7-C - Future Short-Term Cumulative (2027) Intersection Level of Service Summary

Study Intersection No.	Intersection	Jursidiction	Traffic Control	Future Short-Term Cumulative (2027) Baseline				Future Short-Term Cumulative (2027) Plus Project				Peak-Hour Δ		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	AM	PM	
1	Euclid Street/Talbert Avenue	City of Fountain Valley	Signal	0.73	C	0.91	**E**	0.73	C	0.91	**E**	0.00	0.00	No
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	1.03	**F**	0.82	D	1.03	**F**	0.82	D	0.00	0.00	No
	HCM			33.60	C	42.40	D	33.70	C	42.40	D	-	-	No
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street	Caltrans	Signal	0.51	A	0.69	B	0.51	A	0.69	B	0.00	0.00	No
	HCM			33.50	C	39.20	D	33.60	C	39.30	D	-	-	No
4	Newhope Street/Talbert Avenue	City of Fountain Valley	Signal	0.89	D	0.80	C	0.90	D	0.80	C	0.01	0.00	No
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	City of Costa Mesa	Signal	0.61	B	0.81	D	0.62	B	0.81	D	0.01	0.00	No
		City of Santa Ana		0.64	B	0.81	D	0.65	B	0.81	D	0.01	0.00	No
6	Hyland Avenue/Sunflower Avenue	City of Costa Mesa	Signal	0.34	A	0.58	A	0.42	A	0.68	B	0.08	0.10	No
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.33	A	0.64	B	0.37	A	0.66	B	0.04	0.02	No
	HCM			21.70	C	24.60	C	21.70	C	24.60	C	-	-	No
8	Harbor Boulevard/MacArthur Boulevard	Ciy of Costa Mesa	Signal	0.84	D	0.83	D	0.84	D	0.83	D	0.00	0.00	No
		City of Santa Ana		0.85	D	0.85	D	0.85	D	0.85	D	0.00	0.00	No
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	City of Costa Mesa	Signal	0.72	C	0.91	**E**	0.72	C	0.91	**E**	0.00	0.00	No
		City of Santa Ana		0.73	C	0.92	**E**	0.72	C	0.92	**E**	(0.01)	0.00	No
10	Harbor Boulevard/Sunflower Avenue	City of Costa Mesa	Signal	0.66	B	0.84	D	0.71	C	0.87	D	0.05	0.03	No
		City of Santa Ana		0.68	B	0.84	D	0.73	C	0.87	D	0.05	0.03	No
11	Harbor Boulevard/South Coast Drive	City of Costa Mesa	Signal	0.57	A	0.79	C	0.66	B	0.80	C	0.09	0.01	No
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.79	C	0.77	C	0.79	C	0.82	D	0.00	0.05	No
	HCM			19.50	B	24.10	C	19.90	B	25.80	C	-	-	No
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.58	A	0.71	C	0.59	A	0.72	C	0.01	0.01	No
	HCM			12.30	B	13.40	B	12.40	B	13.70	B	-	-	No
14	Harbor Boulevard/Gisler Avenue	City of Costa Mesa	Signal	0.63	B	0.85	D	0.64	B	0.85	D	0.01	0.00	No
15	Harbor Boulevard/Nutmeg Place	City of Costa Mesa	Signal	0.56	A	0.61	B	0.56	A	0.61	B	0.00	0.00	No
16	Harbor Boulevard/Baker Street	City of Costa Mesa	Signal	0.58	A	0.64	B	0.58	A	0.64	B	0.00	0.00	No
17	Susan Street/Sunflower Avenue	City of Costa Mesa	Signal	0.47	A	0.79	C	0.49	A	0.81	D	0.02	0.02	No
		City of Santa Ana		0.47	A	0.79	C	0.49	A	0.82	D	0.02	0.03	No
18	Susan Street/South Coast Drive	City of Costa Mesa	Signal	0.42	A	0.82	D	0.43	A	0.84	D	0.01	0.02	No
19	Fairview Street/MacArthur Boulevard	City of Santa Ana	Signal	0.75	C	0.93	**E**	0.75	C	0.93	**E**	0.00	0.00	No
20	Fairview Road/Sunflower Avenue	City of Costa Mesa	Signal	0.78	C	0.74	C	0.79	C	0.74	C	0.01	0.00	No
		City of Santa Ana		0.79	C	0.79	C	0.80	C	0.78	C	0.01	(0.01)	No
21	Fairview Road/South Coast Drive	City of Costa Mesa	Signal	0.78	C	0.87	D	0.79	C	0.86	D	0.01	(0.01)	No
22	Fairview Road/I-405 Northbound Ramps	Caltrans	Signal	0.69	B	0.70	B	0.69	B	0.70	B	0.00	0.00	No
	HCM			34.50	C	26.30	C	34.60	C	26.30	C	-	-	No
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.90	D	0.67	B	0.90	D	0.67	B	0.00	0.00	No
	HCM			28.30	C	17.80	B	28.30	C	17.80	B	-	-	No
24	Fairview Road/Baker Street	City of Costa Mesa	Signal	0.72	C	0.71	C	0.72	C	0.71	C	0.00	0.00	No
25	Cadillac Avenue - Driveway 1/Sunflower Avenue *HCM*	City of Costa Mesa	OWSC	8.40	A	9.50	A	8.90	A	9.20	A	-	-	No
26	Driveway 2/Sunflower Avenue *HCM*	City of Costa Mesa	OWSC	8.80	A	0.00	A	9.90	A	9.80	A	-	-	No
27	Fedex Driveway - Driveway 3/Sunflower Avenue *HCM*	City of Costa Mesa	TWSC	9.90	A	10.50	B	15.20	C	23.90	C	-	-	No
28	Talbert Avenue/Mt. Washington Street *HCM*	City of Fountain Valley	TWSC	>100	**F**	>100	**F**	>100	**F**	>100	**F**	-	-	**Yes**
29	Harbor Boulevard/Segerstrom Avenue	City of Santa Ana	Signal	0.93	**E**	0.93	**E**	0.93	**E**	0.93	**E**	0.00	0.00	No

Notes:

Δ = change

Delay is reported in seconds.

HCM = Highway Capacity Manual

OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control

I-405 = Interstate 405

ICU = Intersection Capacity Utilization

LOS = Level of Service

For OWSC and TWSC intersections, the reported delay is for the worst-case movement.

Bold Indicates deficient LOS

LSA

Table 7-D - Future Short-Term Cumulative (2027) Freeway Segment and Ramp Levels of Service

I-405 Freeway	Type	Mainline Lanes	Without Project						With Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound														
1 . South of Fairview Road On-Ramp	Basic	6	56.5	35.8	E	52.9	42.1	E	56.5	35.8	E	52.9	42.1	E
2 . Fairview Road On-Ramp	Ramp (Merge)	6	51.9	34.7	D	-	-	**F**	51.9	34.7	D	-	-	**F**
3 . Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic	6	54.8	38.9	E	-	-	**F**	54.8	38.9	E	-	-	**F**
4 . Harbor Boulevard On-Ramp	Ramp (Merge)	6	46.7	39.6	E	-	-	**F**	46.7	39.6	E	-	-	**F**
5 . Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic	6	52.3	42.9	E	-	-	**F**	52.3	42.9	E	-	-	**F**
6 . Hyland Avenue On-Ramp	Ramp (Merge)	6	45.7	39.9	E	-	-	**F**	45.1	40.2	E	-	-	**F**
Southbound														
7 . Harbor Boulevard Off-Ramp	Ramp (Diverge)	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
8 . Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic	6	-	-	**F**	51.1	45.0	E	-	-	**F**	51.1	45.0	E
9 . Harbor Boulevard Loop On-Ramp	Ramp (Merge)	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
10 . Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	Basic	7	-	-	**F**	53.8	40.3	E	-	-	**F**	53.7	40.5	E
11 . Harbor Boulevard Slip-On Ramp	Ramp (Merge)	7	-	-	**F**	0.0	50.7	E	-	-	**F**	0.0	51.0	E
12 . Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)	7	-	-	**F**	41.2	41.0	E	-	-	**F**	41.1	41.2	E

Notes:
I-405 = Interstate 405
mi/hr : miles per hour
pc/mi/ln: passanger cars per mile per lane
Bold Indicates deficient LOS

LSA

Table 7-E - General Plan Build Out (2040) Intersection Level of Service Summary

Study Intersection No.	Intersection	Jursidiction	Traffic Control	General Plan Build Out (2040) Baseline				General Plan Build Out (2040) Plus Project				Peak-Hour Δ		Significant Impact?
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		ICU		
				ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	AM	PM	
1	Euclid Street/Talbert Avenue	City of Fountain Valley	Signal	0.76	C	0.94	**E**	0.77	C	0.94	**E**	0.01	0.00	No
2	Euclid Street/I-405 Northbound Ramps - Newhope Street	Caltrans	Signal	1.15	**F**	1.02	**F**	1.15	**F**	1.02	**F**	0.00	0.00	No
	HCM			36.30	D	42.80	D	36.50	D	42.90	D	-	-	No
3	I-405 Southbound Ramps/Ellis Avenue - Euclid Street	Caltrans	Signal	0.56	A	0.74	C	0.56	A	0.74	C	0.00	0.00	No
	HCM			35.20	D	43.60	D	35.30	D	43.80	D	-	-	No
4	Newhope Street/Talbert Avenue	City of Fountain Valley	Signal	0.96	**E**	0.85	D	0.96	**E**	0.85	D	0.00	0.00	No
5	OCTA Bus Base - Hyland Avenue/MacArthur Boulevard	City of Costa Mesa	Signal	0.63	B	0.85	D	0.65	B	0.85	D	0.02	0.00	No
		City of Santa Ana		0.66	B	0.85	D	0.68	B	0.85	D	0.02	0.00	No
6	Hyland Avenue/Sunflower Avenue	City of Costa Mesa	Signal	0.32	A	0.68	B	0.44	A	0.69	B	0.12	0.01	No
7	Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	Caltrans	Signal	0.34	A	0.66	B	0.38	A	0.69	B	0.04	0.03	No
	HCM			21.40	C	25.80	C	21.40	C	25.80	C	-	-	No
8	Harbor Boulevard/MacArthur Boulevard	Ciy of Costa Mesa	Signal	0.88	D	0.88	D	0.88	D	0.88	D	0.00	0.00	No
		City of Santa Ana		0.89	D	0.89	D	0.89	D	0.89	D	0.00	0.00	No
9	Harbor Boulevard/Scenic Avenue - West Lake Center Drive	City of Costa Mesa	Signal	0.75	C	0.96	**E**	0.75	C	0.96	**E**	0.00	0.00	No
		City of Santa Ana		0.76	C	0.96	**E**	0.75	C	0.97	**E**	(0.01)	0.01	No
10	Harbor Boulevard/Sunflower Avenue	City of Costa Mesa	Signal	0.69	B	0.86	D	0.75	C	0.90	D	0.06	0.04	No
		City of Santa Ana		0.72	C	0.86	D	0.78	C	0.90	D	0.06	0.04	No
11	Harbor Boulevard/South Coast Drive	City of Costa Mesa	Signal	0.60	A	0.83	D	0.69	B	0.83	D	0.09	0.00	No
12	Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp	Caltrans	Signal	0.83	D	0.82	D	0.84	D	0.86	D	0.01	0.04	No
	HCM			21.80	C	26.10	C	22.50	C	28.30	C	-	-	No
13	Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp	Caltrans	Signal	0.61	B	0.74	C	0.61	B	0.75	C	0.00	0.01	No
	HCM			12.50	B	13.80	B	12.50	B	14.00	B	-	-	No
14	Harbor Boulevard/Gisler Avenue	City of Costa Mesa	Signal	0.67	B	0.89	D	0.67	B	0.88	D	0.00	(0.01)	No
15	Harbor Boulevard/Nutmeg Place	City of Costa Mesa	Signal	0.58	A	0.64	B	0.58	A	0.64	B	0.00	0.00	No
16	Harbor Boulevard/Baker Street	City of Costa Mesa	Signal	0.60	A	0.68	B	0.61	B	0.68	B	0.01	0.00	No
17	Susan Street/Sunflower Avenue	City of Costa Mesa	Signal	0.51	A	0.82	D	0.53	A	0.84	D	0.02	0.02	No
		City of Santa Ana		0.51	A	0.83	D	0.53	A	0.86	D	0.02	0.03	No
18	Susan Street/South Coast Drive	City of Costa Mesa	Signal	0.44	A	0.91	**E**	0.45	A	0.93	**E**	0.01	0.02	**Yes**
19	Fairview Street/MacArthur Boulevard	City of Santa Ana	Signal	0.78	C	0.97	**E**	0.78	C	0.97	**E**	0.00	0.00	No
20	Fairview Road/Sunflower Avenue	City of Costa Mesa	Signal	0.81	D	0.78	C	0.82	D	0.78	C	0.01	0.00	No
		City of Santa Ana		0.81	D	0.82	D	0.82	D	0.82	D	0.01	0.00	No
21	Fairview Road/South Coast Drive	City of Costa Mesa	Signal	0.82	D	0.91	**E**	0.83	D	0.91	**E**	0.01	0.00	No
22	Fairview Road/I-405 Northbound Ramps	Caltrans	Signal	0.73	C	0.72	C	0.73	C	0.72	C	0.00	0.00	No
	HCM			40.10	D	30.60	C	40.20	D	30.60	C	-	-	No
23	Fairview Road/I-405 Southbound Ramps	Caltrans	Signal	0.92	**E**	0.69	B	0.92	**E**	0.69	B	0.00	0.00	No
	HCM			33.10	C	19.40	B	33.10	C	19.40	B	-	-	No
24	Fairview Road/Baker Street	City of Costa Mesa	Signal	0.74	C	0.82	D	0.74	C	0.82	D	0.00	0.00	No
25	Cadillac Avenue - Driveway 1/Sunflower Avenue *HCM*	City of Costa Mesa	OWSC	8.50	A	9.60	A	9.00	A	9.30	A	-	-	No
26	Driveway 2/Sunflower Avenue *HCM*	City of Costa Mesa	OWSC	8.90	A	0.00	A	10.00	A	9.90	A	-	-	No
27	Fedex Driveway - Driveway 3/Sunflower Avenue *HCM*	City of Costa Mesa	TWSC	10.00	A	10.60	B	15.30	B	24.80	C	-	-	No
28	Talbert Avenue/Mt. Washington Street *HCM*	City of Fountain Valley	TWSC	>100	**F**	>100	**F**	>100	**F**	>100	**F**	-	-	**Yes**
29	Harbor Boulevard/Segerstrom Avenue	City of Santa Ana	Signal	0.98	**E**	0.96	**E**	0.98	**E**	0.96	**E**	0.00	0.00	No

Notes:

Δ = change

Delay is reported in seconds.

HCM = Highway Capacity Manual

OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control

I-405 = Interstate 405

ICU = Intersection Capacity Utilization

LOS = Level of Service

For OWSC and TWSC intersections, the reported delay is for the worst-case movement.

Bold Indicates deficient LOS

LSA

Table 7-F - General Plan Build Out (2040) Freeway Segment and Ramp Levels of Service

I-405 Freeway	Type	Mainline Lanes	Without Project						With Project					
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
			Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
Northbound														
1 . South of Fairview Road On-Ramp	Basic	6	54.9	38.7	E	-	-	**F**	54.9	38.7	E	-	-	**F**
2 . Fairview Road On-Ramp	Ramp (Merge)	6	47.5	38.5	E	-	-	**F**	47.5	38.5	E	-	-	**F**
3 . Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic	6	52.7	42.4	E	-	-	**F**	52.7	42.4	E	-	-	**F**
4 . Harbor Boulevard On-Ramp	Ramp (Merge)	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
5 . Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
6 . Hyland Avenue On-Ramp	Ramp (Merge)	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
Southbound														
7 . Harbor Boulevard Off-Ramp	Ramp (Diverge)	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
8 . Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
9 . Harbor Boulevard Loop On-Ramp	Ramp (Merge)	6	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
10 . Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	Basic	7	-	-	**F**	51.6	44.1	E	-	-	**F**	51.5	44.3	E
11 . Harbor Boulevard Slip-On Ramp	Ramp (Merge)	7	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**
12 . Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)	7	-	-	**F**	-	-	**F**	-	-	**F**	-	-	**F**

Notes:
I-405 = Interstate 405
mi/hr : miles per hour
pc/mi/ln: passanger cars per mile per lane
Bold Indicates deficient LOS

8.0 CIRCULATION IMPROVEMENTS AND FUNDING SOURCES

8.1 RECOMMENDED IMPROVEMENTS

At intersections where the level of service is forecast to be unsatisfactory or where the project would have a significant impact, feasible improvements have been identified to improve the LOS to D or better. Based on the results, the recommended improvements are as follows:

8.1.1 Existing Plus Project Conditions

- **Talbert Avenue/Mt. Washington Street:** Proposed improvements recommended at this intersection include installation of a traffic signal. The City of Fountain Valley is evaluating the configuration of the recommended improvements at this intersection. The project will be responsible for contributing towards its fair share for implementation of the proposed improvements.

8.1.2 Future Short-Term Cumulative (2027) Plus Project Conditions

- **Talbert Avenue/Mt. Washington Street:** Proposed improvements recommended at this intersection include installation of a traffic signal, restriping of the northbound approach to a shared left through lane and a dedicated right turn lane, and conversion of the southbound right turn lane to a dedicated channelized free right turn lane. The City of Fountain Valley is evaluating the configuration of the recommended improvements at this intersection. The project will be responsible for contributing towards its fair share for implementation of the proposed improvements.

8.1.3 General Plan Build Out (2040) Plus Project Conditions

- **Susan Street/South Coast Drive:** Add a southbound right-turn lane by restriping Susan Street. Sufficient right-of-way is available for the recommended improvement. The project will be responsible for contributing towards its fair share of 15.23 percent for implementation of the proposed improvements.

- **Talbert Avenue/Mt. Washington Street:** Proposed improvements recommended at this intersection include installation of a traffic signal, restriping of the northbound approach to a shared left through lane and a dedicated right turn lane, conversion of the southbound right turn lane to a dedicated channelized free right turn lane, an adding overlap phasing for northbound right turn movement. The City of Fountain Valley is evaluating the configuration of the recommended improvements at this intersection. The project will be responsible for contributing towards its fair share of 5.87 percent for implementation of the proposed improvements.

Table 8-A summarizes the different recommended improvements at the affected study intersections under various scenarios. Table 8-B summarizes the intersection LOS with the recommended improvements under different scenarios.

8.2 IMPACT FEE PROGRAMS AND MECHANISMS

The City of Costa Mesa has a traffic impact fee program. This is a cumulative impact fee to be paid in addition to direct project improvements required of the applicant. Based on information provided by the City, the impact fee is $235 multiplied by the project ADT. Per previously referenced Table 5-A, the proposed project is estimated to generate a net ADT of 6,800. Therefore, the project shall pay its assessed fee of $1,598,000.

8.3 LIST OF CHAPTER 8.0 TABLES

- Table 8-A: Recommended Improvements for Intersections
- Table 8-B: Existing with Project Recommended Improvements Intersection Levels of Service
- Table 8-C: Future Short-Term Cumulative (2027) with Project Recommended Improvements Intersection Levels of Service
- Table 8-D: General Plan Build Out (2040) with Project Recommended Improvements Intersection Levels of Service

LSA

Table 8-A - Recommended Improvements for Intersections

	Intersection	Existing (2019) Plus Project	Future Short-Term Cumulative (2027) Plus Project	General Plan Build Out (2040) Plus Project
2	Euclid Street/I-405 Northbound Ramps - Newhope Stre	None	Intersection ramp improvement as part of the I-405 Improvement Project.	Intersection ramp improvement as part of the I-405 Improvement Project.
18	Susan Street/South Coast Drive	None	None	Add SBR. Sufficient right-of-way available for implementation of the recommended improvement.
28	Talbert Avenue/Mt. Washington Street	Add a traffic signal.	Add a traffic signal. Restripe the northbound approach to a shared left through lane and a dedicated right turn lane, and convert the southbound right turn lane to a dedicated free right turn channelized lane.	Add a traffic signal. Restripe the northbound approach to a shared left through lane and a dedicated right turn lane, and convert the southbound right turn lane to a dedicated free right turn channelized lane. Add overlap phasing to northbound right turn movement

LSA

Table 8-B: Existing Plus Project Recommended Improvements Intersection Levels of Service

Study Intersection No.	Intersection	Jursidiction	Existing (2019) Plus Project					Existing (2019) Plus Project With Mitigation				
			Traffic Control	AM Peak Hour		PM Peak Hour		Traffic Control	AM Peak Hour		PM Peak Hour	
				ICU / Delay	LOS	ICU / Delay	LOS		ICU / Delay	LOS	ICU / Delay	LOS
28	Talbert Avenue/Mt. Washington Street	City of Fountain Valley	TWSC	>100	**F**	>100	**F**	Signal	0.71	C	0.72	C

Table 8-C: Future Short-Term Cumulative (2027) Plus Project Recommended Improvements Intersection Levels of Service

Study Intersection No.	Intersection	Jursidiction	Future Short-Term Cumulative (2027) Plus Project					Future Short-Term Cumulative (2027) With Mitigation				
			Traffic Control	AM Peak Hour		PM Peak Hour		Traffic Control	AM Peak Hour		PM Peak Hour	
				ICU / Delay	LOS	ICU / Delay	LOS		ICU / Delay	LOS	ICU / Delay	LOS
28	Talbert Avenue/Mt. Washington Street	City of Fountain Valley	TWSC	>100	**F**	>100	**F**	Signal	0.76	C	0.70	B

Table 8-D: General Plan Build Out (2040) Plus Project Recommended Improvements Intersection Levels of Service

Study Intersection No.	Intersection	Jursidiction	General Plan Build Out (2040) Plus Project					General Plan Build Out (2040) With Mitigation				
			Traffic Control	AM Peak Hour		PM Peak Hour		Traffic Control	AM Peak Hour		PM Peak Hour	
				ICU / Delay	LOS	ICU / Delay	LOS		ICU / Delay	LOS	ICU / Delay	LOS
18	Susan Street/South Coast Drive	City of Costa Mesa	Signal	0.45	A	0.93	**E**	Signal	0.40	A	0.78	C
28	Talbert Avenue/Mt. Washington Street	City of Fountain Valley	TWSC	>100	**F**	>100	**F**	Signal	0.89	D	0.73	C

Notes:

Bold Indicates deficient LOS

ICU = Intersection Capacity Utilization

Delay is reported in seconds.

LOS = Level of Service

9.0 SITE ACCESS ANALYSIS

As illustrated in previously referenced Figure 1-2, access to the project site will be provided via three driveways on Sunflower Avenue. While the westernmost driveway (Driveway 1) already exists for the current land use, the driveway in the middle (Driveway 2) will be shifted to the east by approximately 275 feet and the easternmost driveway (Driveway 3) will be shifted to the east by approximately 100 feet with the development of the proposed project. The main entrance for the project will be located at Driveway 1 at the intersection of Cadillac Avenue and Sunflower Avenue. Driveway 3 will align with the driveway of the existing FedEx Shipping Center. All three driveways will be full-access driveways. As such, a driveway analysis was conducted to evaluate traffic operations at the project driveways under all scenarios. As illustrated in previously referenced Tables 7-A, 7-C, and 7-E, Driveway 1 and Driveway 2 operate at LOS A under all scenarios. Although Driveway 3 operates at a satisfactory LOS under all scenarios, it operates with a worse delay compared to the other two driveways. Also, the delay at this driveway deteriorates with the development of the project.

Weekday survey counts were collected by Counts Unlimited along the project frontage on Sunflower Avenue in May 2019. Detailed count sheets are included in Appendix A. From the traffic counts, it can be seen that a maximum of 270 vehicles travel along the project frontage during the a.m. peak hour, while a maximum of 280 vehicles travel during the p.m. peak hour. Because of the low through traffic on Sunflower Avenue and the presence of the center TWLTL, project traffic will get adequate gaps to maneuver in and out of the project driveways. As such, a queuing analysis was performed using SimTraffic to determine the queues for the various movements at the driveways. Table 9-A summarizes the 95th percentile back-of-queue lengths at the study intersections under existing, cumulative, and General Plan build out conditions. As illustrated in Table 9-A, the queues for the different movements at the driveways do not exceed 75 feet under any condition. Thus, it is anticipated that there will not be any significant queues at the project driveways. Corner sight distance will not be an issue at any of the driveways.

Detailed driveway queuing worksheets are included in Appendix G.

9.1 LIST OF CHAPTER 9.0 TABLE

- Table 9-A: Driveway Queuing Analysis

LSA

Table 9-A - Driveway Queuing Analysis

Intersection	Movement	Queue Lengths (ft)[1]											
		Existing (2019)				Cumulative (2027)				General Plan Build Out (2040)			
		No Project		Plus Project		Baseline		Plus Project		Baseline		Plus Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
25 . Cadillac Avenue - Driveway 1/	NBLR	15	0	60	55	15	25	60	55	15	25	65	60
Sunflower Avenue	EBTR	0	0	0	35	0	0	0	30	0	0	10	25
OWSC	WBL	0	0	0	0	0	0	0	25	0	0	0	30
26 . Driveway 2/Sunflower Avenue	NBLR	0	0	60	60	0	0	65	60	20	0	65	65
OWSC	WBL	0	0	30	55	0	0	30	60	10	0	25	45
27 . FedEx Driveway - Driveway 3/	NBLTR	0	0	70	55	0	0	70	60	0	0	75	60
Sunflower Avenue	SBLTR	0	30	15	60	0	30	15	55	10	50	20	55
TWSC	EBTR	0	0	0	0	0	0	0	0	0	0	0	0
	WBL	0	0	45	60	0	0	50	55	0	0	45	50

Notes:

ft = feet; OWSC = One-Way Stop Control; TWSC = Two-Way Strop Control

NB = Northbound; SB = Southbound; EB = Westbound; WB = Westbound

L = Left; T = Through; R = Right

[1] All queues reported are 95th percentile queues. Since Synchro does not report queues for unsignalized intersections, all queues have been reported from SimTraffic.

10.0 QUEUING ANALYSIS

(Caltrans staff requested a queuing analysis at the intersection of Hyland Avenue/I-405 Northbound Ramps - South Coast Drive. Table 10-A lists the available turn-pocket storage lengths and summarize the 95th percentile back-of-queue lengths at the study intersections under existing, cumulative, and General Plan build out conditions. The queues for this intersection have been reported from Synchro. As shown in Table 10-A, queues are not projected to exceed the existing available turn-pocket storage lengths under existing, cumulative, and General Plan build out conditions.

Detailed queuing worksheets are included in Appendix G.

10.1 LIST OF CHAPTER 10.0 TABLE

- Table 10-A: Queuing Analysis at the Intersection of Hyland Avenue/I-405 Northbound Ramps – South Coast Drive

LSA

Table 10-A - Queuing Analysis for the Intersection of Hyland Avenue/I-405 Northbound Ramps - South Coast Drive

Intersection	Movement	Storage Length[1] (ft/ln)	Queue Lengths (ft)[2]											
			Existing (2019)				Cumulative (2027)				General Plan Build Out (2040)			
			No Project		With Project		No Project		With Project		No Project		With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
7 . Hyland Avenue/I-405 Northbound Ramps - South Coast Drive	**SBL**	340	75	165	95	185	90	185	110	205	95	195	115	225
Signal	**SBR**	340	0	0	0	0	0	0	0	0	0	0	0	0
	WBR	320	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

ft/ln = feet per lane; ft = feet

WB = Westbound; SB = Southbound

L = Left; R = Right

[1] Storage length for all movements obtained from Google Earth measurements.

[2] All queues reported are 95th percentile queues. Queues have been reported from Synchro.

11.0 VMT EVALUATION

11.1 BACKGROUND

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled (VMT). Lead agencies are allowed to opt-in to the revised transportation guidelines, but the new guidelines must be used starting July 1, 2020.

The City has not yet established thresholds related to vehicle miles of travel. However, the State law provides sufficient guidance to evaluate the project's impacts related to VMT.

California Public Resources Code Section 15064.3(b)(4) states (in part) that:

> *A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household, or in any other measure.*

Therefore, the project VMT per capita has been compared with the regional VMT per capita to provide a comparison between the two and has been included for disclosure purposes only. Following is a detailed description of the VMT analysis.

11.2 METHODOLOGY

The Governor's Office of Planning and Research (OPR) Technical Advisory (TA) states that existing VMT may be measured at the regional or City level for residential projects. However, as noted before, study area for the proposed project is distributed among three cities (Costa Mesa, Santa Ana, and Fountain Valley). Additionally, it is expected that project trips are forecast to travel beyond the study area. Therefore, for purposes of this analysis, all of Orange County has been considered as the region.

OCTAM has been used to estimate both the regional and project VMT, since it is consistent with the forecasts included in the 2018 Orange County Long Range Transportation Plan. OCTAM socioeconomic database for both the base (2012) and future (2040) scenario were updated with the project land uses to calculate project VMT. Regional and project VMT were calculated from the OCTAM model runs as described below:

- **Regional Estimates:** The regional (Orange County) VMT for both base (2012) and future (2040) model scenarios were obtained from OCTAM runs.
- **Project Estimate:** Similar to the regional estimates, project VMT was calculated for both base (2012) and future (2040) model scenarios.

VMT and population for existing (2019) conditions was developed using interpolation between the base (2012) and future year (2040) VMT estimates. Population and employment estimates for the project remain the same in the base, interpolated, and forecast conditions.

The project is considered to be a mixed use project as it includes households, office and retail employment types. As shown below, the TA states that the VMT comparisons should be conducted separately for each of the individual land use categories.

OPR TA on Evaluating Transportation Impacts in CEQA for mixed-use projects, December 2018: Page -17 states the following:

> *"Mixed-Use Projects*
>
> *Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment."*

Therefore, as suggested in the TA, VMT comparison has been done for both residential and non-residential land uses of the project. Detailed VMT comparison for individual land use categories are illustrated below.

11.3 VMT ANALYSIS

Residential Land Use

Since the primary land use of the project is residential, VMT per capita for the residential component of the project were estimated and compared with the VMT per Capita for the region. Table 11-A illustrates the VMT per capita estimates for the project and the region. As shown in Table 11-A, the VMT per capita for the project is 18% less than the regional VMT per capita under existing (2019) conditions. The differences (18%) is lower than threshold of 15% as suggested in the TA. Therefore, although the City is yet to adopt thresholds for VMT impacts, based on the TA, the residential component of the project will not have a significant transportation impact.

Non Residential (Office) Land Uses

The project also includes non-residential land uses including office and retail land uses. The TA doesn't suggest VMT per employee comparison for the retail employment and so retail employment is discussed separately below. VMT per employee measure for the office use was used to compare the office component of the project to the region. Table 11-A shows the VMT per employee estimates for the project and region. As shown in Table 11-A, VMT per employee for the project is 3% higher than the regional average under existing conditions. The TA suggests that the VMT per employee for office uses are required to be 15% lower than the regional average. Therefore, although the City is yet to adopt thresholds for VMT impacts, based on the TA, the office component of the project may have a significant transportation impact. It should be noted that the office

component is not a major component of the project and therefore would not in the aggregate create a project wide impact.

Non Residential (Retail) Land Use

The project retail component is a minor component of the project with only nine anticipated retail employees. As such, the retail (supermarket) will primarily be used by residents of the project and will be a local serving retail development that will help reduce home-based retail trips and thereby reduce VMT. Additionally, as stated in the TA, for mixed-use projects, only the "project's dominant use" may be considered for VMT analysis. Since, the retail component of the proposed project is not a major component and will primarily serve residents of the project itself, a separate VMT assessment has not be considered.

Detailed VMT development calculations are included in Appendix H.

11.4 VMT REDUCTION STRATEGIES

Based on the project's VMT analysis, the project's dominant use (Residential) meets the threshold requirement as outlined in the OPR TA. Therefore, the project in aggregate in not anticipated to create a significant VMT impact. The project still intends to provide several transportation demand management (TDM) measures intended to reduce further the overall VMT from the project. These measures are as follows:

- Measure 1: Provide Pedestrian Network Improvements – The project will be improving sidewalks along Sunflower Avenue from the project to Hyland Avenue.
- Measure 2: Provide Traffic Calming Measure – The project will be restriping Sunflower Avenue as shown in Figure 1-3.The restriping will result in reduction of number of through lanes along Sunflower Avenue (4 lanes to 2 lanes), addition of a bike lane, provision of on-street parking and providing a two-way left-turn lane. The restriping will result in traffic calming along this segment of Sunflower Avenue and promote biking and walking.
- Measure 3: Implement Car-Sharing Program.
- Measure 4: Encourage Telecommuting and Alternative Work Schedule.
- Measure 5: Provide Ride-Sharing Programs. Encourage carpooling and vanpooling.

It is also recognized that the project would add housing to an area within walking distance to employment, services, retail, restaurant and entertainment. As envisioned, the project would enhance the pedestrian user experience, improve the City's jobs/housing ratio, diminish VMT per capita, and support implementation of new or alternative TDM measures.

11.5 LIST OF CHAPTER 11.0 TABLE

- Table 11-A: Existing (2019) Regional and Project VMT per Capita Comparison – Residential/Office

Table 11-A: Existing (2019) Regional and Project VMT per Capita Comparison – Residential/Office

Land Use	Region (Orange County)	Project	%Change
Residential	18.0	14.8	-18%
Office	25.0	25.9	3%

Source: Orange County Transportation Analysis Model (OCTAM)
VMT =vehicle miles traveled

12.0 CONCLUSIONS

The proposed One Metro West Project will be located at 1683 Sunflower Avenue in the City of Costa Mesa. The proposed project will consist of up to 1,057 dwelling units, 25,000 sf of office use, 6,000 sf of retail use, 1,500 sf community center and a 1.5-acre park, which will replace the existing light industrial facility. The proposed project will generate 498 net trips in the a.m. peak hour, 662 net trips in the p.m. peak hour, and 6,800 net daily trips.

Based on the results of this TIA, all but two study area intersections currently operate at satisfactory conditions. With implementation of the project, these intersections are forecast to continue operating at unsatisfactory levels of service. One northbound merge area currently operates at a deficient LOS in the p.m. peak hour. All southbound freeway segments and merge/diverge areas currently operate at a deficient LOS in the a.m. peak hour. The project adds to the existing deficiencies at these locations.

All but five study intersections are forecast to operate at deficient LOS under future short-term cumulative baseline scenario. With implementation of the project, they are forecast to continue operating at unsatisfactory levels of service. Five northbound freeway segments and merge/diverge areas are forecast to operate at a deficient LOS in the p.m. peak hour. Two southbound freeway segments and merge/diverge areas are forecast to operate at a deficient LOS in both peak hours while the remaining four segments and merge/diverge areas are forecast to operate at a deficient LOS in the a.m. peak hour. The project will add to the forecast deficiencies at these locations.

All but eight study intersections are forecast to operate at deficient LOS under General Plan build out baseline scenario. With implementation of the project, all eight of them are forecast to continue operating at unsatisfactory levels of service. All the freeway segments and ramps are forecast to operate at a deficient LOS. The project will add to the forecast deficiencies at these locations.

With implementation of the improvements recommended in Chapter 8, the intersection of Talbert Avenue/Mt. Washington Street is forecast to operate at a satisfactory LOS under Existing Plus Project, Future Short-Term Cumulative (2027) Plus Project, and General Plan Build Out (2040) Plus Project conditions. With implementation of the improvements recommended, the intersection of Susan Street/South Coast Drive is forecast to operate at a satisfactory LOS under General Plan Build Out (2040) Plus Project conditions.

A VMT analysis was performed to compare the regional and project VMT per capita. Since, the project is a mixed-use project, each land use component was separately evaluated as per the OPR TA. As shown in Chapter 11, the project residential VMT per capita is 18% lower than the regional average. Therefore, although the City is yet to adopt thresholds for VMT impacts, based on the TA, the residential component of the project will not have a significant transportation impact. As shown in Table 11-A, for the office component, VMT per employee for the project is 3% higher than the regional average under existing conditions. The TA suggests that the VMT per employee for office uses are required to be 15% lower than the regional average. Therefore, although the City is yet to adopt thresholds for VMT impacts, based on the TA, the office component of the project may have a significant transportation impact. It should be noted that the office component is not a major component of the project and therefore would not in the aggregate create a project wide impact.

The project still intends to provide several transportation demand management (TDM) measures intended to reduce further the overall VMT from the project. As stated in the TA, for mixed-use projects, only the "project's dominant use" may be considered for VMT analysis. Since, the retail component of the proposed project is not a major component and will primarily serve residents of the project itself, a separate VMT assessment has not be considered.

APPENDIX A:

TRAFFIC COUNT SHEETS

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Fountain Valley
N/S: Euclid Street
E/W: Talbert Avenue
Weather: Clear

File Name : 01_FTV_Euclid_Talbert AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Euclid Street Southbound				Talbert Avenue Westbound				Euclid Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	114	199	51	364	10	72	4	86	28	97	0	125	12	177	13	202	777
07:15 AM	154	218	40	412	7	86	5	98	26	93	6	125	20	257	19	296	931
07:30 AM	166	199	75	440	7	98	16	121	49	98	12	159	30	282	15	327	1047
07:45 AM	176	165	80	421	6	113	22	141	47	106	12	165	28	288	18	334	1061
Total	610	781	246	1637	30	369	47	446	150	394	30	574	90	1004	65	1159	3816
08:00 AM	129	232	71	432	8	96	16	120	44	124	10	178	41	313	15	369	1099
08:15 AM	144	215	56	415	8	100	12	120	76	143	12	231	41	323	7	371	1137
08:30 AM	128	136	53	317	3	91	19	113	61	133	10	204	32	307	20	359	993
08:45 AM	132	159	62	353	9	99	12	120	60	107	14	181	36	259	22	317	971
Total	533	742	242	1517	28	386	59	473	241	507	46	794	150	1202	64	1416	4200
Grand Total	1143	1523	488	3154	58	755	106	919	391	901	76	1368	240	2206	129	2575	8016
Apprch %	36.2	48.3	15.5		6.3	82.2	11.5		28.6	65.9	5.6		9.3	85.7	5		
Total %	14.3	19	6.1	39.3	0.7	9.4	1.3	11.5	4.9	11.2	0.9	17.1	3	27.5	1.6	32.1	

	Euclid Street Southbound				Talbert Avenue Westbound				Euclid Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	166	199	75	**440**	7	98	16	121	49	98	**12**	159	30	282	15	327	1047
07:45 AM	**176**	165	**80**	421	6	**113**	**22**	**141**	47	106	12	165	28	288	**18**	334	1061
08:00 AM	129	**232**	71	432	**8**	96	16	120	44	124	10	178	**41**	313	15	369	1099
08:15 AM	144	215	56	415	8	100	12	120	**76**	**143**	12	**231**	41	**323**	7	**371**	**1137**
Total Volume	615	811	282	1708	29	407	66	502	216	471	46	733	140	1206	55	1401	4344
% App. Total	36	47.5	16.5		5.8	81.1	13.1		29.5	64.3	6.3		10	86.1	3.9		
PHF	.874	.874	.881	.970	.906	.900	.750	.890	.711	.823	.958	.793	.854	.933	.764	.944	.955

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City of Fountain Valley
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Site Code : 00319172
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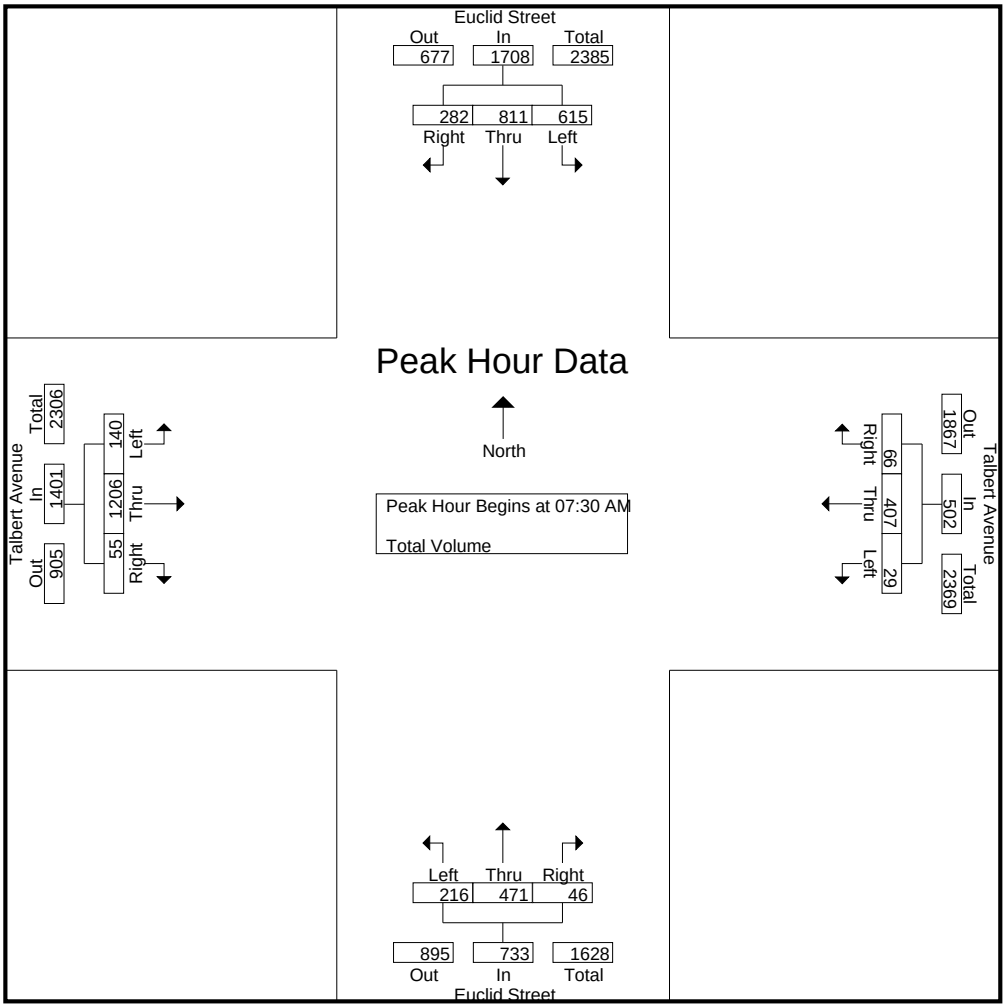
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				08:00 AM				07:45 AM			
+0 mins.	166	199	75	**440**	7	98	16	121	44	124	10	178	28	288	18	334
+15 mins.	**176**	165	**80**	421	6	**113**	**22**	**141**	**76**	**143**	12	**231**	**41**	313	15	369
+30 mins.	129	**232**	71	432	**8**	96	16	120	61	133	10	204	41	**323**	7	**371**
+45 mins.	144	215	56	415	8	100	12	120	60	107	**14**	181	32	307	**20**	359
Total Volume	615	811	282	1708	29	407	66	502	241	507	46	794	142	1231	60	1433
% App. Total	36	47.5	16.5		5.8	81.1	13.1		30.4	63.9	5.8		9.9	85.9	4.2	
PHF	.874	.874	.881	.970	.906	.900	.750	.890	.793	.886	.821	.859	.866	.953	.750	.966

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Groups Printed- Total Volume

	Euclid Street Southbound				Talbert Avenue Westbound				Euclid Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	25	124	65	214	32	412	152	596	39	159	3	201	61	92	38	191	1202
04:15 PM	28	133	57	218	35	468	141	644	33	117	9	159	48	115	33	196	1217
04:30 PM	25	138	58	221	35	450	147	632	35	160	7	202	65	110	44	219	1274
04:45 PM	27	125	55	207	45	479	167	691	34	121	9	164	51	139	49	239	1301
Total	105	520	235	860	147	1809	607	2563	141	557	28	726	225	456	164	845	4994
05:00 PM	37	104	54	195	22	448	180	650	40	147	5	192	68	120	85	273	1310
05:15 PM	40	131	61	232	27	489	164	680	34	109	7	150	58	120	57	235	1297
05:30 PM	37	116	50	203	21	486	178	685	26	111	8	145	50	141	68	259	1292
05:45 PM	26	116	47	189	16	480	140	636	42	117	12	171	50	123	47	220	1216
Total	140	467	212	819	86	1903	662	2651	142	484	32	658	226	504	257	987	5115
Grand Total	245	987	447	1679	233	3712	1269	5214	283	1041	60	1384	451	960	421	1832	10109
Apprch %	14.6	58.8	26.6		4.5	71.2	24.3		20.4	75.2	4.3		24.6	52.4	23		
Total %	2.4	9.8	4.4	16.6	2.3	36.7	12.6	51.6	2.8	10.3	0.6	13.7	4.5	9.5	4.2	18.1	

	Euclid Street Southbound				Talbert Avenue Westbound				Euclid Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	27	125	55	207	**45**	479	167	**691**	34	121	**9**	164	51	139	49	239	1301
05:00 PM	37	104	54	195	22	448	**180**	650	**40**	**147**	5	**192**	**68**	120	**85**	**273**	**1310**
05:15 PM	**40**	**131**	**61**	**232**	27	**489**	164	680	34	109	7	150	58	120	57	235	1297
05:30 PM	37	116	50	203	21	486	178	685	26	111	8	145	50	**141**	68	259	1292
Total Volume	141	476	220	837	115	1902	689	2706	134	488	29	651	227	520	259	1006	5200
% App. Total	16.8	56.9	26.3		4.2	70.3	25.5		20.6	75	4.5		22.6	51.7	25.7		
PHF	.881	.908	.902	.902	.639	.972	.957	.979	.838	.830	.806	.848	.835	.922	.762	.921	.992

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City of Fountain Valley
N/S: Euclid Street
E/W: Talbert Avenue
Weather: Clear

File Name : 01_FTV_Euclid_Talbert PM
Site Code : 00319172
Start Date : 3/14/2019
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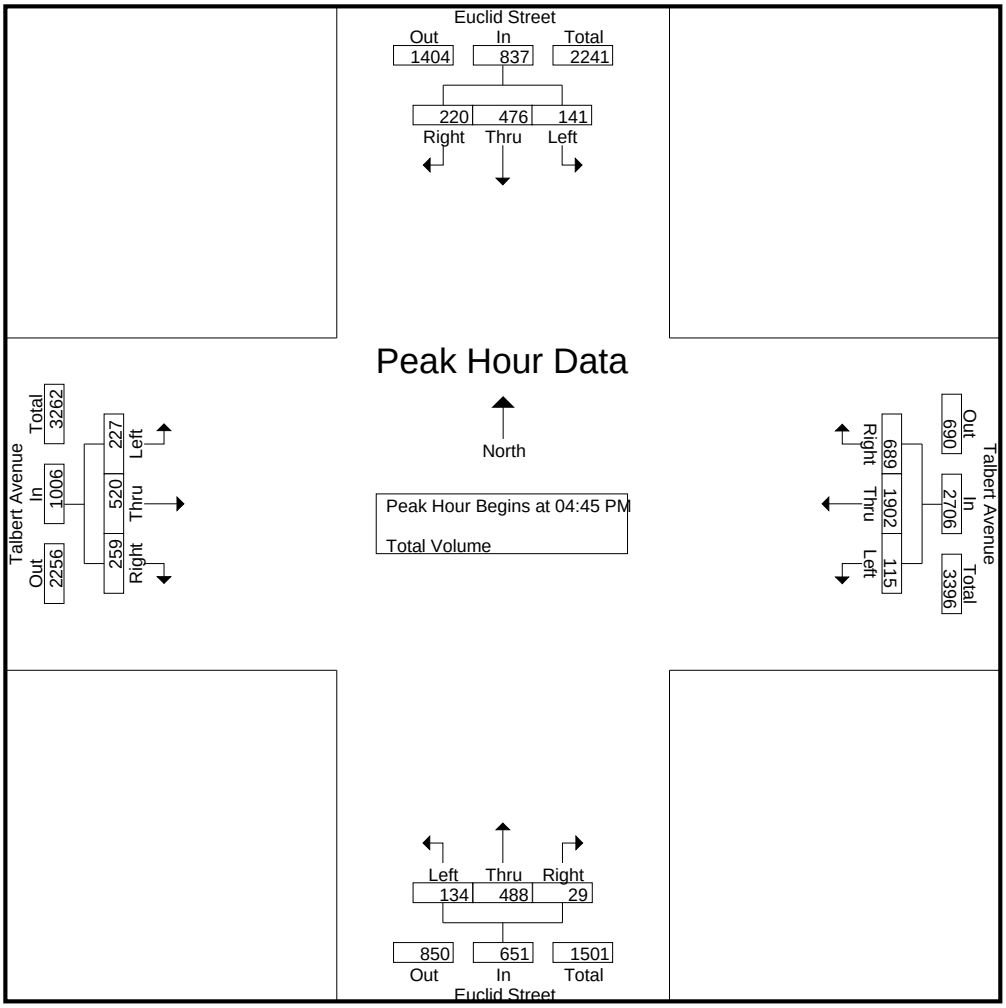

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:00 PM				04:45 PM			
+0 mins.	25	124	**65**	214	**45**	479	167	**691**	**39**	159	3	201	51	139	49	239
+15 mins.	**28**	133	57	218	22	448	**180**	650	33	117	**9**	159	**68**	120	**85**	**273**
+30 mins.	25	**138**	58	**221**	27	**489**	164	680	35	**160**	7	**202**	58	120	57	235
+45 mins.	27	125	55	207	21	486	178	685	34	121	9	164	50	**141**	68	259
Total Volume	105	520	235	860	115	1902	689	2706	141	557	28	726	227	520	259	1006
% App. Total	12.2	60.5	27.3		4.2	70.3	25.5		19.4	76.7	3.9		22.6	51.7	25.7	
PHF	.938	.942	.904	.973	.639	.972	.957	.979	.904	.870	.778	.899	.835	.922	.762	.921

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City of Fountain Valley
N/S: Euclid Street
E/W: I-405 NB Ramps/Newhope Street
Weather: Clear

File Name : 06_FTV_Euclid_405N_Newhope AM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Euclid Street Southbound				Newhope Street Westbound				Euclid Street Northbound				I-405 Northbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	204	11	215	41	14	1	56	5	44	61	110	88	66	102	256	637
07:15 AM	0	219	21	240	44	20	0	64	5	54	69	128	104	62	102	268	700
07:30 AM	0	205	19	224	21	22	0	43	5	57	110	172	110	75	128	313	752
07:45 AM	0	185	13	198	35	16	2	53	2	60	130	192	119	71	152	342	785
Total	0	813	64	877	141	72	3	216	17	215	370	602	421	274	484	1179	2874
08:00 AM	0	232	16	248	35	13	2	50	5	67	105	177	146	81	136	363	838
08:15 AM	0	221	10	231	46	12	4	62	7	76	124	207	148	80	129	357	857
08:30 AM	0	150	9	159	52	15	2	69	8	70	112	190	140	106	105	351	769
08:45 AM	0	173	15	188	38	20	2	60	3	64	80	147	140	87	122	349	744
Total	0	776	50	826	171	60	10	241	23	277	421	721	574	354	492	1420	3208
Grand Total	0	1589	114	1703	312	132	13	457	40	492	791	1323	995	628	976	2599	6082
Apprch %	0	93.3	6.7		68.3	28.9	2.8		3	37.2	59.8		38.3	24.2	37.6		
Total %	0	26.1	1.9	28	5.1	2.2	0.2	7.5	0.7	8.1	13	21.8	16.4	10.3	16	42.7	

	Euclid Street Southbound				Newhope Street Westbound				Euclid Street Northbound				I-405 Northbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	185	13	198	35	**16**	2	53	2	60	**130**	192	119	71	**152**	342	785
08:00 AM	0	**232**	**16**	**248**	35	13	2	50	5	67	105	177	146	81	136	**363**	838
08:15 AM	0	221	10	231	46	12	**4**	62	7	**76**	124	**207**	**148**	80	129	357	**857**
08:30 AM	0	150	9	159	**52**	15	2	**69**	**8**	70	112	190	140	**106**	105	351	769
Total Volume	0	788	48	836	168	56	10	234	22	273	471	766	553	338	522	1413	3249
% App. Total	0	94.3	5.7		71.8	23.9	4.3		2.9	35.6	61.5		39.1	23.9	36.9		
PHF	.000	.849	.750	.843	.808	.875	.625	.848	.688	.898	.906	.925	.934	.797	.859	.973	.948

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E/W: I-405 NB Ramps/Newhope Street
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File Name : 06_FTV_Euclid_405N_Newhope AM
Site Code : 00319172
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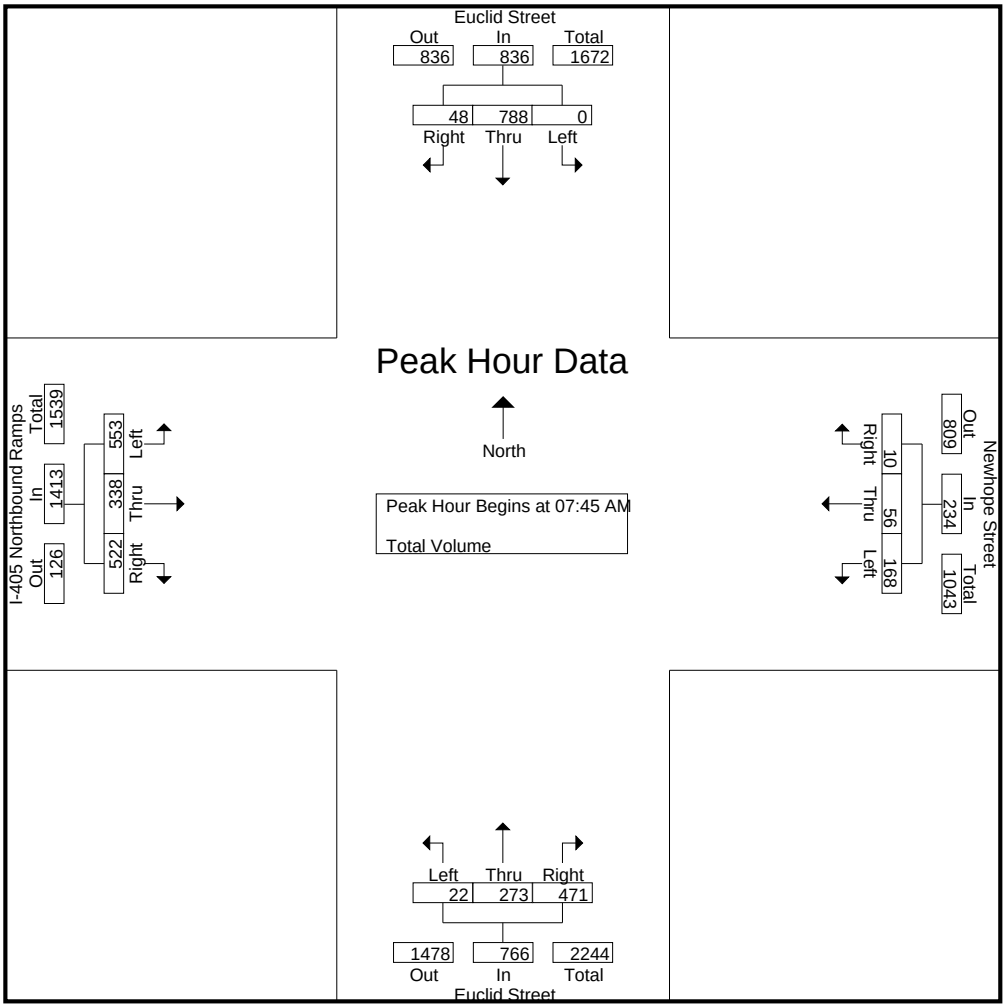

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				08:00 AM				07:45 AM				08:00 AM			
+0 mins.	0	219	**21**	240	35	13	2	50	2	60	**130**	192	146	81	**136**	**363**
+15 mins.	0	205	19	224	46	12	**4**	62	5	67	105	177	**148**	80	129	357
+30 mins.	0	185	13	198	**52**	15	2	**69**	7	**76**	124	**207**	140	**106**	105	351
+45 mins.	0	**232**	16	**248**	38	**20**	2	60	**8**	70	112	190	140	87	122	349
Total Volume	0	841	69	910	171	60	10	241	22	273	471	766	574	354	492	1420
% App. Total	0	92.4	7.6		71	24.9	4.1		2.9	35.6	61.5		40.4	24.9	34.6	
PHF	.000	.906	.821	.917	.822	.750	.625	.873	.688	.898	.906	.925	.970	.835	.904	.978

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City of Fountain Valley
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File Name : 06_FTV_Euclid_405N_Newhope PM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Euclid Street Southbound				Newhope Street Westbound				Euclid Street Northbound				I-405 Northbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	154	60	214	94	113	4	211	42	109	65	216	106	27	83	216	857
04:15 PM	0	165	46	211	105	75	1	181	42	76	62	180	92	26	94	212	784
04:30 PM	1	175	72	248	101	97	5	203	74	90	65	229	115	29	111	255	935
04:45 PM	0	178	51	229	111	105	3	219	44	72	66	182	96	20	111	227	857
Total	1	672	229	902	411	390	13	814	202	347	258	807	409	102	399	910	3433
05:00 PM	0	183	63	246	118	137	7	262	46	105	72	223	99	19	94	212	943
05:15 PM	0	185	42	227	126	136	3	265	39	65	64	168	103	11	87	201	861
05:30 PM	0	179	45	224	102	102	2	206	38	61	73	172	91	20	101	212	814
05:45 PM	0	167	28	195	99	137	4	240	29	71	73	173	99	22	91	212	820
Total	0	714	178	892	445	512	16	973	152	302	282	736	392	72	373	837	3438
Grand Total	1	1386	407	1794	856	902	29	1787	354	649	540	1543	801	174	772	1747	6871
Apprch %	0.1	77.3	22.7		47.9	50.5	1.6		22.9	42.1	35		45.9	10	44.2		
Total %	0	20.2	5.9	26.1	12.5	13.1	0.4	26	5.2	9.4	7.9	22.5	11.7	2.5	11.2	25.4	

	Euclid Street Southbound				Newhope Street Westbound				Euclid Street Northbound				I-405 Northbound Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	175	**72**	**248**	101	97	5	203	**74**	90	65	**229**	**115**	**29**	**111**	**255**	935
04:45 PM	0	178	51	229	111	105	3	219	44	72	66	182	96	20	111	227	857
05:00 PM	0	183	63	246	118	**137**	**7**	262	46	**105**	**72**	223	99	19	94	212	**943**
05:15 PM	0	**185**	42	227	**126**	136	3	**265**	39	65	64	168	103	11	87	201	861
Total Volume	1	721	228	950	456	475	18	949	203	332	267	802	413	79	403	895	3596
% App. Total	0.1	75.9	24		48.1	50.1	1.9		25.3	41.4	33.3		46.1	8.8	45		
PHF	.250	.974	.792	.958	.905	.867	.643	.895	.686	.790	.927	.876	.898	.681	.908	.877	.953

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City of Fountain Valley
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Weather: Clear

File Name : 06_FTV_Euclid_405N_Newhope PM
Site Code : 00319172
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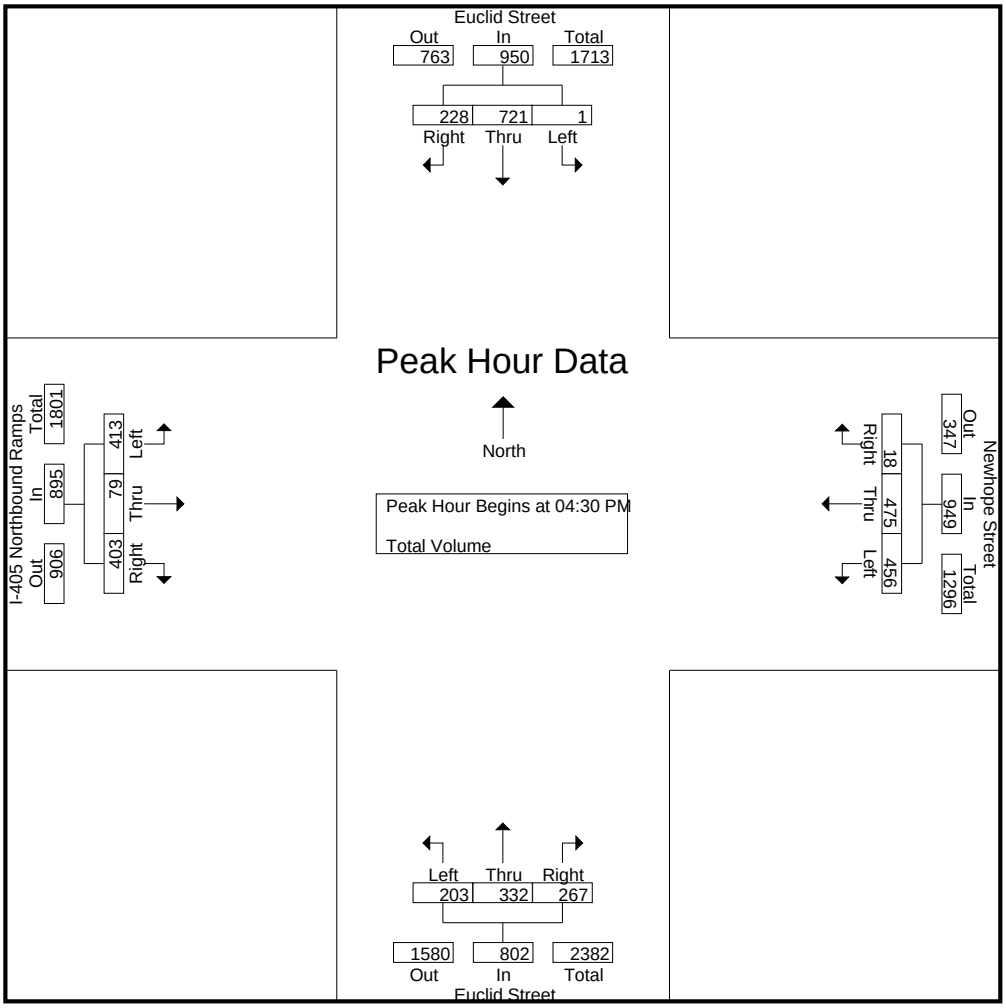

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:15 PM				04:00 PM			
+0 mins.	**1**	175	**72**	**248**	118	**137**	**7**	262	42	76	62	180	106	27	83	216
+15 mins.	0	178	51	229	**126**	136	3	**265**	**74**	90	65	**229**	92	26	94	212
+30 mins.	0	183	63	246	102	102	2	206	44	72	66	182	**115**	**29**	**111**	**255**
+45 mins.	0	**185**	42	227	99	137	4	240	46	**105**	**72**	223	96	20	111	227
Total Volume	1	721	228	950	445	512	16	973	206	343	265	814	409	102	399	910
% App. Total	0.1	75.9	24		45.7	52.6	1.6		25.3	42.1	32.6		44.9	11.2	43.8	
PHF	.250	.974	.792	.958	.883	.934	.571	.918	.696	.817	.920	.889	.889	.879	.899	.892

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City of Fountain Valley
N/S: I-405 Southbound Ramps
E/W: Ellis Avenue/Euclid Street
Weather: Clear

File Name : 07_FTV_405S_Ellis_Euclid AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	I-405 Southbound Ramps Southbound				Euclid Street Westbound				OC Sanitation Department Driveway Northbound				Ellis Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	13	9	0	22	18	118	180	316	1	2	2	5	175	132	11	318	661
07:15 AM	16	1	6	23	8	127	181	316	1	6	2	9	166	160	1	327	675
07:30 AM	19	0	4	23	9	154	186	349	0	3	0	3	165	221	5	391	766
07:45 AM	23	0	10	33	7	186	188	381	0	3	0	3	150	235	7	392	809
Total	71	10	20	101	42	585	735	1362	2	14	4	20	656	748	24	1428	2911
08:00 AM	15	0	7	22	7	166	181	354	5	4	0	9	160	244	7	411	796
08:15 AM	18	1	7	26	7	166	191	364	0	5	2	7	161	269	5	435	832
08:30 AM	19	3	2	24	11	137	170	318	0	3	1	4	165	237	1	403	749
08:45 AM	22	2	6	30	10	158	181	349	2	2	4	8	175	162	4	341	728
Total	74	6	22	102	35	627	723	1385	7	14	7	28	661	912	17	1590	3105
Grand Total	145	16	42	203	77	1212	1458	2747	9	28	11	48	1317	1660	41	3018	6016
Apprch %	71.4	7.9	20.7		2.8	44.1	53.1		18.8	58.3	22.9		43.6	55	1.4		
Total %	2.4	0.3	0.7	3.4	1.3	20.1	24.2	45.7	0.1	0.5	0.2	0.8	21.9	27.6	0.7	50.2	

	I-405 Southbound Ramps Southbound				Euclid Street Westbound				OC Sanitation Department Driveway Northbound				Ellis Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	19	0	4	23	**9**	154	186	349	0	3	0	3	**165**	221	5	391	766
07:45 AM	**23**	0	**10**	**33**	7	**186**	188	**381**	0	3	0	3	150	235	**7**	392	809
08:00 AM	15	0	7	22	7	166	181	354	**5**	4	0	**9**	160	244	7	411	796
08:15 AM	18	**1**	7	26	7	166	**191**	364	0	**5**	**2**	7	161	**269**	5	**435**	**832**
Total Volume	75	1	28	104	30	672	746	1448	5	15	2	22	636	969	24	1629	3203
% App. Total	72.1	1	26.9		2.1	46.4	51.5		22.7	68.2	9.1		39	59.5	1.5		
PHF	.815	.250	.700	.788	.833	.903	.976	.950	.250	.750	.250	.611	.964	.901	.857	.936	.962

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City of Fountain Valley
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E/W: Ellis Avenue/Euclid Street
Weather: Clear

File Name : 07_FTV_405S_Ellis_Euclid AM
Site Code : 00319172
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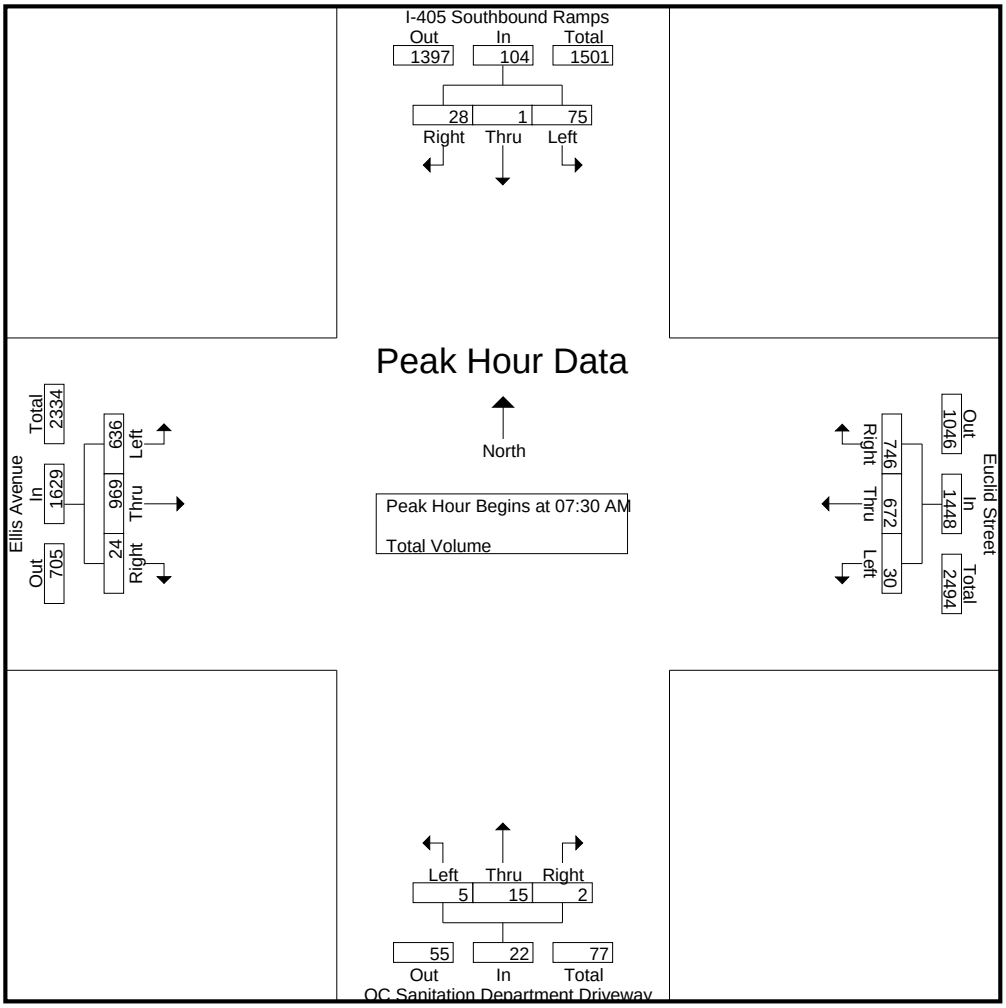

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				08:00 AM				07:45 AM			
+0 mins.	**23**	0	**10**	**33**	**9**	154	186	349	**5**	4	0	**9**	150	235	**7**	392
+15 mins.	15	0	7	22	7	**186**	188	**381**	0	**5**	2	7	160	244	7	411
+30 mins.	18	1	7	26	7	166	181	354	0	3	1	4	161	**269**	5	**435**
+45 mins.	19	**3**	2	24	7	166	**191**	364	2	2	**4**	8	**165**	237	1	403
Total Volume	75	4	26	105	30	672	746	1448	7	14	7	28	636	985	20	1641
% App. Total	71.4	3.8	24.8		2.1	46.4	51.5		25	50	25		38.8	60	1.2	
PHF	.815	.333	.650	.795	.833	.903	.976	.950	.350	.700	.438	.778	.964	.915	.714	.943

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City of Fountain Valley
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File Name : 07_FTV_405S_Ellis_Euclid PM
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Groups Printed- Total Volume

	I-405 Southbound Ramps Southbound				Euclid Street Westbound				OC Sanitation Department Driveway Northbound				Ellis Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	38	3	18	59	1	228	160	389	5	10	10	25	128	117	1	246	719
04:15 PM	37	0	10	47	3	268	164	435	5	15	12	32	151	105	1	257	771
04:30 PM	27	0	14	41	2	293	161	456	13	19	38	70	157	117	0	274	841
04:45 PM	45	0	14	59	4	302	165	471	1	8	8	17	152	105	0	257	804
Total	147	3	56	206	10	1091	650	1751	24	52	68	144	588	444	2	1034	3135
05:00 PM	29	0	16	45	3	274	188	465	1	12	10	23	151	147	2	300	833
05:15 PM	41	0	10	51	3	317	177	497	5	5	5	15	128	116	0	244	807
05:30 PM	50	3	19	72	1	307	167	475	3	7	6	16	128	98	1	227	790
05:45 PM	36	0	9	45	1	313	166	480	4	4	5	13	128	119	2	249	787
Total	156	3	54	213	8	1211	698	1917	13	28	26	67	535	480	5	1020	3217
Grand Total	303	6	110	419	18	2302	1348	3668	37	80	94	211	1123	924	7	2054	6352
Apprch %	72.3	1.4	26.3		0.5	62.8	36.8		17.5	37.9	44.5		54.7	45	0.3		
Total %	4.8	0.1	1.7	6.6	0.3	36.2	21.2	57.7	0.6	1.3	1.5	3.3	17.7	14.5	0.1	32.3	

	I-405 Southbound Ramps Southbound				Euclid Street Westbound				OC Sanitation Department Driveway Northbound				Ellis Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	27	0	14	41	2	293	161	456	**13**	**19**	**38**	**70**	**157**	117	0	274	**841**
04:45 PM	**45**	0	14	**59**	**4**	302	165	471	1	8	8	17	152	105	0	257	804
05:00 PM	29	0	**16**	45	3	274	**188**	465	1	12	10	23	151	**147**	**2**	**300**	833
05:15 PM	41	0	10	51	3	**317**	177	**497**	5	5	5	15	128	116	0	244	807
Total Volume	142	0	54	196	12	1186	691	1889	20	44	61	125	588	485	2	1075	3285
% App. Total	72.4	0	27.6		0.6	62.8	36.6		16	35.2	48.8		54.7	45.1	0.2		
PHF	.789	.000	.844	.831	.750	.935	.919	.950	.385	.579	.401	.446	.936	.825	.250	.896	.977

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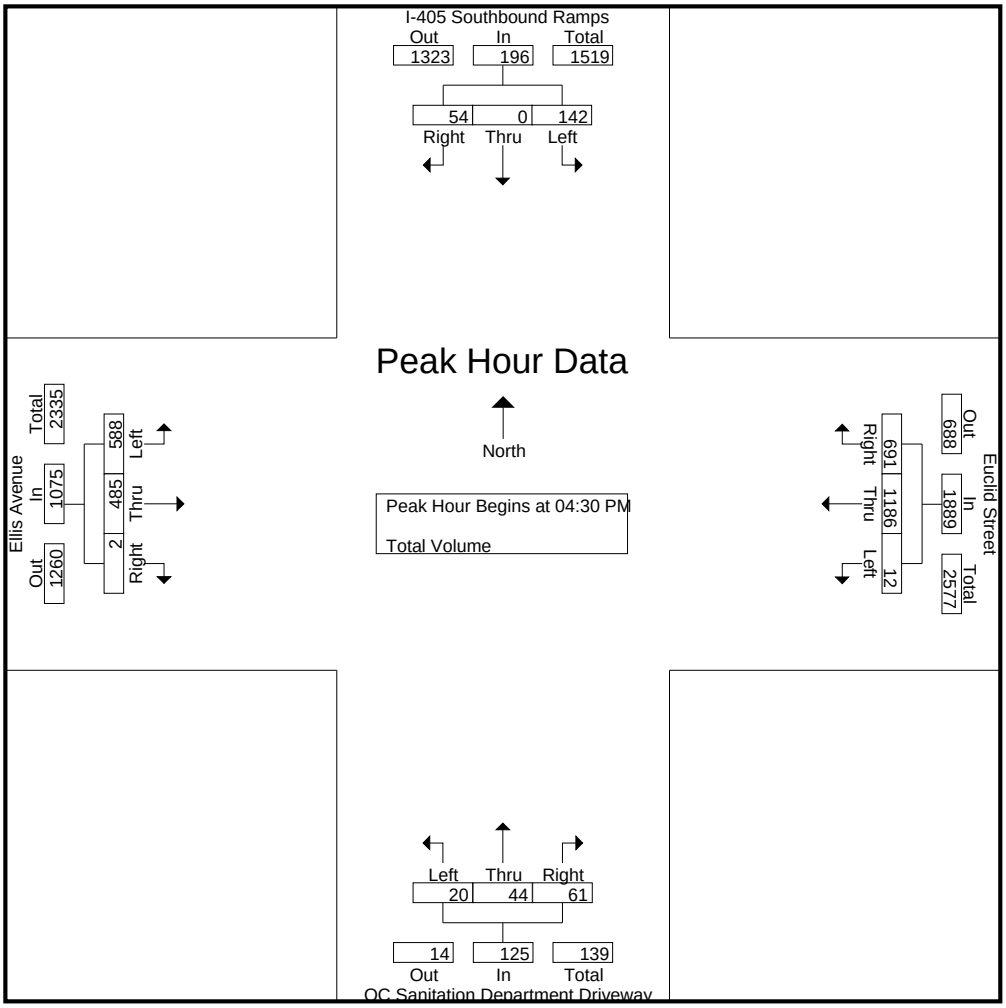
City of Fountain Valley
N/S: I-405 Southbound Ramps
E/W: Ellis Avenue/Euclid Street
Weather: Clear

File Name : 07_FTV_405S_Ellis_Euclid PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:00 PM				04:15 PM			
+0 mins.	45	0	14	59	**3**	274	**188**	465	5	10	10	25	151	105	1	257
+15 mins.	29	0	16	45	3	**317**	177	**497**	5	15	12	32	**157**	117	0	274
+30 mins.	41	0	10	51	1	307	167	475	**13**	**19**	**38**	**70**	152	105	0	257
+45 mins.	**50**	**3**	**19**	**72**	1	313	166	480	1	8	8	17	151	**147**	**2**	**300**
Total Volume	165	3	59	227	8	1211	698	1917	24	52	68	144	611	474	3	1088
% App. Total	72.7	1.3	26		0.4	63.2	36.4		16.7	36.1	47.2		56.2	43.6	0.3	
PHF	.825	.250	.776	.788	.667	.955	.928	.964	.462	.684	.447	.514	.973	.806	.375	.907

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City of Fountain Valley
N/S: Newhope Street
E/W: Talbert Avenue
Weather: Clear

File Name : 02_FTV_Newhope_Talbert AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Newhope Street Southbound				Talbert Avenue Westbound				Newhope Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	66	36	17	119	24	71	5	100	0	66	47	113	5	277	0	282	614
07:15 AM	75	41	17	133	18	77	8	103	2	69	62	133	12	366	3	381	750
07:30 AM	84	34	26	144	19	97	9	125	0	88	92	180	12	435	0	447	896
07:45 AM	94	25	19	138	21	115	11	147	1	100	94	195	16	459	1	476	956
Total	319	136	79	534	82	360	33	475	3	323	295	621	45	1537	4	1586	3216
08:00 AM	62	38	21	121	18	106	17	141	0	90	94	184	20	438	2	460	906
08:15 AM	70	35	19	124	23	102	13	138	0	100	104	204	19	445	3	467	933
08:30 AM	88	36	13	137	31	100	12	143	0	119	93	212	12	445	4	461	953
08:45 AM	47	41	22	110	25	99	6	130	1	88	57	146	21	382	2	405	791
Total	267	150	75	492	97	407	48	552	1	397	348	746	72	1710	11	1793	3583
Grand Total	586	286	154	1026	179	767	81	1027	4	720	643	1367	117	3247	15	3379	6799
Apprch %	57.1	27.9	15		17.4	74.7	7.9		0.3	52.7	47		3.5	96.1	0.4		
Total %	8.6	4.2	2.3	15.1	2.6	11.3	1.2	15.1	0.1	10.6	9.5	20.1	1.7	47.8	0.2	49.7	

	Newhope Street Southbound				Talbert Avenue Westbound				Newhope Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**94**	25	19	**138**	21	**115**	11	**147**	**1**	100	94	195	16	**459**	1	**476**	**956**
08:00 AM	62	**38**	**21**	121	18	106	**17**	141	0	90	94	184	**20**	438	2	460	906
08:15 AM	70	35	19	124	23	102	13	138	0	100	**104**	204	19	445	3	467	933
08:30 AM	88	36	13	137	**31**	100	12	143	0	**119**	93	**212**	12	445	**4**	461	953
Total Volume	314	134	72	520	93	423	53	569	1	409	385	795	67	1787	10	1864	3748
% App. Total	60.4	25.8	13.8		16.3	74.3	9.3		0.1	51.4	48.4		3.6	95.9	0.5		
PHF	.835	.882	.857	.942	.750	.920	.779	.968	.250	.859	.925	.938	.838	.973	.625	.979	.980

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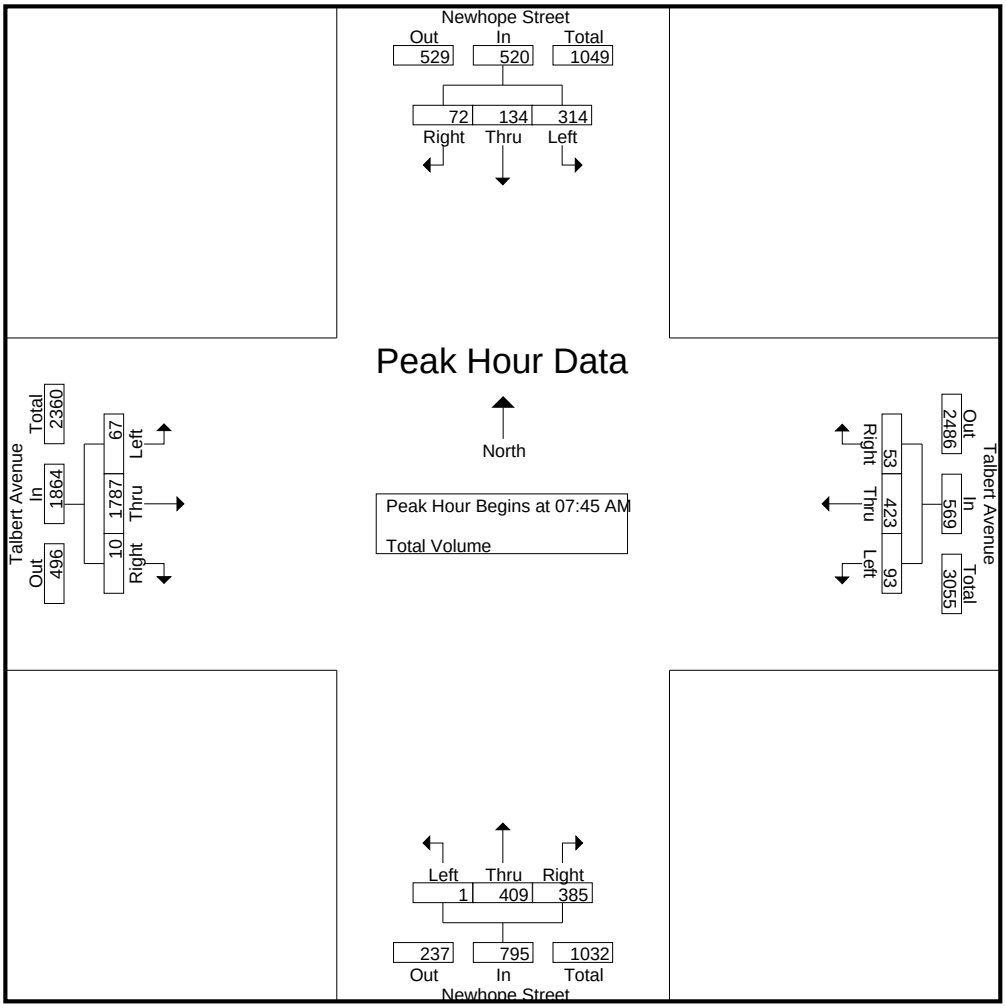
City of Fountain Valley
N/S: Newhope Street
E/W: Talbert Avenue
Weather: Clear

File Name : 02_FTV_Newhope_Talbert AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	75	**41**	17	133	21	**115**	11	**147**	**1**	100	94	195	16	**459**	1	**476**
+15 mins.	84	34	**26**	**144**	18	106	**17**	141	0	90	94	184	**20**	438	2	460
+30 mins.	**94**	25	19	138	23	102	13	138	0	100	**104**	204	19	445	3	467
+45 mins.	62	38	21	121	**31**	100	12	143	0	**119**	93	**212**	12	445	**4**	461
Total Volume	315	138	83	536	93	423	53	569	1	409	385	795	67	1787	10	1864
% App. Total	58.8	25.7	15.5		16.3	74.3	9.3		0.1	51.4	48.4		3.6	95.9	0.5	
PHF	.838	.841	.798	.931	.750	.920	.779	.968	.250	.859	.925	.938	.838	.973	.625	.979

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City of Fountain Valley
N/S: Newhope Street
E/W: Talbert Avenue
Weather: Clear

File Name : 02_FTV_Newhope_Talbert PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Newhope Street Southbound				Talbert Avenue Westbound				Newhope Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	45	89	28	162	111	592	55	758	4	61	31	96	36	87	3	126	1142
04:15 PM	52	101	24	177	103	622	49	774	3	61	22	86	46	101	1	148	1185
04:30 PM	62	109	32	203	100	589	44	733	5	69	23	97	45	99	4	148	1181
04:45 PM	48	107	46	201	123	652	50	825	5	58	25	88	49	116	0	165	1279
Total	207	406	130	743	437	2455	198	3090	17	249	101	367	176	403	8	587	4787
05:00 PM	50	146	37	233	107	585	50	742	4	69	23	96	43	131	6	180	1251
05:15 PM	53	128	34	215	124	650	40	814	3	51	17	71	46	116	1	163	1263
05:30 PM	62	105	44	211	108	636	37	781	3	59	30	92	35	150	4	189	1273
05:45 PM	48	102	37	187	143	589	47	779	3	67	27	97	35	122	1	158	1221
Total	213	481	152	846	482	2460	174	3116	13	246	97	356	159	519	12	690	5008
Grand Total	420	887	282	1589	919	4915	372	6206	30	495	198	723	335	922	20	1277	9795
Apprch %	26.4	55.8	17.7		14.8	79.2	6		4.1	68.5	27.4		26.2	72.2	1.6		
Total %	4.3	9.1	2.9	16.2	9.4	50.2	3.8	63.4	0.3	5.1	2	7.4	3.4	9.4	0.2	13	

	Newhope Street Southbound				Talbert Avenue Westbound				Newhope Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	48	107	**46**	201	123	**652**	**50**	**825**	**5**	58	25	88	**49**	116	0	165	**1279**
05:00 PM	50	**146**	37	**233**	107	585	50	742	4	**69**	23	**96**	43	131	**6**	180	1251
05:15 PM	53	128	34	215	**124**	650	40	814	3	51	17	71	46	116	1	163	1263
05:30 PM	**62**	105	44	211	108	636	37	781	3	59	**30**	92	35	**150**	4	**189**	1273
Total Volume	213	486	161	860	462	2523	177	3162	15	237	95	347	173	513	11	697	5066
% App. Total	24.8	56.5	18.7		14.6	79.8	5.6		4.3	68.3	27.4		24.8	73.6	1.6		
PHF	.859	.832	.875	.923	.931	.967	.885	.958	.750	.859	.792	.904	.883	.855	.458	.922	.990

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City of Fountain Valley
N/S: Newhope Street
E/W: Talbert Avenue
Weather: Clear

File Name : 02_FTV_Newhope_Talbert PM
Site Code : 00319172
Start Date : 3/14/2019
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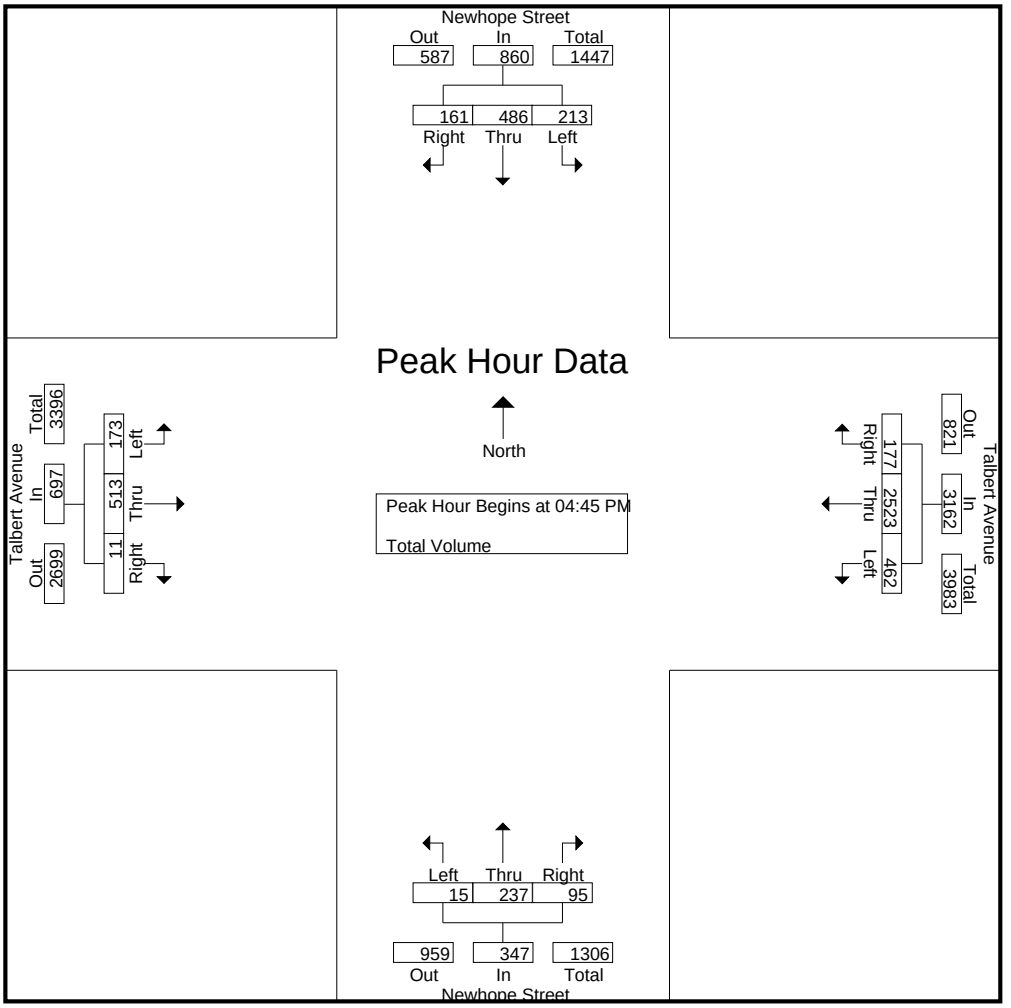

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:00 PM				04:45 PM			
+0 mins.	48	107	**46**	201	123	**652**	**50**	**825**	4	61	**31**	96	**49**	116	0	165
+15 mins.	50	**146**	37	**233**	107	585	50	742	3	61	22	86	43	131	**6**	180
+30 mins.	53	128	34	215	**124**	650	40	814	**5**	**69**	23	**97**	46	116	1	163
+45 mins.	**62**	105	44	211	108	636	37	781	5	58	25	88	35	**150**	4	**189**
Total Volume	213	486	161	860	462	2523	177	3162	17	249	101	367	173	513	11	697
% App. Total	24.8	56.5	18.7		14.6	79.8	5.6		4.6	67.8	27.5		24.8	73.6	1.6	
PHF	.859	.832	.875	.923	.931	.967	.885	.958	.850	.902	.815	.946	.883	.855	.458	.922

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City of Costa Mesa
N/S: Hyland Avenue
E/W: MacArthur Boulevard
Weather: Clear

File Name : 03_CSM_Hyland_MacArthur AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	OCTA Santa Ana Driveway Southbound				MacArthur Boulevard Westbound				Hyland Avenue Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	2	9	16	13	75	3	91	11	0	1	12	2	278	134	414	533
07:15 AM	2	1	8	11	11	96	3	110	3	0	5	8	6	379	151	536	665
07:30 AM	2	0	3	5	14	114	1	129	19	0	1	20	2	464	177	643	797
07:45 AM	4	1	1	6	13	129	3	145	21	2	5	28	2	468	209	679	858
Total	13	4	21	38	51	414	10	475	54	2	12	68	12	1589	671	2272	2853
08:00 AM	1	0	1	2	21	137	1	159	13	2	6	21	3	432	205	640	822
08:15 AM	2	0	3	5	15	122	3	140	17	1	2	20	2	465	181	648	813
08:30 AM	2	1	2	5	11	111	4	126	13	1	3	17	6	510	195	711	859
08:45 AM	3	2	4	9	23	109	4	136	13	3	6	22	3	334	157	494	661
Total	8	3	10	21	70	479	12	561	56	7	17	80	14	1741	738	2493	3155
Grand Total	21	7	31	59	121	893	22	1036	110	9	29	148	26	3330	1409	4765	6008
Apprch %	35.6	11.9	52.5		11.7	86.2	2.1		74.3	6.1	19.6		0.5	69.9	29.6		
Total %	0.3	0.1	0.5	1	2	14.9	0.4	17.2	1.8	0.1	0.5	2.5	0.4	55.4	23.5	79.3	

	OCTA Santa Ana Driveway Southbound				MacArthur Boulevard Westbound				Hyland Avenue Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**4**	**1**	1	**6**	13	129	3	145	**21**	**2**	5	**28**	2	468	**209**	679	858
08:00 AM	1	0	1	2	**21**	**137**	1	**159**	13	2	**6**	21	3	432	205	640	822
08:15 AM	2	0	**3**	5	15	122	3	140	17	1	2	20	2	465	181	648	813
08:30 AM	2	1	2	5	11	111	**4**	126	13	1	3	17	**6**	**510**	195	**711**	**859**
Total Volume	9	2	7	18	60	499	11	570	64	6	16	86	13	1875	790	2678	3352
% App. Total	50	11.1	38.9		10.5	87.5	1.9		74.4	7	18.6		0.5	70	29.5		
PHF	.563	.500	.583	.750	.714	.911	.688	.896	.762	.750	.667	.768	.542	.919	.945	.942	.976

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City of Costa Mesa
N/S: Hyland Avenue
E/W: MacArthur Boulevard
Weather: Clear

File Name : 03_CSM_Hyland_MacArthur AM
Site Code : 00319172
Start Date : 3/14/2019
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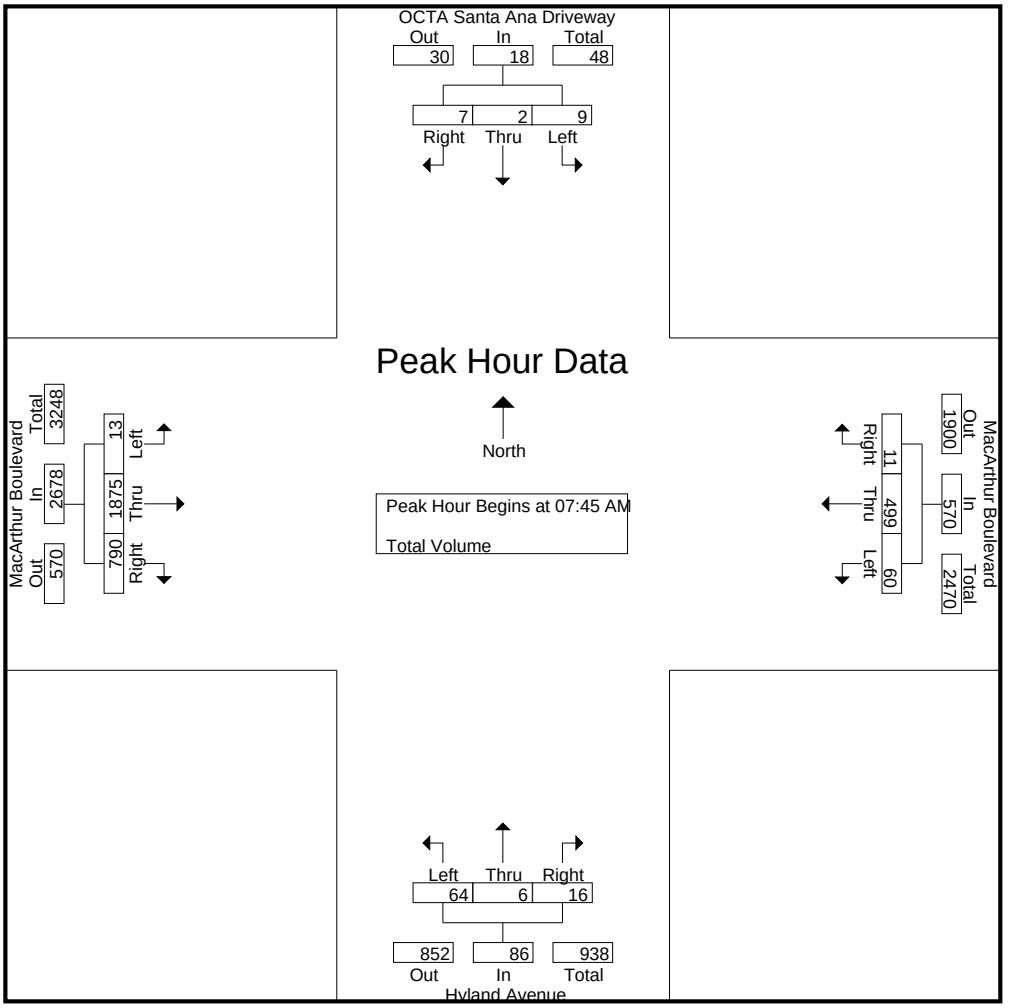

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				07:30 AM				07:45 AM			
+0 mins.	**5**	**2**	**9**	**16**	14	114	1	129	19	0	1	20	2	468	**209**	679
+15 mins.	2	1	8	11	13	129	**3**	145	**21**	**2**	5	**28**	3	432	205	640
+30 mins.	2	0	3	5	**21**	**137**	1	**159**	13	2	**6**	21	2	465	181	648
+45 mins.	4	1	1	6	15	122	3	140	17	1	2	20	**6**	**510**	195	**711**
Total Volume	13	4	21	38	63	502	8	573	70	5	14	89	13	1875	790	2678
% App. Total	34.2	10.5	55.3		11	87.6	1.4		78.7	5.6	15.7		0.5	70	29.5	
PHF	.650	.500	.583	.594	.750	.916	.667	.901	.833	.625	.583	.795	.542	.919	.945	.942

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City of Costa Mesa
N/S: Hyland Avenue
E/W: MacArthur Boulevard
Weather: Clear

File Name : 03_CSM_Hyland_MacArthur PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	OCTA Santa Ana Driveway Southbound				MacArthur Boulevard Westbound				Hyland Avenue Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	3	6	11	4	578	2	584	330	0	14	344	7	144	23	174	1113
04:15 PM	3	2	5	10	3	588	2	593	349	2	6	357	7	157	33	197	1157
04:30 PM	7	2	7	16	3	597	2	602	346	1	15	362	4	165	40	209	1189
04:45 PM	1	0	7	8	0	577	1	578	352	3	14	369	6	159	49	214	1169
Total	13	7	25	45	10	2340	7	2357	1377	6	49	1432	24	625	145	794	4628
05:00 PM	2	0	7	9	0	581	2	583	321	1	22	344	2	196	38	236	1172
05:15 PM	1	1	5	7	2	603	2	607	346	1	17	364	4	173	47	224	1202
05:30 PM	1	0	6	7	3	600	6	609	343	0	10	353	6	194	44	244	1213
05:45 PM	1	0	4	5	3	597	2	602	350	4	12	366	5	209	16	230	1203
Total	5	1	22	28	8	2381	12	2401	1360	6	61	1427	17	772	145	934	4790
Grand Total	18	8	47	73	18	4721	19	4758	2737	12	110	2859	41	1397	290	1728	9418
Apprch %	24.7	11	64.4		0.4	99.2	0.4		95.7	0.4	3.8		2.4	80.8	16.8		
Total %	0.2	0.1	0.5	0.8	0.2	50.1	0.2	50.5	29.1	0.1	1.2	30.4	0.4	14.8	3.1	18.3	

	OCTA Santa Ana Driveway Southbound				MacArthur Boulevard Westbound				Hyland Avenue Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**2**	0	**7**	**9**	0	581	2	583	321	1	**22**	344	2	196	38	236	1172
05:15 PM	1	**1**	5	7	2	**603**	2	607	346	1	17	364	4	173	**47**	224	1202
05:30 PM	1	0	6	7	**3**	600	**6**	**609**	343	0	10	353	**6**	194	44	**244**	**1213**
05:45 PM	1	0	4	5	3	597	2	602	**350**	**4**	12	**366**	5	**209**	16	230	1203
Total Volume	5	1	22	28	8	2381	12	2401	1360	6	61	1427	17	772	145	934	4790
% App. Total	17.9	3.6	78.6		0.3	99.2	0.5		95.3	0.4	4.3		1.8	82.7	15.5		
PHF	.625	.250	.786	.778	.667	.987	.500	.986	.971	.375	.693	.975	.708	.923	.771	.957	.987

Counts Unlimited
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City of Costa Mesa
N/S: Hyland Avenue
E/W: MacArthur Boulevard
Weather: Clear

File Name : 03_CSM_Hyland_MacArthur PM
Site Code : 00319172
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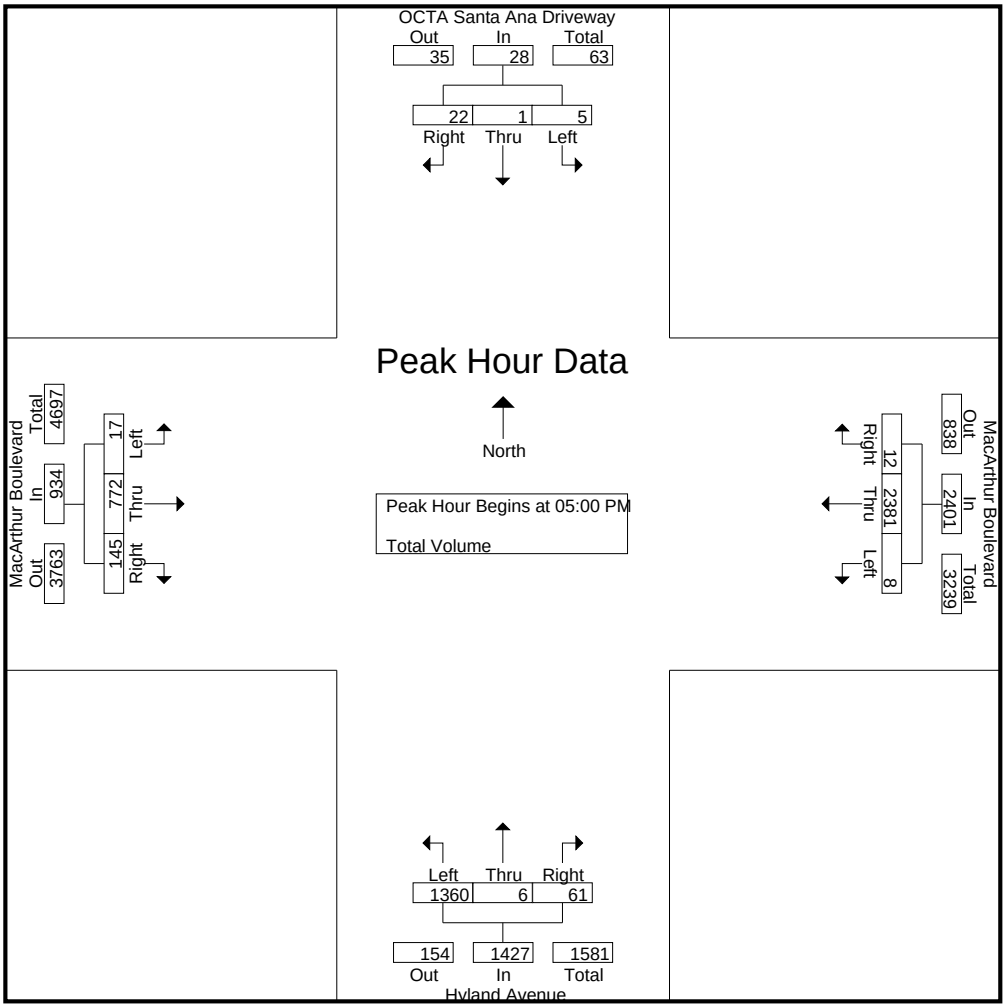

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:30 PM				05:00 PM			
+0 mins.	2	**3**	6	11	0	581	2	583	346	1	15	362	2	196	38	236
+15 mins.	3	2	5	10	2	**603**	2	607	**352**	**3**	14	**369**	4	173	**47**	224
+30 mins.	**7**	2	**7**	**16**	**3**	600	**6**	**609**	321	1	**22**	344	**6**	194	44	**244**
+45 mins.	1	0	7	8	3	597	2	602	346	1	17	364	5	**209**	16	230
Total Volume	13	7	25	45	8	2381	12	2401	1365	6	68	1439	17	772	145	934
% App. Total	28.9	15.6	55.6		0.3	99.2	0.5		94.9	0.4	4.7		1.8	82.7	15.5	
PHF	.464	.583	.893	.703	.667	.987	.500	.986	.969	.500	.773	.975	.708	.923	.771	.957

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City of Costa Mesa
N/S: Hyland Avenue
E/W: Sunflower Avenue
Weather: Clear

File Name : 13_CSM_Hyland_Sunflower AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Hyland Avenue Southbound				Sunflower Avenue Westbound				Hyland Avenue Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	20	35	15	70	9	24	10	43	8	17	0	25	1	5	4	10	148
07:15 AM	24	63	4	91	6	20	11	37	8	9	2	19	2	2	3	7	154
07:30 AM	29	89	8	126	1	23	10	34	12	17	3	32	1	14	16	31	223
07:45 AM	52	74	9	135	8	40	22	70	21	29	1	51	1	6	10	17	273
Total	125	261	36	422	24	107	53	184	49	72	6	127	5	27	33	65	798
08:00 AM	26	95	14	135	11	40	15	66	20	35	3	58	4	4	3	11	270
08:15 AM	27	69	24	120	8	27	19	54	18	29	3	50	1	7	3	11	235
08:30 AM	24	78	31	133	7	39	11	57	15	29	4	48	4	14	2	20	258
08:45 AM	16	86	24	126	13	54	9	76	11	27	2	40	2	11	13	26	268
Total	93	328	93	514	39	160	54	253	64	120	12	196	11	36	21	68	1031
Grand Total	218	589	129	936	63	267	107	437	113	192	18	323	16	63	54	133	1829
Apprch %	23.3	62.9	13.8		14.4	61.1	24.5		35	59.4	5.6		12	47.4	40.6		
Total %	11.9	32.2	7.1	51.2	3.4	14.6	5.9	23.9	6.2	10.5	1	17.7	0.9	3.4	3	7.3	

	Hyland Avenue Southbound				Sunflower Avenue Westbound				Hyland Avenue Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**52**	74	9	**135**	8	**40**	**22**	**70**	**21**	29	1	51	1	6	**10**	17	**273**
08:00 AM	26	**95**	14	135	**11**	40	15	66	20	**35**	3	**58**	**4**	4	3	11	270
08:15 AM	27	69	24	120	8	27	19	54	18	29	3	50	1	7	3	11	235
08:30 AM	24	78	**31**	133	7	39	11	57	15	29	**4**	48	4	**14**	2	**20**	258
Total Volume	129	316	78	523	34	146	67	247	74	122	11	207	10	31	18	59	1036
% App. Total	24.7	60.4	14.9		13.8	59.1	27.1		35.7	58.9	5.3		16.9	52.5	30.5		
PHF	.620	.832	.629	.969	.773	.913	.761	.882	.881	.871	.688	.892	.625	.554	.450	.738	.949

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City of Costa Mesa
N/S: Hyland Avenue
E/W: Sunflower Avenue
Weather: Clear

File Name : 13_CSM_Hyland_Sunflower AM
Site Code : 00319172
Start Date : 3/14/2019
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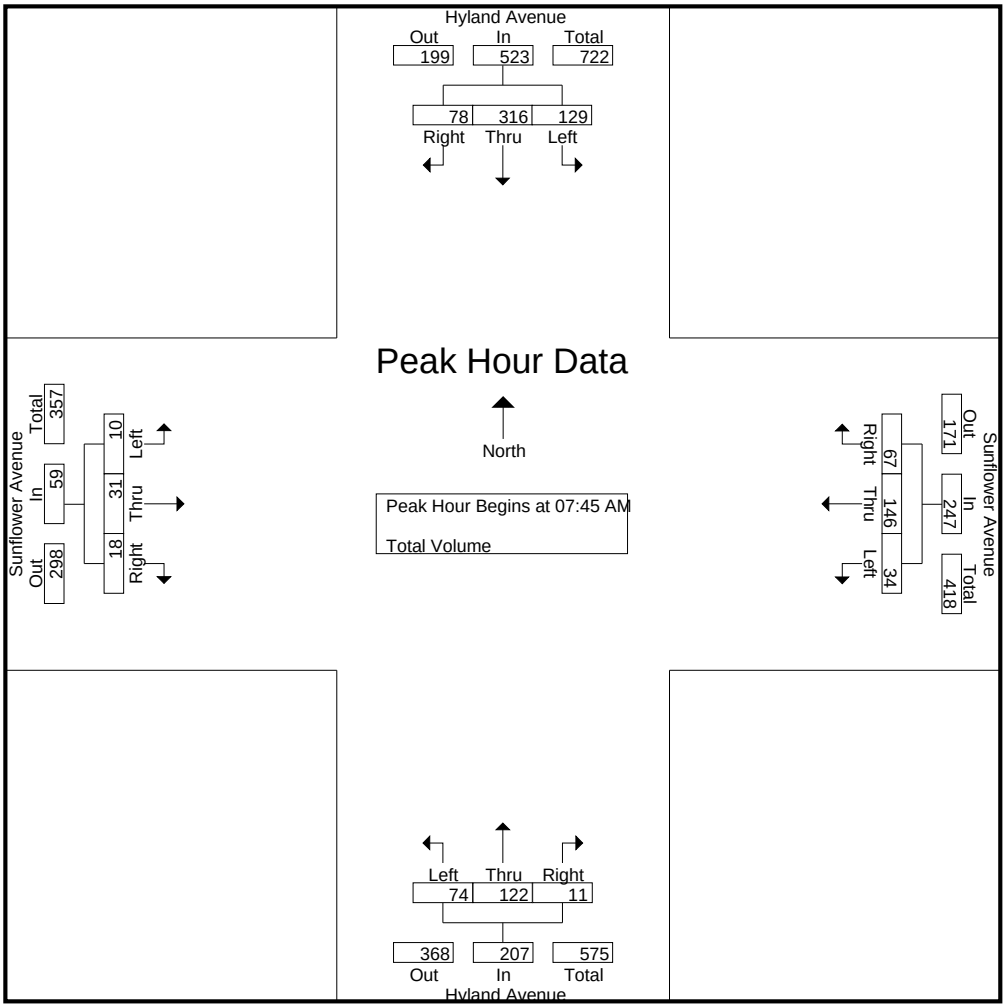

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:45 AM				07:30 AM			
+0 mins.	**52**	74	9	**135**	11	40	15	66	**21**	29	1	51	1	**14**	**16**	**31**
+15 mins.	26	**95**	14	135	8	27	**19**	54	20	**35**	3	**58**	1	6	10	17
+30 mins.	27	69	24	120	7	39	11	57	18	29	3	50	**4**	4	3	11
+45 mins.	24	78	**31**	133	**13**	**54**	9	**76**	15	29	**4**	48	1	7	3	11
Total Volume	129	316	78	523	39	160	54	253	74	122	11	207	7	31	32	70
% App. Total	24.7	60.4	14.9		15.4	63.2	21.3		35.7	58.9	5.3		10	44.3	45.7	
PHF	.620	.832	.629	.969	.750	.741	.711	.832	.881	.871	.688	.892	.438	.554	.500	.565

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City of Costa Mesa
N/S: Hyland Avenue
E/W: Sunflower Avenue
Weather: Clear

File Name : 13_CSM_Hyland_Sunflower PM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Hyland Avenue Southbound				Sunflower Avenue Westbound				Hyland Avenue Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	7	45	13	65	49	34	58	141	10	159	3	172	19	40	34	93	471
04:15 PM	6	34	12	52	30	28	65	123	5	142	8	155	13	43	28	84	414
04:30 PM	10	47	18	75	41	51	48	140	16	161	9	186	24	75	26	125	526
04:45 PM	6	41	23	70	45	49	30	124	14	116	11	141	11	34	24	69	404
Total	29	167	66	262	165	162	201	528	45	578	31	654	67	192	112	371	1815
05:00 PM	14	75	13	102	57	25	55	137	15	149	17	181	16	56	36	108	528
05:15 PM	15	62	18	95	40	36	55	131	24	122	24	170	2	30	28	60	456
05:30 PM	12	48	16	76	33	45	41	119	34	137	19	190	10	29	18	57	442
05:45 PM	4	27	10	41	41	26	49	116	24	124	13	161	10	27	14	51	369
Total	45	212	57	314	171	132	200	503	97	532	73	702	38	142	96	276	1795
Grand Total	74	379	123	576	336	294	401	1031	142	1110	104	1356	105	334	208	647	3610
Apprch %	12.8	65.8	21.4		32.6	28.5	38.9		10.5	81.9	7.7		16.2	51.6	32.1		
Total %	2	10.5	3.4	16	9.3	8.1	11.1	28.6	3.9	30.7	2.9	37.6	2.9	9.3	5.8	17.9	

	Hyland Avenue Southbound				Sunflower Avenue Westbound				Hyland Avenue Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	10	47	18	75	41	**51**	48	**140**	16	**161**	9	**186**	**24**	**75**	26	**125**	526
04:45 PM	6	41	**23**	70	45	49	30	124	14	116	11	141	11	34	24	69	404
05:00 PM	14	**75**	13	**102**	**57**	25	**55**	137	15	149	17	181	16	56	**36**	108	**528**
05:15 PM	**15**	62	18	95	40	36	55	131	**24**	122	**24**	170	2	30	28	60	456
Total Volume	45	225	72	342	183	161	188	532	69	548	61	678	53	195	114	362	1914
% App. Total	13.2	65.8	21.1		34.4	30.3	35.3		10.2	80.8	9		14.6	53.9	31.5		
PHF	.750	.750	.783	.838	.803	.789	.855	.950	.719	.851	.635	.911	.552	.650	.792	.724	.906

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City of Costa Mesa
N/S: Hyland Avenue
E/W: Sunflower Avenue
Weather: Clear

File Name : 13_CSM_Hyland_Sunflower PM
Site Code : 00319172
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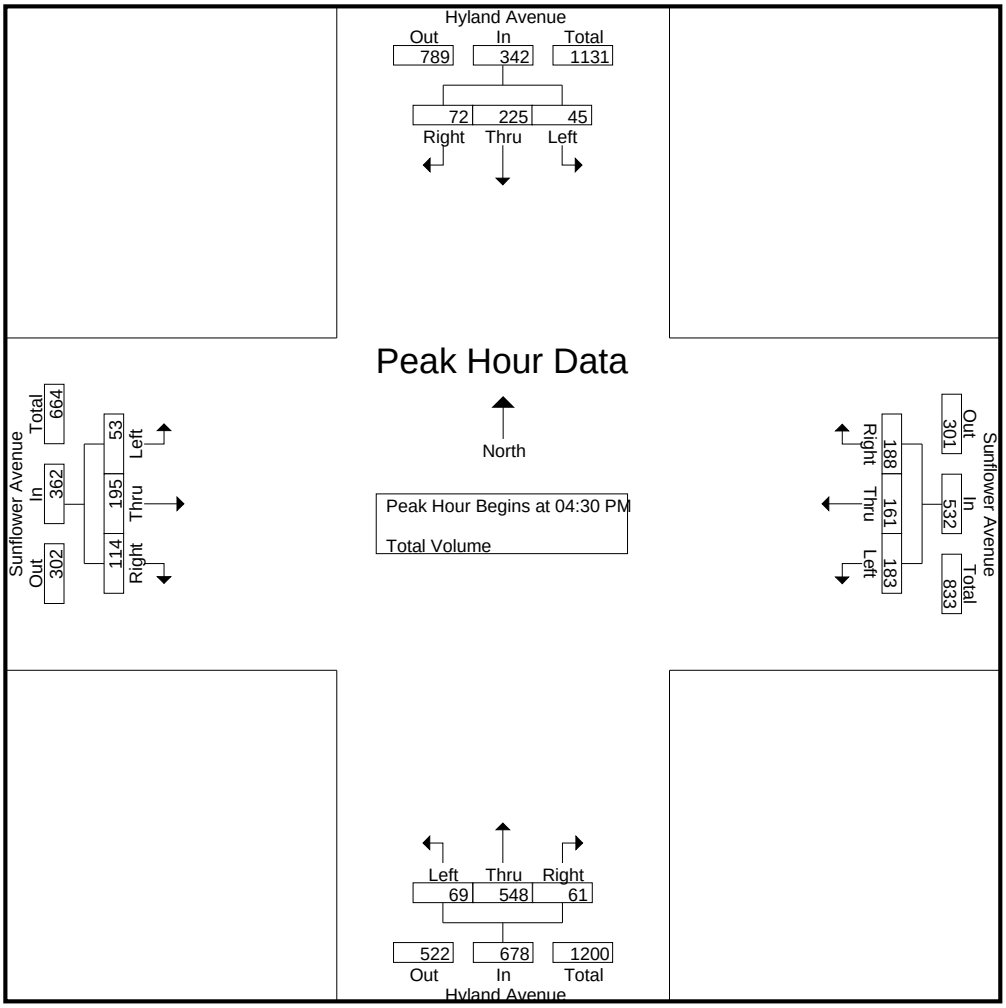

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				05:00 PM				04:15 PM			
+0 mins.	6	41	**23**	70	41	**51**	48	**140**	15	**149**	17	181	13	43	28	84
+15 mins.	14	**75**	13	**102**	45	49	30	124	24	122	**24**	170	**24**	**75**	26	**125**
+30 mins.	**15**	62	18	95	**57**	25	**55**	137	**34**	137	19	**190**	11	34	24	69
+45 mins.	12	48	16	76	40	36	55	131	24	124	13	161	16	56	**36**	108
Total Volume	47	226	70	343	183	161	188	532	97	532	73	702	64	208	114	386
% App. Total	13.7	65.9	20.4		34.4	30.3	35.3		13.8	75.8	10.4		16.6	53.9	29.5	
PHF	.783	.753	.761	.841	.803	.789	.855	.950	.713	.893	.760	.924	.667	.693	.792	.772

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City of Costa Mesa
N/S: Hyland Avenue
E/W: I-405 NB On Ramp/South Coast Drive
Weather: Clear

File Name : 14_CSM_Hyland_405N On_S Coast AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Hyland Avenue Southbound			South Coast Drive Westbound			I-405 Northbound On Ramp Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	34	11	45	27	29	56	0	0	0	101
07:15 AM	57	7	64	19	21	40	0	0	0	104
07:30 AM	83	14	97	44	44	88	0	0	0	185
07:45 AM	76	13	89	34	60	94	0	0	0	183
Total	250	45	295	124	154	278	0	0	0	573
08:00 AM	82	14	96	23	69	92	0	0	0	188
08:15 AM	60	12	72	42	67	109	0	0	0	181
08:30 AM	59	10	69	32	73	105	0	0	0	174
08:45 AM	67	19	86	47	74	121	0	0	0	207
Total	268	55	323	144	283	427	0	0	0	750
Grand Total	518	100	618	268	437	705	0	0	0	1323
Apprch %	83.8	16.2		38	62		0	0		
Total %	39.2	7.6	46.7	20.3	33	53.3	0	0	0	

	Hyland Avenue Southbound			South Coast Drive Westbound			I-405 Northbound On Ramp Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**82**	14	**96**	23	69	92	0	0	0	188
08:15 AM	60	12	72	42	67	109	0	0	0	181
08:30 AM	59	10	69	32	73	105	0	0	0	174
08:45 AM	67	**19**	86	**47**	**74**	**121**	0	0	0	**207**
Total Volume	268	55	323	144	283	427	0	0	0	750
% App. Total	83	17		33.7	66.3		0	0		
PHF	.817	.724	.841	.766	.956	.882	.000	.000	.000	.906

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City of Costa Mesa
N/S: Hyland Avenue
E/W: I-405 NB On Ramp/South Coast Drive
Weather: Clear

File Name : 14_CSM_Hyland_405N On_S Coast AM
Site Code : 00319172
Start Date : 3/14/2019
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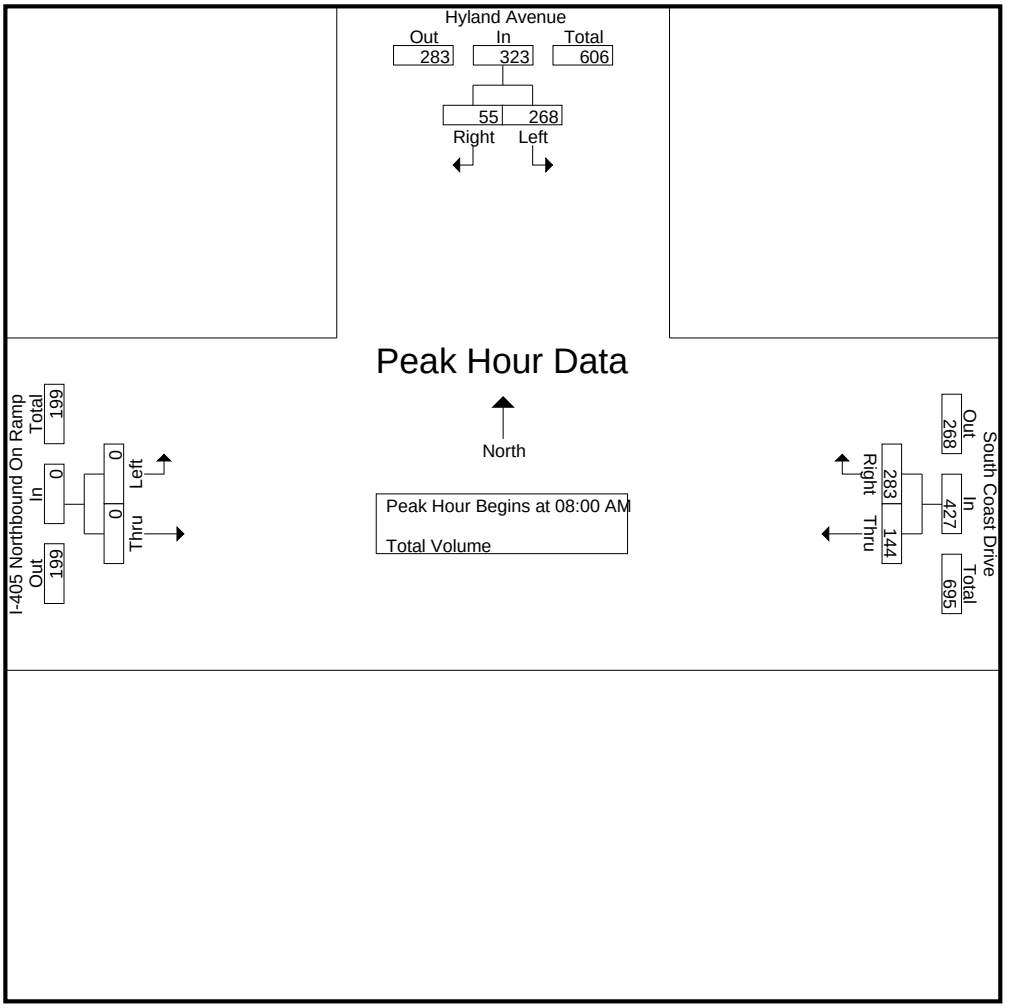

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:00 AM		
+0 mins.	**83**	**14**	**97**	23	69	92	0	0	0
+15 mins.	76	13	89	42	67	109	0	0	0
+30 mins.	82	14	96	32	73	105	0	0	0
+45 mins.	60	12	72	**47**	**74**	**121**	0	0	0
Total Volume	301	53	354	144	283	427	0	0	0
% App. Total	85	15		33.7	66.3		0	0	
PHF	.907	.946	.912	.766	.956	.882	.000	.000	.000

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City of Costa Mesa
N/S: Hyland Avenue
E/W: I-405 NB On Ramp/South Coast Drive
Weather: Clear

File Name : 14_CSM_Hyland_405N On_S Coast PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Hyland Avenue Southbound			South Coast Drive Westbound			I-405 Northbound On Ramp Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	73	89	162	142	190	332	0	0	0	494
04:15 PM	62	82	144	104	198	302	0	0	0	446
04:30 PM	79	82	161	112	200	312	0	0	0	473
04:45 PM	63	86	149	127	176	303	0	0	0	452
Total	277	339	616	485	764	1249	0	0	0	1865
05:00 PM	121	90	211	102	192	294	0	0	0	505
05:15 PM	94	87	181	85	203	288	0	0	0	469
05:30 PM	69	85	154	123	204	327	0	0	0	481
05:45 PM	68	70	138	108	180	288	0	0	0	426
Total	352	332	684	418	779	1197	0	0	0	1881
Grand Total	629	671	1300	903	1543	2446	0	0	0	3746
Apprch %	48.4	51.6		36.9	63.1		0	0		
Total %	16.8	17.9	34.7	24.1	41.2	65.3	0	0	0	

	Hyland Avenue Southbound			South Coast Drive Westbound			I-405 Northbound On Ramp Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	63	86	149	**127**	176	303	0	0	0	452
05:00 PM	**121**	**90**	**211**	102	192	294	0	0	0	**505**
05:15 PM	94	87	181	85	203	288	0	0	0	469
05:30 PM	69	85	154	123	**204**	**327**	0	0	0	481
Total Volume	347	348	695	437	775	1212	0	0	0	1907
% App. Total	49.9	50.1		36.1	63.9		0	0		
PHF	.717	.967	.823	.860	.950	.927	.000	.000	.000	.944

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City of Costa Mesa
N/S: Hyland Avenue
E/W: I-405 NB On Ramp/South Coast Drive
Weather: Clear

File Name : 14_CSM_Hyland_405N On_S Coast PM
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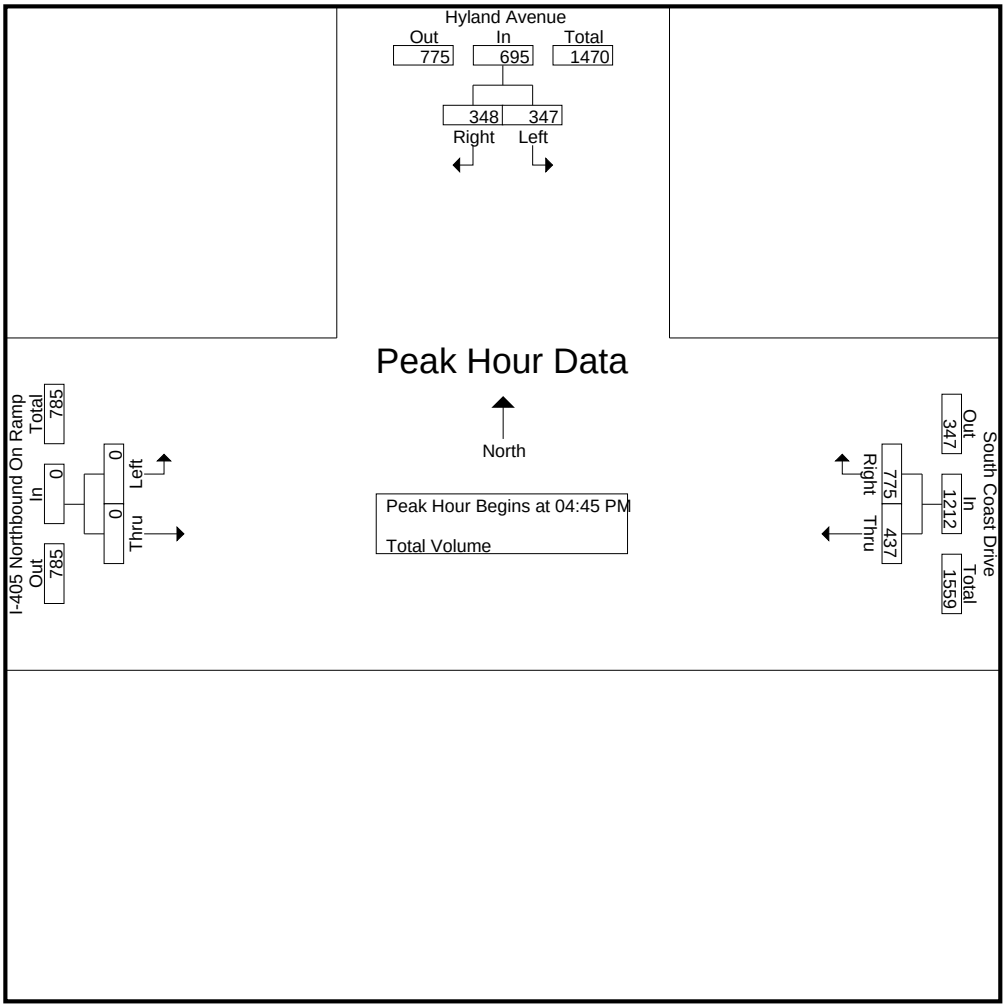

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:00 PM		
+0 mins.	79	82	161	**142**	190	**332**	0	0	0
+15 mins.	63	86	149	104	198	302	0	0	0
+30 mins.	**121**	**90**	**211**	112	**200**	312	0	0	0
+45 mins.	94	87	181	127	176	303	0	0	0
Total Volume	357	345	702	485	764	1249	0	0	0
% App. Total	50.9	49.1		38.8	61.2		0	0	
PHF	.738	.958	.832	.854	.955	.941	.000	.000	.000

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: MacArthur Boulevard
Weather: Clear

File Name : 04_CSM_Harbor_MacArthur AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				MacArthur Boulevard Westbound				Harbor Boulevard Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	76	395	37	508	20	57	15	92	25	136	15	176	29	178	54	261	1037
07:15 AM	85	452	28	565	11	83	20	114	23	159	11	193	33	249	82	364	1236
07:30 AM	83	493	28	604	24	96	29	149	25	189	12	226	27	340	90	457	1436
07:45 AM	86	492	33	611	26	120	34	180	33	222	17	272	29	341	97	467	1530
Total	330	1832	126	2288	81	356	98	535	106	706	55	867	118	1108	323	1549	5239
08:00 AM	90	473	30	593	25	111	23	159	29	239	20	288	37	286	83	406	1446
08:15 AM	97	429	29	555	22	87	23	132	31	215	34	280	40	296	97	433	1400
08:30 AM	73	495	31	599	20	79	26	125	26	225	17	268	39	329	100	468	1460
08:45 AM	63	450	36	549	16	77	26	119	35	200	14	249	44	248	89	381	1298
Total	323	1847	126	2296	83	354	98	535	121	879	85	1085	160	1159	369	1688	5604
Grand Total	653	3679	252	4584	164	710	196	1070	227	1585	140	1952	278	2267	692	3237	10843
Apprch %	14.2	80.3	5.5		15.3	66.4	18.3		11.6	81.2	7.2		8.6	70	21.4		
Total %	6	33.9	2.3	42.3	1.5	6.5	1.8	9.9	2.1	14.6	1.3	18	2.6	20.9	6.4	29.9	

	Harbor Boulevard Southbound				MacArthur Boulevard Westbound				Harbor Boulevard Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	86	492	**33**	**611**	**26**	**120**	**34**	**180**	**33**	222	17	272	29	**341**	97	467	**1530**
08:00 AM	90	473	30	593	25	111	23	159	29	**239**	20	**288**	37	286	83	406	1446
08:15 AM	**97**	429	29	555	22	87	23	132	31	215	**34**	280	**40**	296	97	433	1400
08:30 AM	73	**495**	31	599	20	79	26	125	26	225	17	268	39	329	**100**	**468**	1460
Total Volume	346	1889	123	2358	93	397	106	596	119	901	88	1108	145	1252	377	1774	5836
% App. Total	14.7	80.1	5.2		15.6	66.6	17.8		10.7	81.3	7.9		8.2	70.6	21.3		
PHF	.892	.954	.932	.965	.894	.827	.779	.828	.902	.942	.647	.962	.906	.918	.943	.948	.954

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: MacArthur Boulevard
Weather: Clear

File Name : 04_CSM_Harbor_MacArthur AM
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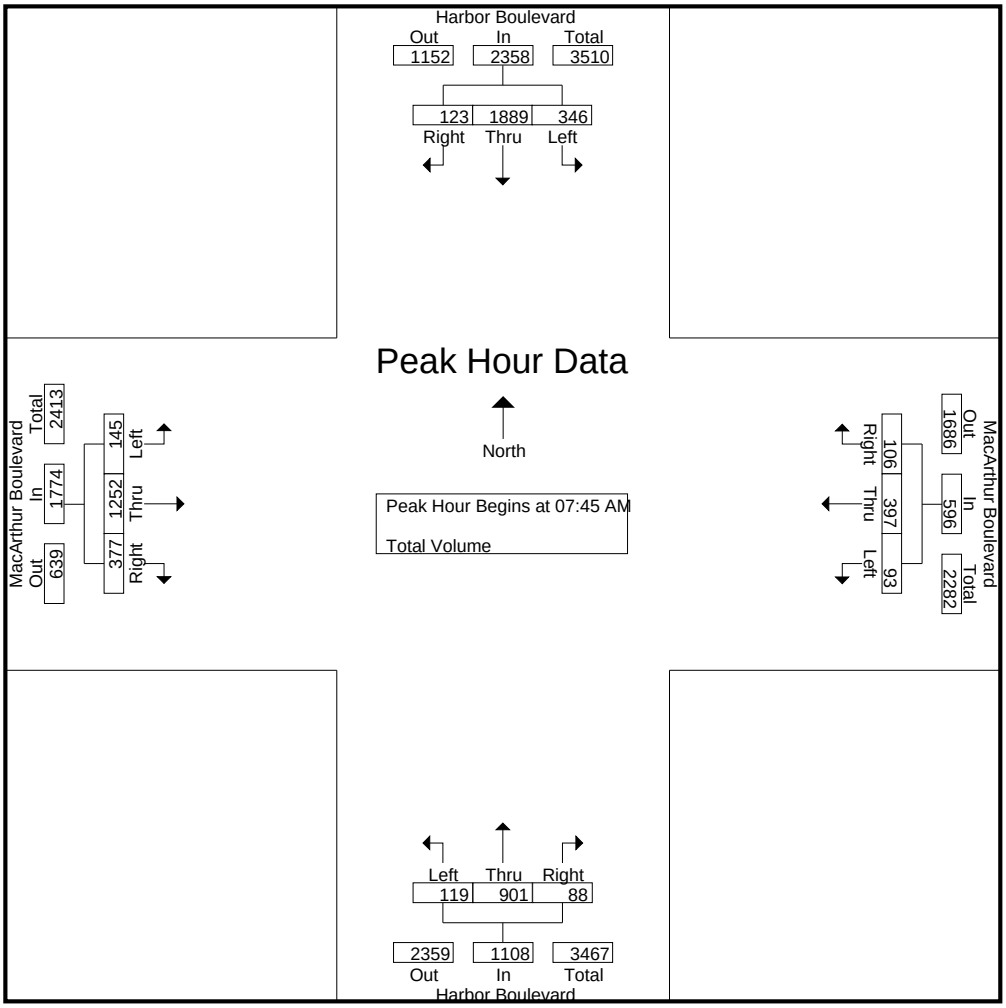

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				07:45 AM			
+0 mins.	85	452	28	565	24	96	29	149	**33**	222	17	272	29	**341**	97	467
+15 mins.	83	**493**	28	604	**26**	**120**	**34**	**180**	29	**239**	20	**288**	37	286	83	406
+30 mins.	86	492	**33**	**611**	25	111	23	159	31	215	**34**	280	**40**	296	97	433
+45 mins.	**90**	473	30	593	22	87	23	132	26	225	17	268	39	329	**100**	**468**
Total Volume	344	1910	119	2373	97	414	109	620	119	901	88	1108	145	1252	377	1774
% App. Total	14.5	80.5	5		15.6	66.8	17.6		10.7	81.3	7.9		8.2	70.6	21.3	
PHF	.956	.969	.902	.971	.933	.863	.801	.861	.902	.942	.647	.962	.906	.918	.943	.948

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: MacArthur Boulevard
Weather: Clear

File Name : 04_CSM_Harbor_MacArthur PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				MacArthur Boulevard Westbound				Harbor Boulevard Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	51	255	48	354	19	367	70	456	123	386	24	533	23	104	35	162	1505
04:15 PM	44	242	48	334	12	352	58	422	131	390	25	546	30	116	44	190	1492
04:30 PM	41	242	44	327	16	361	65	442	142	372	22	536	29	120	42	191	1496
04:45 PM	48	251	48	347	10	370	43	423	144	371	18	533	30	125	37	192	1495
Total	184	990	188	1362	57	1450	236	1743	540	1519	89	2148	112	465	158	735	5988
05:00 PM	55	276	35	366	14	356	57	427	144	383	32	559	36	152	44	232	1584
05:15 PM	53	255	42	350	14	352	63	429	146	387	18	551	30	126	49	205	1535
05:30 PM	61	250	48	359	13	328	66	407	138	366	20	524	34	155	32	221	1511
05:45 PM	51	219	35	305	11	351	47	409	137	411	14	562	30	147	52	229	1505
Total	220	1000	160	1380	52	1387	233	1672	565	1547	84	2196	130	580	177	887	6135
Grand Total	404	1990	348	2742	109	2837	469	3415	1105	3066	173	4344	242	1045	335	1622	12123
Apprch %	14.7	72.6	12.7		3.2	83.1	13.7		25.4	70.6	4		14.9	64.4	20.7		
Total %	3.3	16.4	2.9	22.6	0.9	23.4	3.9	28.2	9.1	25.3	1.4	35.8	2	8.6	2.8	13.4	

	Harbor Boulevard Southbound				MacArthur Boulevard Westbound				Harbor Boulevard Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	55	**276**	35	**366**	**14**	**356**	57	427	144	383	**32**	559	**36**	152	44	**232**	**1584**
05:15 PM	53	255	42	350	14	352	63	**429**	**146**	387	18	551	30	126	49	205	1535
05:30 PM	**61**	250	**48**	359	13	328	**66**	407	138	366	20	524	34	**155**	32	221	1511
05:45 PM	51	219	35	305	11	351	47	409	137	**411**	14	**562**	30	147	**52**	229	1505
Total Volume	220	1000	160	1380	52	1387	233	1672	565	1547	84	2196	130	580	177	887	6135
% App. Total	15.9	72.5	11.6		3.1	83	13.9		25.7	70.4	3.8		14.7	65.4	20		
PHF	.902	.906	.833	.943	.929	.974	.883	.974	.967	.941	.656	.977	.903	.935	.851	.956	.968

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City of Costa Mesa
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Weather: Clear

File Name : 04_CSM_Harbor_MacArthur PM
Site Code : 00319172
Start Date : 3/14/2019
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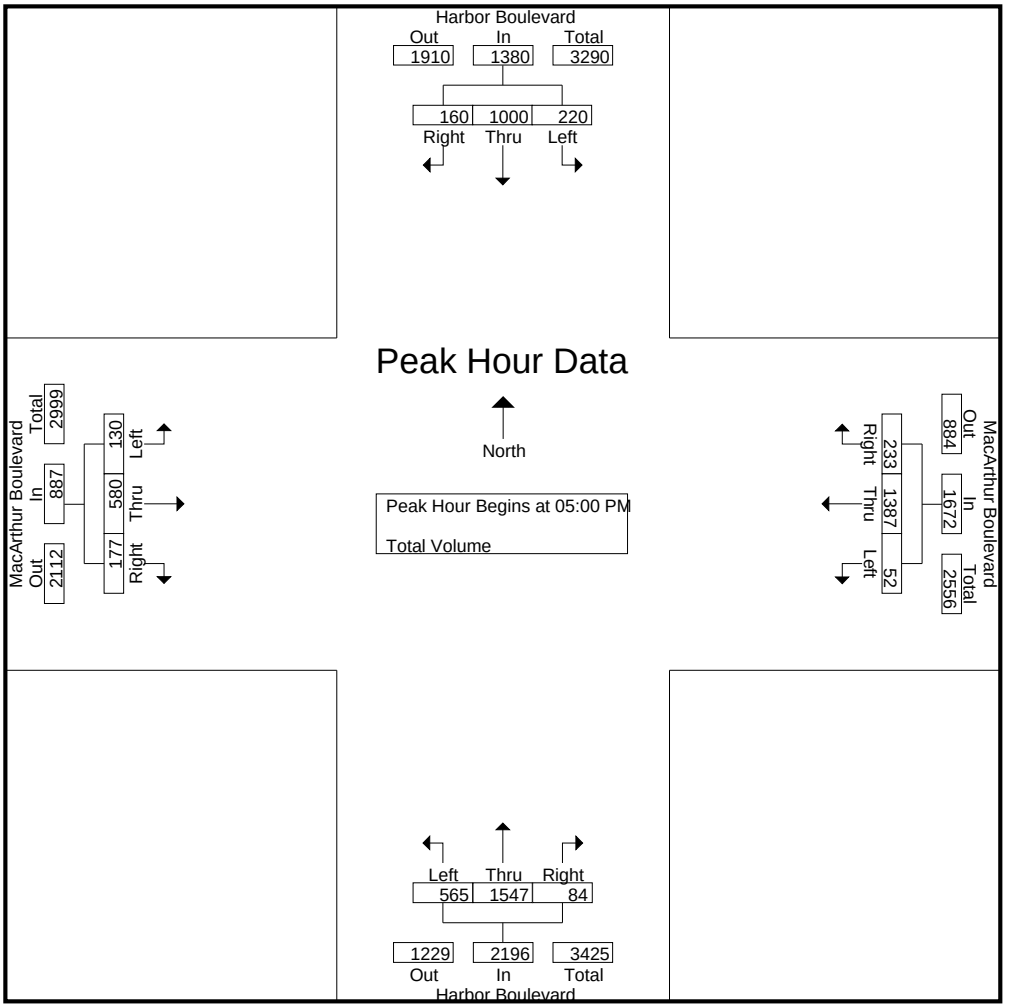

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	48	251	**48**	347	**19**	367	**70**	**456**	144	383	**32**	559	**36**	152	44	**232**
+15 mins.	55	**276**	35	**366**	12	352	58	422	**146**	387	18	551	30	126	49	205
+30 mins.	53	255	42	350	16	361	65	442	138	366	20	524	34	**155**	32	221
+45 mins.	**61**	250	48	359	10	**370**	43	423	137	**411**	14	**562**	30	147	**52**	229
Total Volume	217	1032	173	1422	57	1450	236	1743	565	1547	84	2196	130	580	177	887
% App. Total	15.3	72.6	12.2		3.3	83.2	13.5		25.7	70.4	3.8		14.7	65.4	20	
PHF	.889	.935	.901	.971	.750	.980	.843	.956	.967	.941	.656	.977	.903	.935	.851	.956

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Scenic Avenue/Lake Center Drive
Weather: Clear

File Name : 08_CSM_Harbor_Scenic_Lake Center AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				Lake Center Drive Westbound				Harbor Boulevard Northbound				Scenic Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	448	15	468	7	1	3	11	8	184	7	199	3	2	6	11	689
07:15 AM	4	536	9	549	3	4	4	11	16	208	11	235	2	5	7	14	809
07:30 AM	7	584	21	612	4	6	6	16	17	215	9	241	1	10	3	14	883
07:45 AM	24	578	19	621	8	4	8	20	16	275	24	315	3	7	10	20	976
Total	40	2146	64	2250	22	15	21	58	57	882	51	990	9	24	26	59	3357
08:00 AM	18	528	23	569	8	7	5	20	16	287	14	317	4	6	7	17	923
08:15 AM	16	511	8	535	5	4	8	17	27	293	10	330	2	7	8	17	899
08:30 AM	10	570	20	600	4	2	6	12	20	271	14	305	5	8	6	19	936
08:45 AM	7	561	13	581	8	4	5	17	16	281	12	309	3	2	9	14	921
Total	51	2170	64	2285	25	17	24	66	79	1132	50	1261	14	23	30	67	3679
Grand Total	91	4316	128	4535	47	32	45	124	136	2014	101	2251	23	47	56	126	7036
Apprch %	2	95.2	2.8		37.9	25.8	36.3		6	89.5	4.5		18.3	37.3	44.4		
Total %	1.3	61.3	1.8	64.5	0.7	0.5	0.6	1.8	1.9	28.6	1.4	32	0.3	0.7	0.8	1.8	

	Harbor Boulevard Southbound				Lake Center Drive Westbound				Harbor Boulevard Northbound				Scenic Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**24**	**578**	19	**621**	**8**	4	**8**	**20**	16	275	**24**	315	3	7	**10**	**20**	**976**
08:00 AM	18	528	**23**	569	8	**7**	5	20	16	287	14	317	4	6	7	17	923
08:15 AM	16	511	8	535	5	4	8	17	**27**	**293**	10	**330**	2	7	8	17	899
08:30 AM	10	570	20	600	4	2	6	12	20	271	14	305	**5**	**8**	6	19	936
Total Volume	68	2187	70	2325	25	17	27	69	79	1126	62	1267	14	28	31	73	3734
% App. Total	2.9	94.1	3		36.2	24.6	39.1		6.2	88.9	4.9		19.2	38.4	42.5		
PHF	.708	.946	.761	.936	.781	.607	.844	.863	.731	.961	.646	.960	.700	.875	.775	.913	.956

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File Name : 08_CSM_Harbor_Scenic_Lake Center AM
Site Code : 00319172
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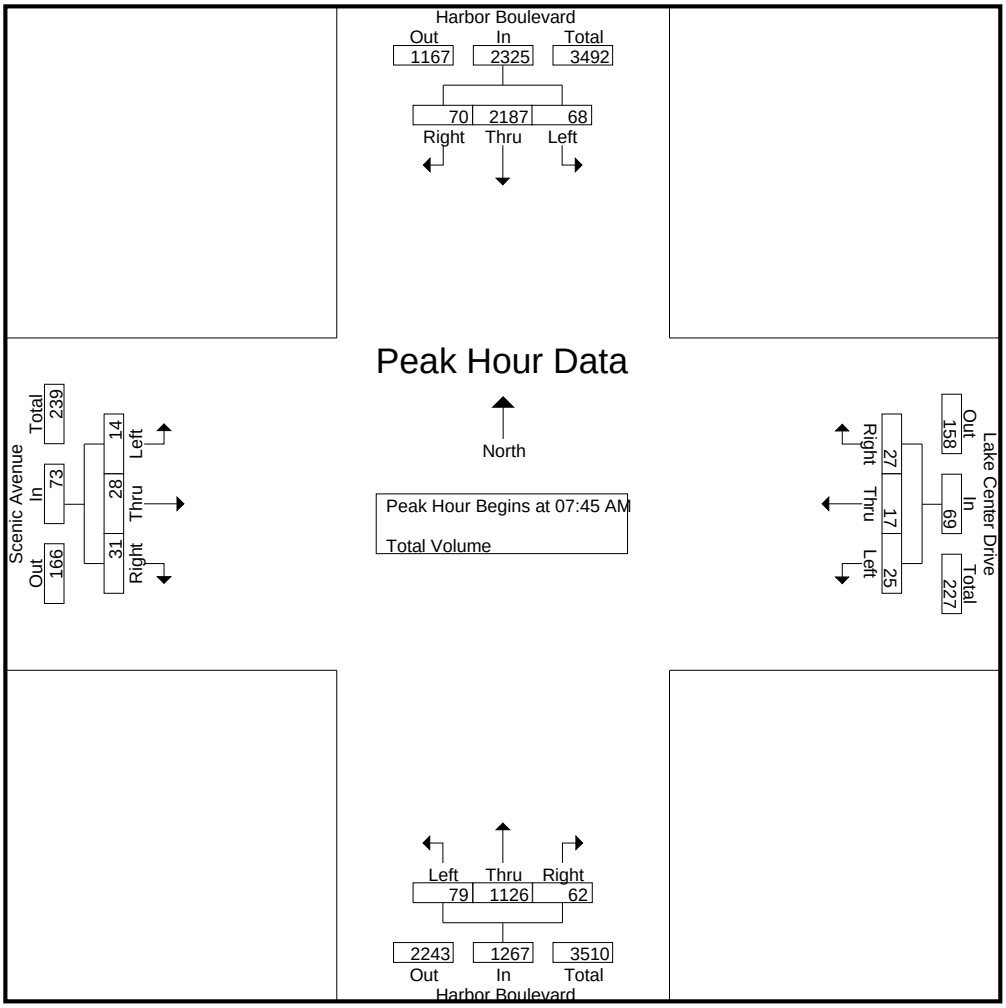

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				07:45 AM			
+0 mins.	4	536	9	549	4	6	6	16	16	275	**24**	315	3	7	**10**	**20**
+15 mins.	7	**584**	21	612	**8**	4	**8**	**20**	16	287	14	317	4	6	7	17
+30 mins.	**24**	578	19	**621**	8	**7**	5	20	**27**	**293**	10	**330**	2	7	8	17
+45 mins.	18	528	**23**	569	5	4	8	17	20	271	14	305	**5**	**8**	6	19
Total Volume	53	2226	72	2351	25	21	27	73	79	1126	62	1267	14	28	31	73
% App. Total	2.3	94.7	3.1		34.2	28.8	37		6.2	88.9	4.9		19.2	38.4	42.5	
PHF	.552	.953	.783	.946	.781	.750	.844	.913	.731	.961	.646	.960	.700	.875	.775	.913

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City of Costa Mesa
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Weather: Clear

File Name : 08_CSM_Harbor_Scenic_Lake Center PM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Harbor Boulevard Southbound				Lake Center Drive Westbound				Harbor Boulevard Northbound				Scenic Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	6	288	1	295	17	45	28	90	7	496	7	510	10	10	17	37	932
04:15 PM	2	294	4	300	14	50	32	96	9	492	6	507	7	10	15	32	935
04:30 PM	2	290	2	294	13	67	43	123	3	504	6	513	15	16	14	45	975
04:45 PM	7	309	1	317	21	52	32	105	12	472	9	493	7	8	18	33	948
Total	17	1181	8	1206	65	214	135	414	31	1964	28	2023	39	44	64	147	3790
05:00 PM	1	332	7	340	30	64	46	140	8	498	9	515	11	12	36	59	1054
05:15 PM	3	312	2	317	18	53	53	124	20	473	3	496	4	17	25	46	983
05:30 PM	5	283	9	297	18	59	48	125	8	450	2	460	11	16	17	44	926
05:45 PM	7	264	6	277	13	53	59	125	11	501	5	517	8	6	13	27	946
Total	16	1191	24	1231	79	229	206	514	47	1922	19	1988	34	51	91	176	3909
Grand Total	33	2372	32	2437	144	443	341	928	78	3886	47	4011	73	95	155	323	7699
Apprch %	1.4	97.3	1.3		15.5	47.7	36.7		1.9	96.9	1.2		22.6	29.4	48		
Total %	0.4	30.8	0.4	31.7	1.9	5.8	4.4	12.1	1	50.5	0.6	52.1	0.9	1.2	2	4.2	

	Harbor Boulevard Southbound				Lake Center Drive Westbound				Harbor Boulevard Northbound				Scenic Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	290	2	294	13	**67**	43	123	3	**504**	6	513	**15**	16	14	45	975
04:45 PM	**7**	309	1	317	21	52	32	105	12	472	**9**	493	7	8	18	33	948
05:00 PM	1	**332**	**7**	**340**	**30**	64	46	**140**	8	498	9	**515**	11	12	**36**	**59**	**1054**
05:15 PM	3	312	2	317	18	53	**53**	124	**20**	473	3	496	4	**17**	25	46	983
Total Volume	13	1243	12	1268	82	236	174	492	43	1947	27	2017	37	53	93	183	3960
% App. Total	1	98	0.9		16.7	48	35.4		2.1	96.5	1.3		20.2	29	50.8		
PHF	.464	.936	.429	.932	.683	.881	.821	.879	.538	.966	.750	.979	.617	.779	.646	.775	.939

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City of Costa Mesa
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File Name : 08_CSM_Harbor_Scenic_Lake Center PM
Site Code : 00319172
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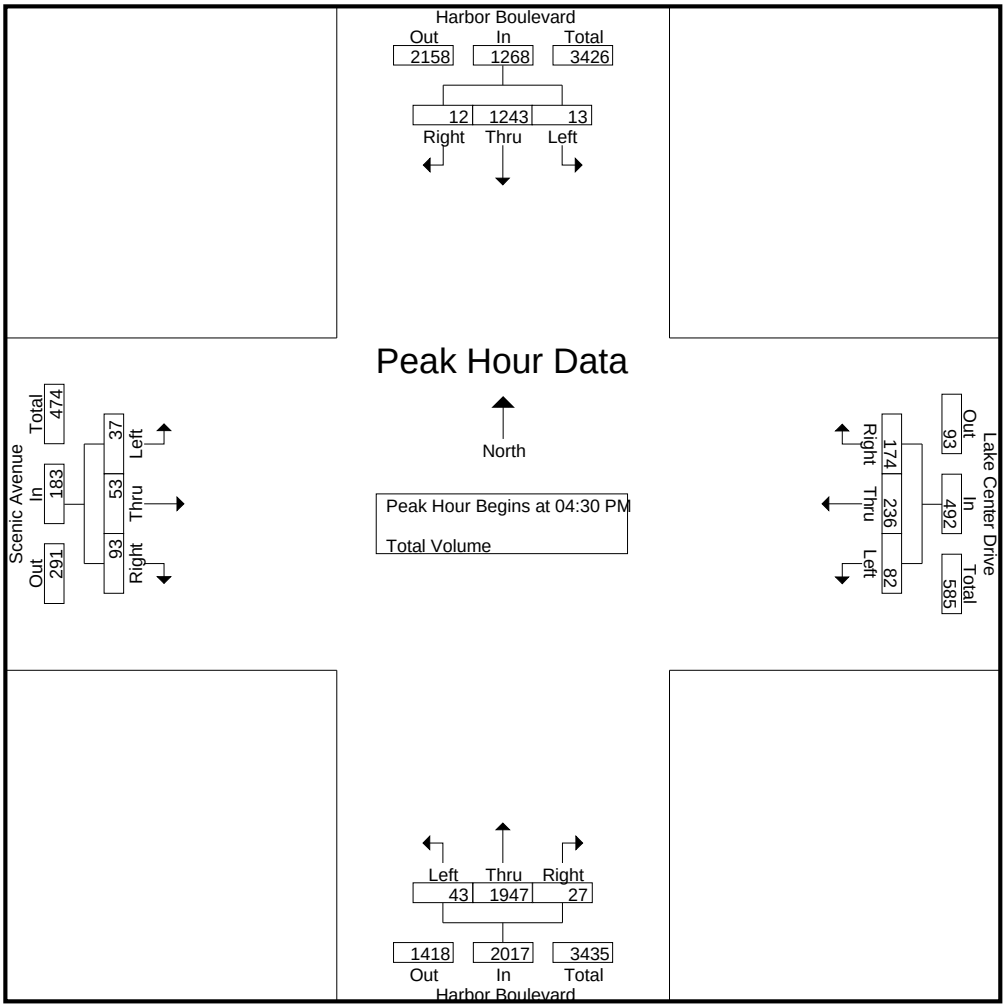

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:15 PM				04:30 PM			
+0 mins.	**7**	309	1	317	**30**	**64**	46	**140**	9	492	6	507	**15**	16	14	45
+15 mins.	1	**332**	7	**340**	18	53	53	124	3	**504**	6	513	7	8	18	33
+30 mins.	3	312	2	317	18	59	48	125	**12**	472	**9**	493	11	12	**36**	**59**
+45 mins.	5	283	**9**	297	13	53	**59**	125	8	498	9	**515**	4	**17**	25	46
Total Volume	16	1236	19	1271	79	229	206	514	32	1966	30	2028	37	53	93	183
% App. Total	1.3	97.2	1.5		15.4	44.6	40.1		1.6	96.9	1.5		20.2	29	50.8	
PHF	.571	.931	.528	.935	.658	.895	.873	.918	.667	.975	.833	.984	.617	.779	.646	.775

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Sunflower Avenue
Weather: Clear

File Name : 09_CSM_Harbor_Sunflower AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				Sunflower Avenue Westbound				Harbor Boulevard Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	34	421	6	461	7	14	12	33	39	216	20	275	0	13	9	22	791
07:15 AM	47	472	7	526	13	14	10	37	27	229	27	283	1	23	8	32	878
07:30 AM	52	520	5	577	25	21	15	61	29	262	41	332	5	21	14	40	1010
07:45 AM	52	482	9	543	23	36	27	86	61	282	75	418	2	45	11	58	1105
Total	185	1895	27	2107	68	85	64	217	156	989	163	1308	8	102	42	152	3784
08:00 AM	40	456	12	508	28	34	24	86	47	320	55	422	2	35	5	42	1058
08:15 AM	39	432	9	480	30	24	8	62	41	334	47	422	2	23	12	37	1001
08:30 AM	48	489	7	544	22	19	12	53	60	301	32	393	4	30	8	42	1032
08:45 AM	49	495	22	566	26	19	15	60	60	305	35	400	5	15	10	30	1056
Total	176	1872	50	2098	106	96	59	261	208	1260	169	1637	13	103	35	151	4147
Grand Total	361	3767	77	4205	174	181	123	478	364	2249	332	2945	21	205	77	303	7931
Apprch %	8.6	89.6	1.8		36.4	37.9	25.7		12.4	76.4	11.3		6.9	67.7	25.4		
Total %	4.6	47.5	1	53	2.2	2.3	1.6	6	4.6	28.4	4.2	37.1	0.3	2.6	1	3.8	

	Harbor Boulevard Southbound				Sunflower Avenue Westbound				Harbor Boulevard Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**52**	482	9	543	23	**36**	**27**	**86**	**61**	282	**75**	418	2	**45**	11	**58**	**1105**
08:00 AM	40	456	**12**	508	28	34	24	86	47	320	55	**422**	2	35	5	42	1058
08:15 AM	39	432	9	480	**30**	24	8	62	41	**334**	47	422	2	23	**12**	37	1001
08:30 AM	48	**489**	7	**544**	22	19	12	53	60	301	32	393	**4**	30	8	42	1032
Total Volume	179	1859	37	2075	103	113	71	287	209	1237	209	1655	10	133	36	179	4196
% App. Total	8.6	89.6	1.8		35.9	39.4	24.7		12.6	74.7	12.6		5.6	74.3	20.1		
PHF	.861	.950	.771	.954	.858	.785	.657	.834	.857	.926	.697	.980	.625	.739	.750	.772	.949

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Sunflower Avenue
Weather: Clear

File Name : 09_CSM_Harbor_Sunflower AM
Site Code : 00319172
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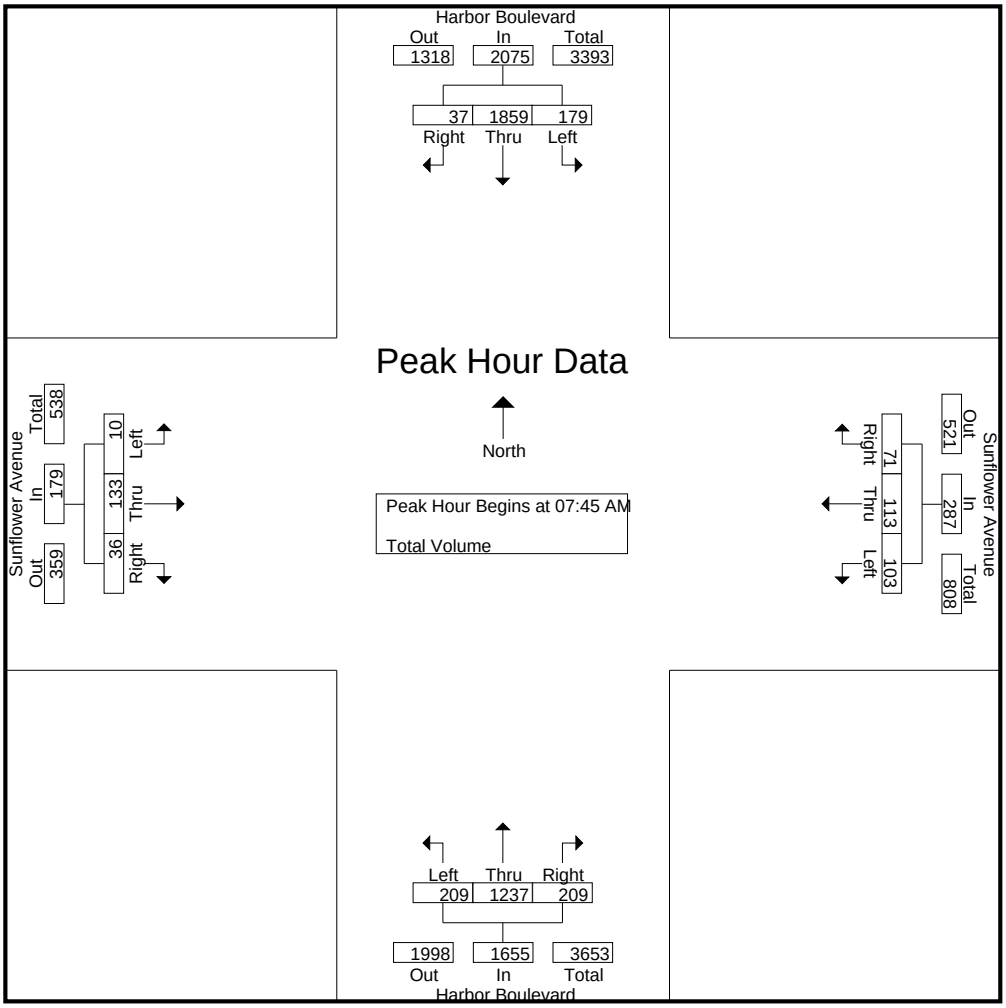

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				07:45 AM			
+0 mins.	47	472	7	526	25	21	15	61	**61**	282	**75**	418	2	**45**	11	**58**
+15 mins.	**52**	**520**	5	**577**	23	**36**	**27**	**86**	47	320	55	**422**	2	35	5	42
+30 mins.	52	482	9	543	28	34	24	86	41	**334**	47	422	2	23	**12**	37
+45 mins.	40	456	**12**	508	**30**	24	8	62	60	301	32	393	**4**	30	8	42
Total Volume	191	1930	33	2154	106	115	74	295	209	1237	209	1655	10	133	36	179
% App. Total	8.9	89.6	1.5		35.9	39	25.1		12.6	74.7	12.6		5.6	74.3	20.1	
PHF	.918	.928	.688	.933	.883	.799	.685	.858	.857	.926	.697	.980	.625	.739	.750	.772

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Sunflower Avenue
Weather: Clear

File Name : 09_CSM_Harbor_Sunflower PM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Harbor Boulevard Southbound				Sunflower Avenue Westbound				Harbor Boulevard Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	18	290	10	318	47	130	39	216	38	457	62	557	6	26	41	73	1164
04:15 PM	25	306	9	340	67	153	28	248	45	475	49	569	10	26	37	73	1230
04:30 PM	16	297	8	321	50	157	48	255	49	441	81	571	15	45	59	119	1266
04:45 PM	27	302	19	348	53	165	36	254	40	413	72	525	11	26	41	78	1205
Total	86	1195	46	1327	217	605	151	973	172	1786	264	2222	42	123	178	343	4865
05:00 PM	23	361	15	399	74	178	55	307	30	461	73	564	14	46	57	117	1387
05:15 PM	20	332	11	363	61	165	47	273	30	472	83	585	11	28	43	82	1303
05:30 PM	14	313	13	340	49	157	54	260	54	409	72	535	12	20	31	63	1198
05:45 PM	15	256	10	281	52	145	62	259	41	444	74	559	6	27	22	55	1154
Total	72	1262	49	1383	236	645	218	1099	155	1786	302	2243	43	121	153	317	5042
Grand Total	158	2457	95	2710	453	1250	369	2072	327	3572	566	4465	85	244	331	660	9907
Apprch %	5.8	90.7	3.5		21.9	60.3	17.8		7.3	80	12.7		12.9	37	50.2		
Total %	1.6	24.8	1	27.4	4.6	12.6	3.7	20.9	3.3	36.1	5.7	45.1	0.9	2.5	3.3	6.7	

	Harbor Boulevard Southbound				Sunflower Avenue Westbound				Harbor Boulevard Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	16	297	8	321	50	157	48	255	**49**	441	81	571	**15**	45	**59**	**119**	1266
04:45 PM	**27**	302	**19**	348	53	165	36	254	40	413	72	525	11	26	41	78	1205
05:00 PM	23	**361**	15	**399**	**74**	**178**	**55**	**307**	30	461	73	564	14	**46**	57	117	**1387**
05:15 PM	20	332	11	363	61	165	47	273	30	**472**	**83**	**585**	11	28	43	82	1303
Total Volume	86	1292	53	1431	238	665	186	1089	149	1787	309	2245	51	145	200	396	5161
% App. Total	6	90.3	3.7		21.9	61.1	17.1		6.6	79.6	13.8		12.9	36.6	50.5		
PHF	.796	.895	.697	.897	.804	.934	.845	.887	.760	.947	.931	.959	.850	.788	.847	.832	.930

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City of Costa Mesa
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E/W: Sunflower Avenue
Weather: Clear

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Site Code : 00319172
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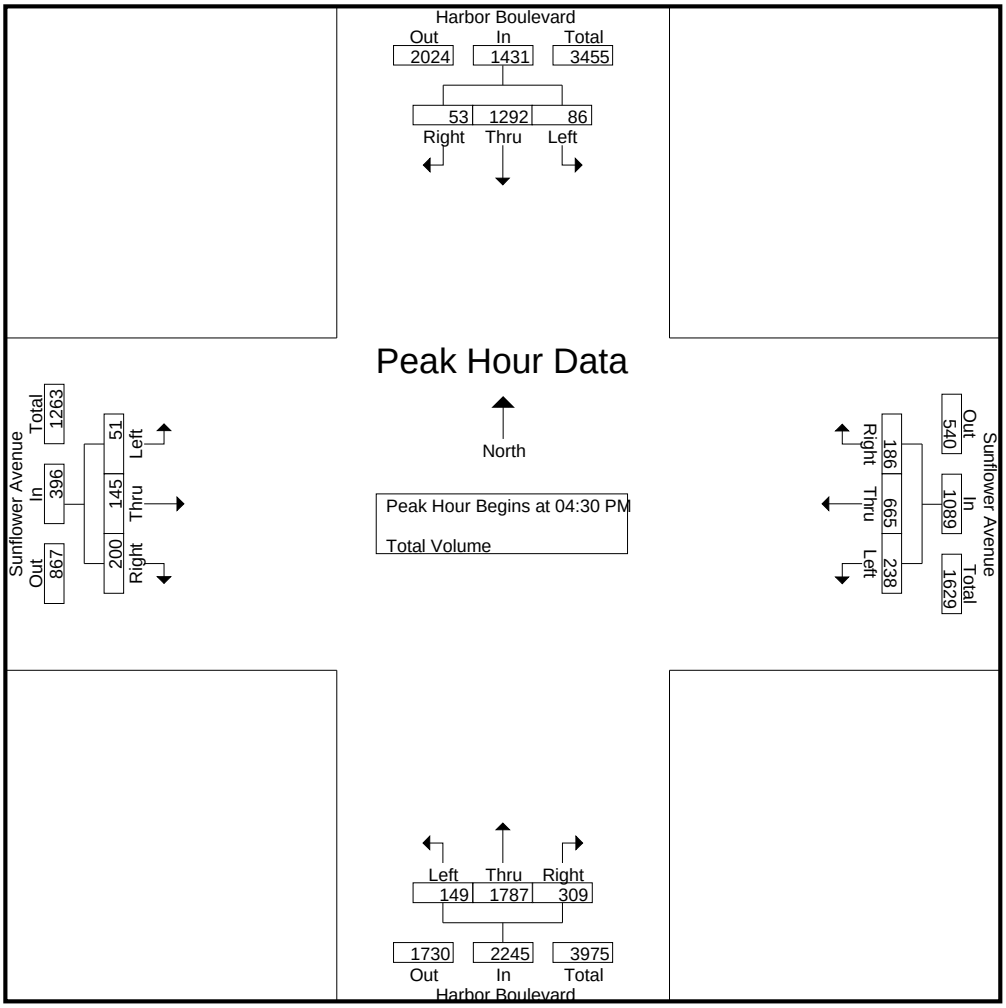

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:30 PM				04:30 PM			
+0 mins.	**27**	302	**19**	348	**74**	**178**	55	**307**	**49**	441	81	571	**15**	45	**59**	**119**
+15 mins.	23	**361**	15	**399**	61	165	47	273	40	413	72	525	11	26	41	78
+30 mins.	20	332	11	363	49	157	54	260	30	461	73	564	14	**46**	57	117
+45 mins.	14	313	13	340	52	145	**62**	259	30	**472**	**83**	**585**	11	28	43	82
Total Volume	84	1308	58	1450	236	645	218	1099	149	1787	309	2245	51	145	200	396
% App. Total	5.8	90.2	4		21.5	58.7	19.8		6.6	79.6	13.8		12.9	36.6	50.5	
PHF	.778	.906	.763	.909	.797	.906	.879	.895	.760	.947	.931	.959	.850	.788	.847	.832

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City of Costa Mesa
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E/W: South Coast Drive
Weather: Clear

File Name : 10_CSM_Harbor_South Coast AM
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Groups Printed- Total Volume

	Harbor Boulevard Southbound				South Coast Drive Westbound				Harbor Boulevard Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	10	423	6	439	17	24	8	49	40	270	32	342	0	2	33	35	865
07:15 AM	17	459	6	482	8	20	6	34	35	289	40	364	0	8	43	51	931
07:30 AM	14	517	10	541	17	49	10	76	50	343	64	457	1	11	77	89	1163
07:45 AM	20	478	13	511	25	51	20	96	63	445	61	569	2	13	72	87	1263
Total	61	1877	35	1973	67	144	44	255	188	1347	197	1732	3	34	225	262	4222
08:00 AM	22	451	5	478	23	51	11	85	81	403	61	545	5	16	57	78	1186
08:15 AM	15	440	21	476	22	57	11	90	82	430	69	581	4	14	51	69	1216
08:30 AM	15	466	13	494	16	43	11	70	85	406	68	559	4	11	47	62	1185
08:45 AM	11	506	24	541	22	70	10	102	82	387	63	532	9	9	60	78	1253
Total	63	1863	63	1989	83	221	43	347	330	1626	261	2217	22	50	215	287	4840
Grand Total	124	3740	98	3962	150	365	87	602	518	2973	458	3949	25	84	440	549	9062
Apprch %	3.1	94.4	2.5		24.9	60.6	14.5		13.1	75.3	11.6		4.6	15.3	80.1		
Total %	1.4	41.3	1.1	43.7	1.7	4	1	6.6	5.7	32.8	5.1	43.6	0.3	0.9	4.9	6.1	

	Harbor Boulevard Southbound				South Coast Drive Westbound				Harbor Boulevard Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	**478**	13	**511**	**25**	51	**20**	**96**	63	**445**	61	569	2	13	**72**	**87**	**1263**
08:00 AM	**22**	451	5	478	23	51	11	85	81	403	61	545	**5**	**16**	57	78	1186
08:15 AM	15	440	**21**	476	22	**57**	11	90	82	430	**69**	**581**	4	14	51	69	1216
08:30 AM	15	466	13	494	16	43	11	70	**85**	406	68	559	4	11	47	62	1185
Total Volume	72	1835	52	1959	86	202	53	341	311	1684	259	2254	15	54	227	296	4850
% App. Total	3.7	93.7	2.7		25.2	59.2	15.5		13.8	74.7	11.5		5.1	18.2	76.7		
PHF	.818	.960	.619	.958	.860	.886	.663	.888	.915	.946	.938	.970	.750	.844	.788	.851	.960

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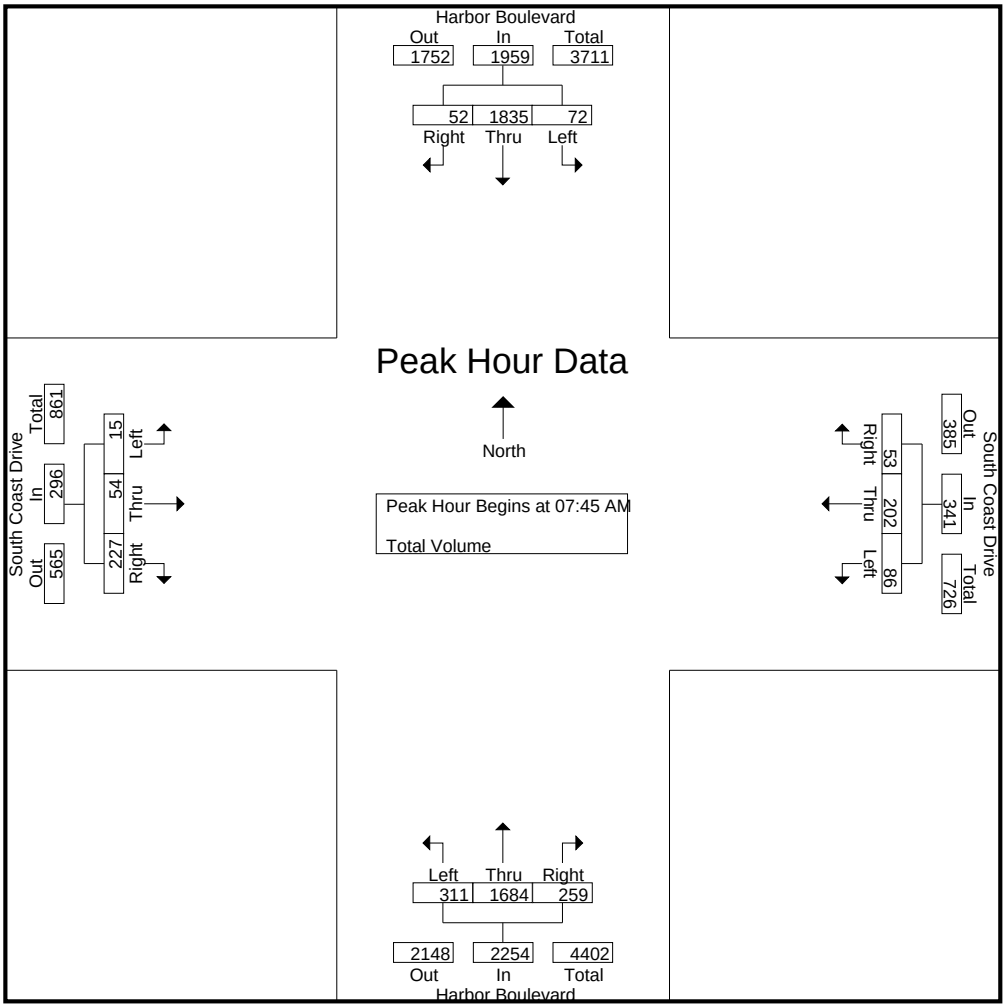

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				07:30 AM			
+0 mins.	17	459	6	482	17	49	10	76	63	**445**	61	569	1	11	**77**	**89**
+15 mins.	14	**517**	10	**541**	**25**	51	**20**	**96**	81	403	61	545	2	13	72	87
+30 mins.	20	478	**13**	511	23	51	11	85	82	430	**69**	**581**	**5**	**16**	57	78
+45 mins.	**22**	451	5	478	22	**57**	11	90	**85**	406	68	559	4	14	51	69
Total Volume	73	1905	34	2012	87	208	52	347	311	1684	259	2254	12	54	257	323
% App. Total	3.6	94.7	1.7		25.1	59.9	15		13.8	74.7	11.5		3.7	16.7	79.6	
PHF	.830	.921	.654	.930	.870	.912	.650	.904	.915	.946	.938	.970	.600	.844	.834	.907

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Weather: Clear

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Groups Printed- Total Volume

	Harbor Boulevard Southbound				South Coast Drive Westbound				Harbor Boulevard Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	10	367	12	389	60	241	39	340	103	496	47	646	3	4	81	88	1463
04:15 PM	20	374	23	417	56	192	67	315	100	578	49	727	3	6	68	77	1536
04:30 PM	17	389	13	419	76	201	57	334	91	516	62	669	7	7	90	104	1526
04:45 PM	20	374	16	410	99	185	60	344	104	448	59	611	7	6	75	88	1453
Total	67	1504	64	1635	291	819	223	1333	398	2038	217	2653	20	23	314	357	5978
05:00 PM	21	447	22	490	113	202	55	370	89	472	52	613	6	13	119	138	1611
05:15 PM	15	435	11	461	113	206	59	378	89	522	39	650	6	9	98	113	1602
05:30 PM	16	373	19	408	91	202	58	351	86	484	55	625	5	12	78	95	1479
05:45 PM	11	314	13	338	60	186	53	299	95	479	49	623	4	10	77	91	1351
Total	63	1569	65	1697	377	796	225	1398	359	1957	195	2511	21	44	372	437	6043
Grand Total	130	3073	129	3332	668	1615	448	2731	757	3995	412	5164	41	67	686	794	12021
Apprch %	3.9	92.2	3.9		24.5	59.1	16.4		14.7	77.4	8		5.2	8.4	86.4		
Total %	1.1	25.6	1.1	27.7	5.6	13.4	3.7	22.7	6.3	33.2	3.4	43	0.3	0.6	5.7	6.6	

	Harbor Boulevard Southbound				South Coast Drive Westbound				Harbor Boulevard Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	17	389	13	419	76	201	57	334	91	516	**62**	**669**	**7**	7	90	104	1526
04:45 PM	20	374	16	410	99	185	**60**	344	**104**	448	59	611	7	6	75	88	1453
05:00 PM	**21**	**447**	**22**	**490**	**113**	202	55	370	89	472	52	613	6	**13**	**119**	**138**	**1611**
05:15 PM	15	435	11	461	113	**206**	59	**378**	89	**522**	39	650	6	9	98	113	1602
Total Volume	73	1645	62	1780	401	794	231	1426	373	1958	212	2543	26	35	382	443	6192
% App. Total	4.1	92.4	3.5		28.1	55.7	16.2		14.7	77	8.3		5.9	7.9	86.2		
PHF	.869	.920	.705	.908	.887	.964	.963	.943	.897	.938	.855	.950	.929	.673	.803	.803	.961

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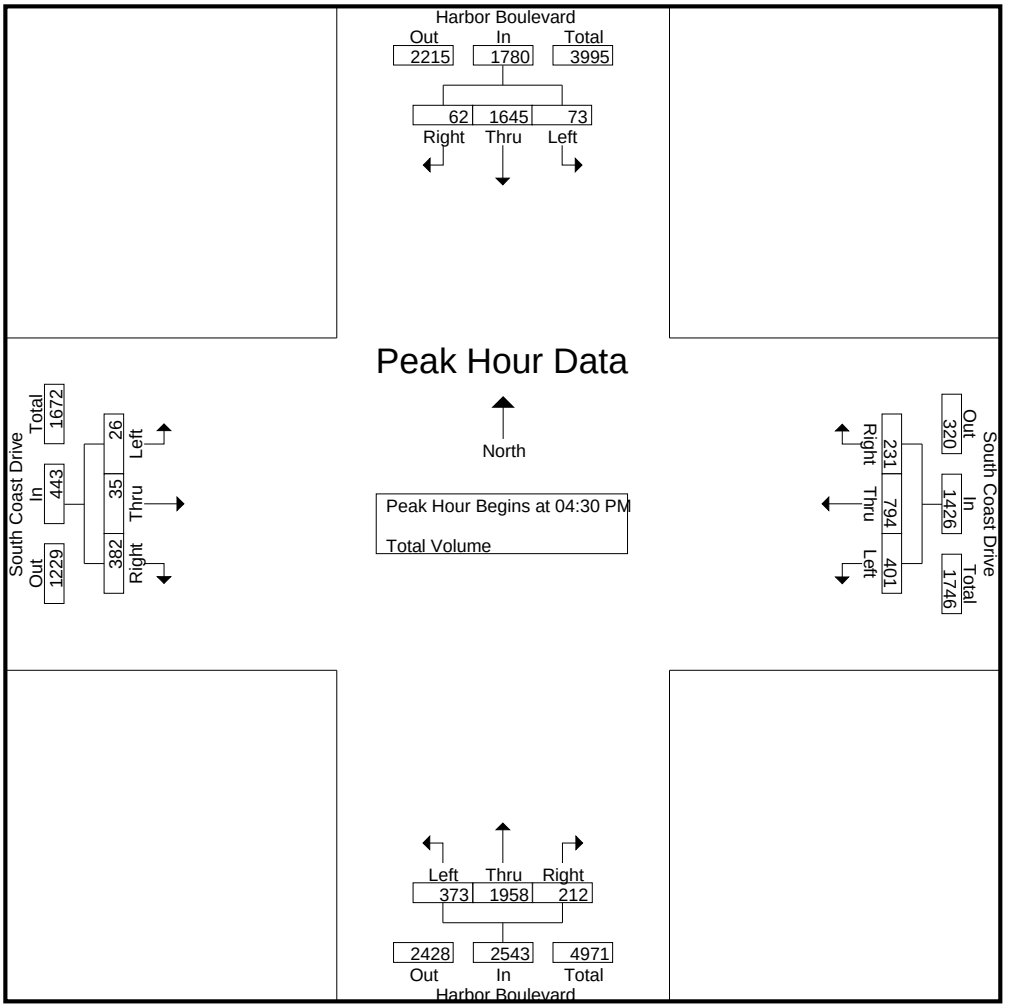

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:00 PM				04:30 PM			
+0 mins.	17	389	13	419	99	185	**60**	344	103	496	47	646	**7**	7	90	104
+15 mins.	20	374	16	410	**113**	202	55	370	100	**578**	49	**727**	7	6	75	88
+30 mins.	**21**	**447**	**22**	**490**	113	**206**	59	**378**	91	516	**62**	669	6	**13**	**119**	**138**
+45 mins.	15	435	11	461	91	202	58	351	**104**	448	59	611	6	9	98	113
Total Volume	73	1645	62	1780	416	795	232	1443	398	2038	217	2653	26	35	382	443
% App. Total	4.1	92.4	3.5		28.8	55.1	16.1		15	76.8	8.2		5.9	7.9	86.2	
PHF	.869	.920	.705	.908	.920	.965	.967	.954	.957	.881	.875	.912	.929	.673	.803	.803

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: I-405 Northbound Off Ramp
Weather: Clear

File Name : 12_CSM_Harbor_405N Off Ramp AM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Harbor Boulevard Southbound			I-405 Northbound Off Ramp Westbound			Harbor Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	458	458	81	154	235	186	129	315	1008
07:15 AM	0	515	515	82	165	247	207	124	331	1093
07:30 AM	0	591	591	112	160	272	302	140	442	1305
07:45 AM	0	564	564	158	218	376	358	151	509	1449
Total	0	2128	2128	433	697	1130	1053	544	1597	4855
08:00 AM	0	545	545	120	200	320	368	144	512	1377
08:15 AM	0	519	519	130	219	349	380	136	516	1384
08:30 AM	0	523	523	123	217	340	374	139	513	1376
08:45 AM	0	558	558	118	234	352	337	135	472	1382
Total	0	2145	2145	491	870	1361	1459	554	2013	5519
Grand Total	0	4273	4273	924	1567	2491	2512	1098	3610	10374
Apprch %	0	100		37.1	62.9		69.6	30.4		
Total %	0	41.2	41.2	8.9	15.1	24	24.2	10.6	34.8	

	Harbor Boulevard Southbound			I-405 Northbound Off Ramp Westbound			Harbor Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	**564**	**564**	**158**	218	**376**	358	**151**	509	**1449**
08:00 AM	0	545	545	120	200	320	368	144	512	1377
08:15 AM	0	519	519	130	**219**	349	**380**	136	**516**	1384
08:30 AM	0	523	523	123	217	340	374	139	513	1376
Total Volume	0	2151	2151	531	854	1385	1480	570	2050	5586
% App. Total	0	100		38.3	61.7		72.2	27.8		
PHF	.000	.953	.953	.840	.975	.921	.974	.944	.993	.964

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City of Costa Mesa
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Weather: Clear

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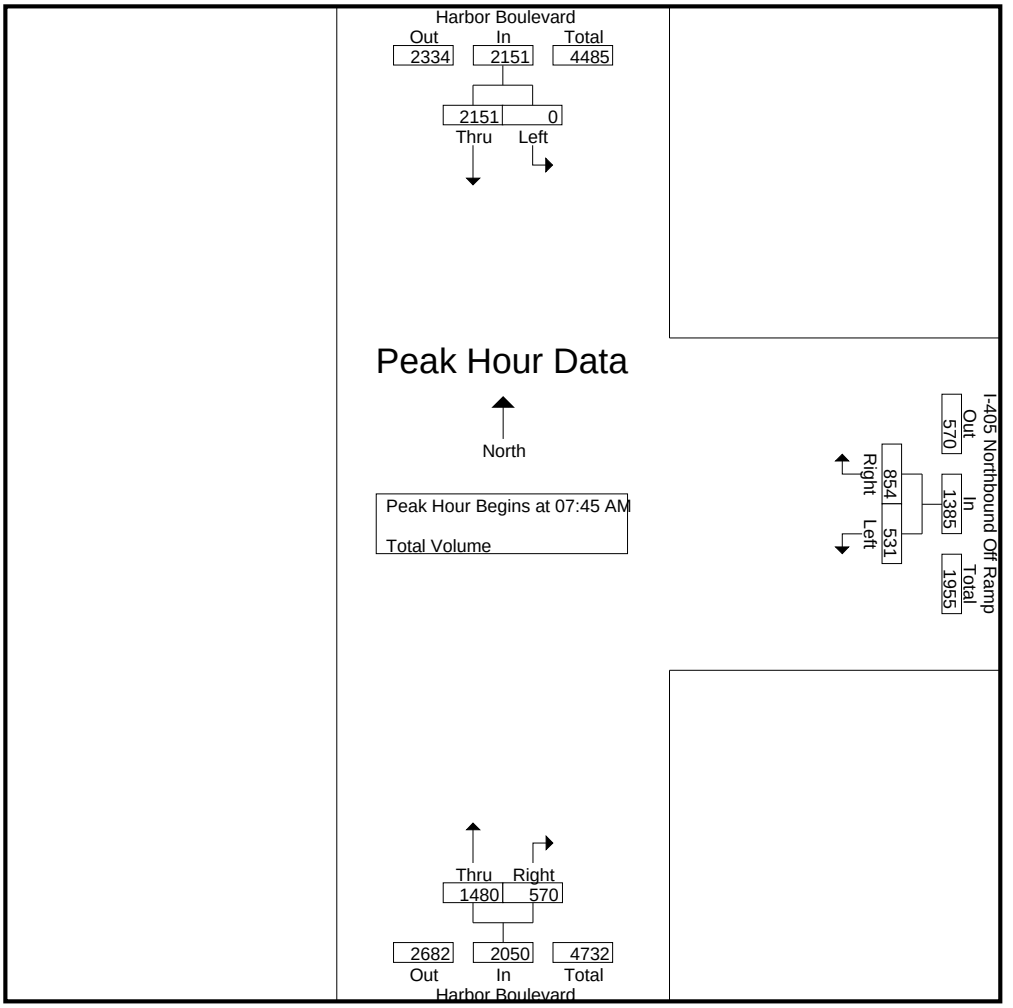

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:45 AM		
+0 mins.	0	**591**	**591**	**158**	218	**376**	358	**151**	509
+15 mins.	0	564	564	120	200	320	368	144	512
+30 mins.	0	545	545	130	**219**	349	**380**	136	**516**
+45 mins.	0	519	519	123	217	340	374	139	513
Total Volume	0	2219	2219	531	854	1385	1480	570	2050
% App. Total	0	100		38.3	61.7		72.2	27.8	
PHF	.000	.939	.939	.840	.975	.921	.974	.944	.993

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City of Costa Mesa
N/S: Harbor Boulevard
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Weather: Clear

File Name : 12_CSM_Harbor_405N Off Ramp PM
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Groups Printed- Total Volume

	Harbor Boulevard Southbound			I-405 Northbound Off Ramp Westbound			Harbor Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	501	501	129	258	387	400	138	538	1426
04:15 PM	0	495	495	149	293	442	435	144	579	1516
04:30 PM	0	538	538	154	271	425	412	136	548	1511
04:45 PM	0	552	552	178	283	461	362	184	546	1559
Total	0	2086	2086	610	1105	1715	1609	602	2211	6012
05:00 PM	0	640	640	169	234	403	382	158	540	1583
05:15 PM	0	638	638	189	278	467	372	149	521	1626
05:30 PM	0	536	536	163	284	447	364	123	487	1470
05:45 PM	0	434	434	178	251	429	371	147	518	1381
Total	0	2248	2248	699	1047	1746	1489	577	2066	6060
Grand Total	0	4334	4334	1309	2152	3461	3098	1179	4277	12072
Apprch %	0	100		37.8	62.2		72.4	27.6		
Total %	0	35.9	35.9	10.8	17.8	28.7	25.7	9.8	35.4	

	Harbor Boulevard Southbound			I-405 Northbound Off Ramp Westbound			Harbor Boulevard Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	538	538	154	271	425	**412**	136	**548**	1511
04:45 PM	0	552	552	178	**283**	461	362	**184**	546	1559
05:00 PM	0	**640**	**640**	169	234	403	382	158	540	1583
05:15 PM	0	638	638	**189**	278	**467**	372	149	521	**1626**
Total Volume	0	2368	2368	690	1066	1756	1528	627	2155	6279
% App. Total	0	100		39.3	60.7		70.9	29.1		
PHF	.000	.925	.925	.913	.942	.940	.927	.852	.983	.965

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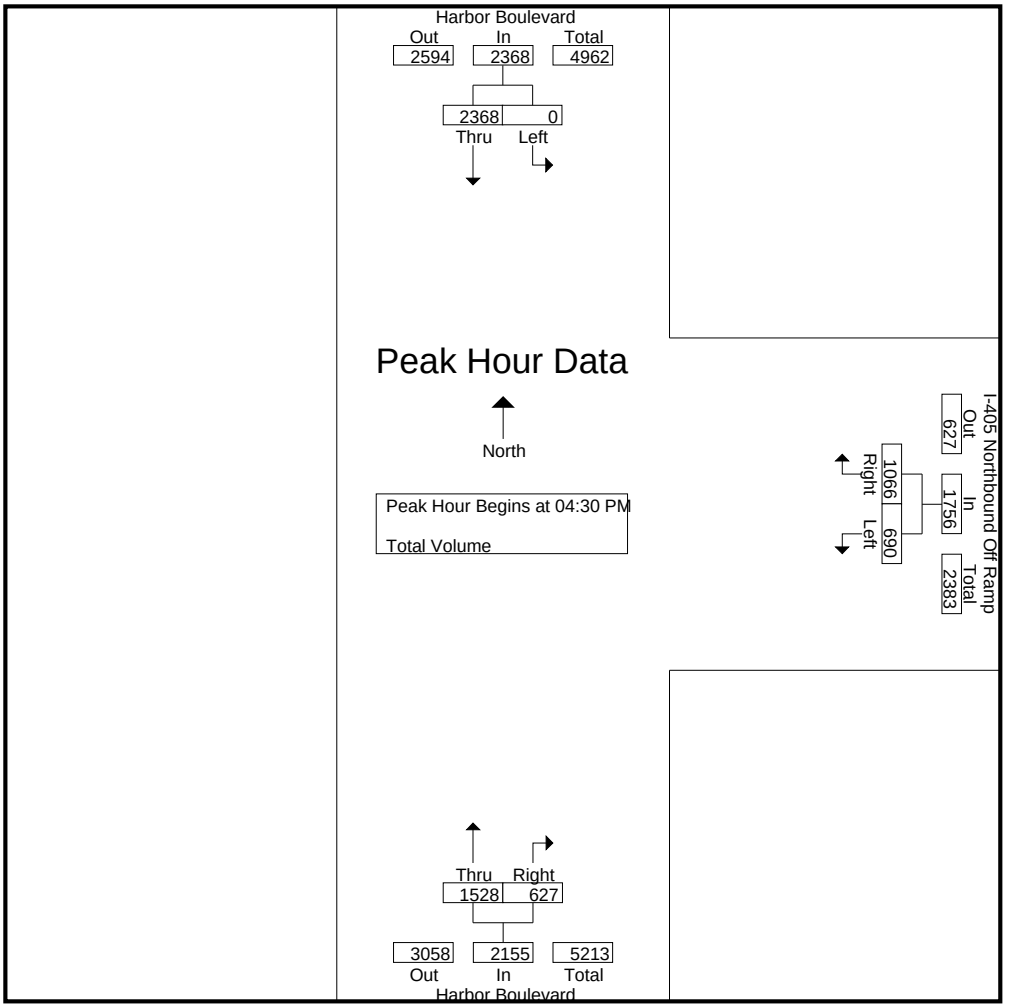

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:45 PM			04:15 PM		
+0 mins.	0	538	538	178	283	461	**435**	144	**579**
+15 mins.	0	552	552	169	234	403	412	136	548
+30 mins.	0	**640**	**640**	**189**	278	**467**	362	**184**	546
+45 mins.	0	638	638	163	**284**	447	382	158	540
Total Volume	0	2368	2368	699	1079	1778	1591	622	2213
% App. Total	0	100		39.3	60.7		71.9	28.1	
PHF	.000	.925	.925	.925	.950	.952	.914	.845	.956

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: I-405 Southbound Off Ramp
Weather: Clear

File Name : 11_CSM_Harbor_405S Off Ramp AM
Site Code : 00319172
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Groups Printed- Total Volume

	Harbor Boulevard Southbound			Harbor Boulevard Northbound			I-405 Southbound Off Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	238	210	448	0	268	268	56	96	152	868
07:15 AM	284	197	481	0	281	281	57	77	134	896
07:30 AM	373	217	590	0	356	356	83	87	170	1116
07:45 AM	465	211	676	0	425	425	88	104	192	1293
Total	1360	835	2195	0	1330	1330	284	364	648	4173
08:00 AM	420	208	628	0	418	418	80	128	208	1254
08:15 AM	414	194	608	0	434	434	83	106	189	1231
08:30 AM	421	197	618	0	413	413	84	112	196	1227
08:45 AM	453	196	649	0	395	395	93	124	217	1261
Total	1708	795	2503	0	1660	1660	340	470	810	4973
Grand Total	3068	1630	4698	0	2990	2990	624	834	1458	9146
Apprch %	65.3	34.7		0	100		42.8	57.2		
Total %	33.5	17.8	51.4	0	32.7	32.7	6.8	9.1	15.9	

	Harbor Boulevard Southbound			Harbor Boulevard Northbound			I-405 Southbound Off Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	**465**	**211**	**676**	0	425	425	**88**	104	192	**1293**
08:00 AM	420	208	628	0	418	418	80	**128**	**208**	1254
08:15 AM	414	194	608	0	**434**	**434**	83	106	189	1231
08:30 AM	421	197	618	0	413	413	84	112	196	1227
Total Volume	1720	810	2530	0	1690	1690	335	450	785	5005
% App. Total	68	32		0	100		42.7	57.3		
PHF	.925	.960	.936	.000	.974	.974	.952	.879	.944	.968

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City of Costa Mesa
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Weather: Clear

File Name : 11_CSM_Harbor_405S Off Ramp AM
Site Code : 00319172
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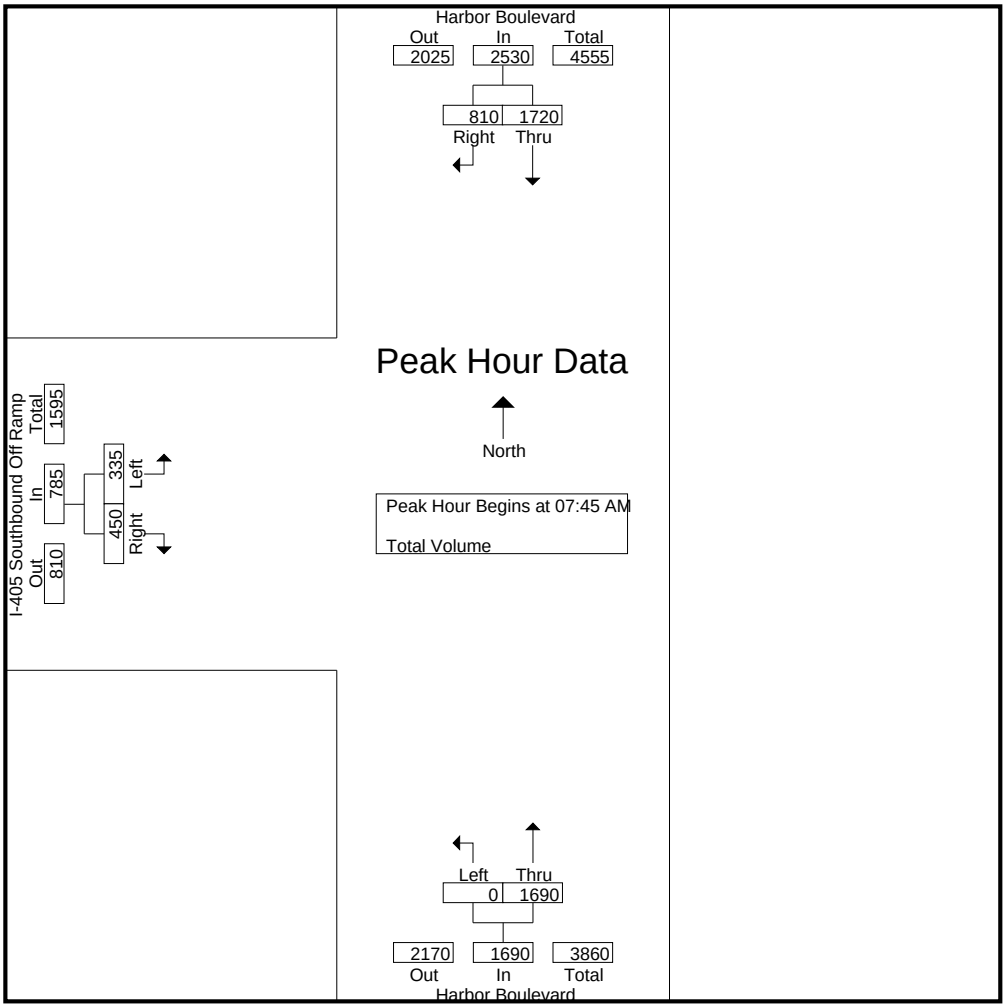

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			08:00 AM		
+0 mins.	**465**	**211**	**676**	0	425	425	80	**128**	208
+15 mins.	420	208	628	0	418	418	83	106	189
+30 mins.	414	194	608	0	**434**	**434**	84	112	196
+45 mins.	421	197	618	0	413	413	**93**	124	**217**
Total Volume	1720	810	2530	0	1690	1690	340	470	810
% App. Total	68	32		0	100		42	58	
PHF	.925	.960	.936	.000	.974	.974	.914	.918	.933

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: I-405 Southbound Off Ramp
Weather: Clear

File Name : 11_CSM_Harbor_405S Off Ramp PM
Site Code : 00319172
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Groups Printed- Total Volume

	Harbor Boulevard Southbound			Harbor Boulevard Northbound			I-405 Southbound Off Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	421	189	610	0	486	486	43	174	217	1313
04:15 PM	432	204	636	0	530	530	39	168	207	1373
04:30 PM	470	208	678	0	490	490	52	164	216	1384
04:45 PM	479	230	709	0	483	483	41	175	216	1408
Total	1802	831	2633	0	1989	1989	175	681	856	5478
05:00 PM	526	268	794	0	490	490	46	185	231	1515
05:15 PM	518	263	781	0	487	487	34	183	217	1485
05:30 PM	486	179	665	0	438	438	35	194	229	1332
05:45 PM	461	166	627	0	471	471	33	212	245	1343
Total	1991	876	2867	0	1886	1886	148	774	922	5675
Grand Total	3793	1707	5500	0	3875	3875	323	1455	1778	11153
Apprch %	69	31		0	100		18.2	81.8		
Total %	34	15.3	49.3	0	34.7	34.7	2.9	13	15.9	

	Harbor Boulevard Southbound			Harbor Boulevard Northbound			I-405 Southbound Off Ramp Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	470	208	678	0	**490**	**490**	**52**	164	216	1384
04:45 PM	479	230	709	0	483	483	41	175	216	1408
05:00 PM	**526**	**268**	**794**	0	490	490	46	**185**	**231**	**1515**
05:15 PM	518	263	781	0	487	487	34	183	217	1485
Total Volume	1993	969	2962	0	1950	1950	173	707	880	5792
% App. Total	67.3	32.7		0	100		19.7	80.3		
PHF	.947	.904	.933	.000	.995	.995	.832	.955	.952	.956

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City of Costa Mesa
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Weather: Clear

File Name : 11_CSM_Harbor_405S Off Ramp PM
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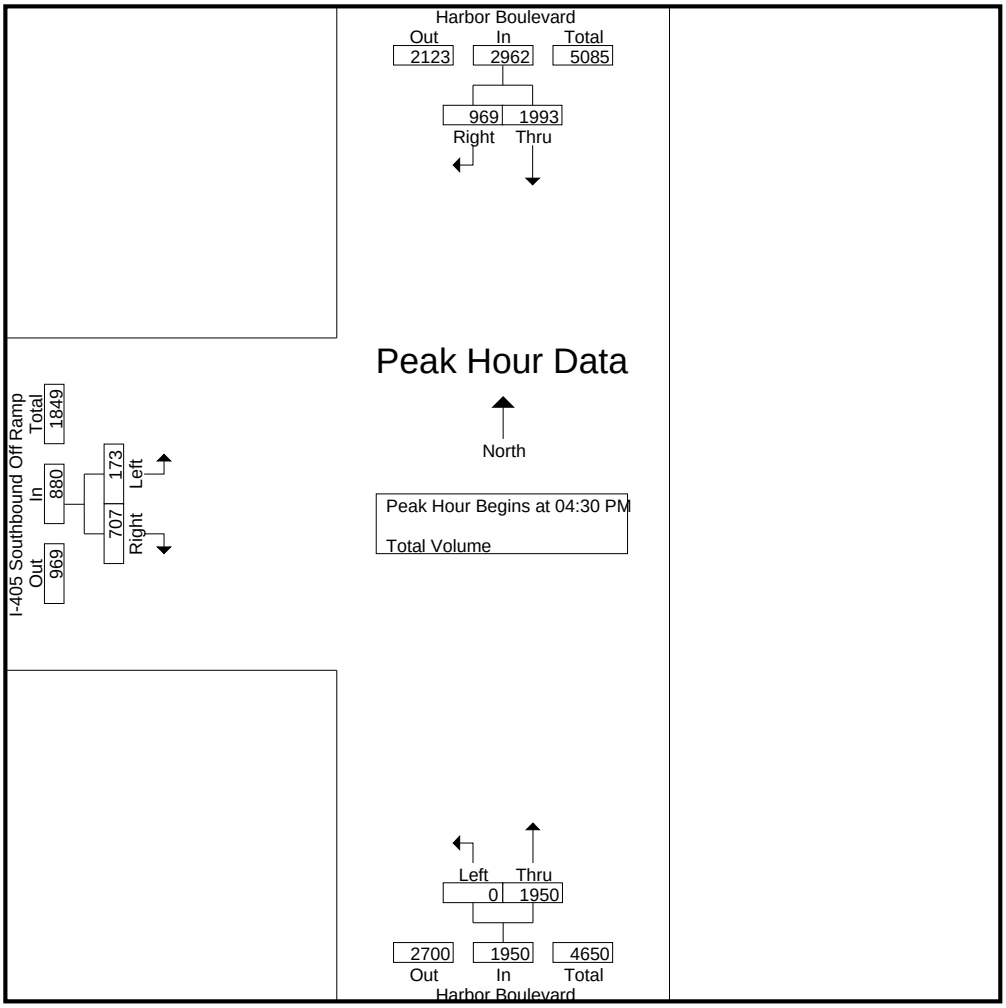

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:15 PM			05:00 PM		
+0 mins.	470	208	678	0	**530**	**530**	**46**	185	231
+15 mins.	479	230	709	0	490	490	34	183	217
+30 mins.	**526**	**268**	**794**	0	483	483	35	194	229
+45 mins.	518	263	781	0	490	490	33	**212**	**245**
Total Volume	1993	969	2962	0	1993	1993	148	774	922
% App. Total	67.3	32.7		0	100		16.1	83.9	
PHF	.947	.904	.933	.000	.940	.940	.804	.913	.941

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Gisler Avenue
Weather: Clear

File Name : 17_CSM_Harbor_Gisler AM
Site Code : 00319172
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Groups Printed- Total Volume

	Harbor Boulevard Southbound				Gisler Avenue Westbound				Harbor Boulevard Northbound				Gisler Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	287	38	332	2	1	36	39	7	390	3	400	142	7	14	163	934
07:15 AM	7	297	37	341	4	4	30	38	5	419	3	427	137	4	19	160	966
07:30 AM	6	388	34	428	1	6	37	44	17	445	3	465	163	5	26	194	1131
07:45 AM	18	457	59	534	7	9	47	63	28	499	0	527	143	14	28	185	1309
Total	38	1429	168	1635	14	20	150	184	57	1753	9	1819	585	30	87	702	4340
08:00 AM	22	462	59	543	8	10	34	52	19	511	2	532	169	9	32	210	1337
08:15 AM	13	439	55	507	6	5	37	48	26	523	4	553	158	15	39	212	1320
08:30 AM	21	445	45	511	11	13	46	70	23	521	3	547	155	12	39	206	1334
08:45 AM	23	507	31	561	5	6	33	44	9	512	3	524	133	13	25	171	1300
Total	79	1853	190	2122	30	34	150	214	77	2067	12	2156	615	49	135	799	5291
Grand Total	117	3282	358	3757	44	54	300	398	134	3820	21	3975	1200	79	222	1501	9631
Apprch %	3.1	87.4	9.5		11.1	13.6	75.4		3.4	96.1	0.5		79.9	5.3	14.8		
Total %	1.2	34.1	3.7	39	0.5	0.6	3.1	4.1	1.4	39.7	0.2	41.3	12.5	0.8	2.3	15.6	

	Harbor Boulevard Southbound				Gisler Avenue Westbound				Harbor Boulevard Northbound				Gisler Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	18	457	**59**	534	7	9	**47**	63	**28**	499	0	527	143	14	28	185	1309
08:00 AM	**22**	**462**	59	**543**	8	10	34	52	19	511	2	532	**169**	9	32	210	**1337**
08:15 AM	13	439	55	507	6	5	37	48	26	**523**	**4**	**553**	158	**15**	**39**	**212**	1320
08:30 AM	21	445	45	511	**11**	**13**	46	**70**	23	521	3	547	155	12	39	206	1334
Total Volume	74	1803	218	2095	32	37	164	233	96	2054	9	2159	625	50	138	813	5300
% App. Total	3.5	86.1	10.4		13.7	15.9	70.4		4.4	95.1	0.4		76.9	6.2	17		
PHF	.841	.976	.924	.965	.727	.712	.872	.832	.857	.982	.563	.976	.925	.833	.885	.959	.991

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City of Costa Mesa
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E/W: Gisler Avenue
Weather: Clear

File Name : 17_CSM_Harbor_Gisler AM
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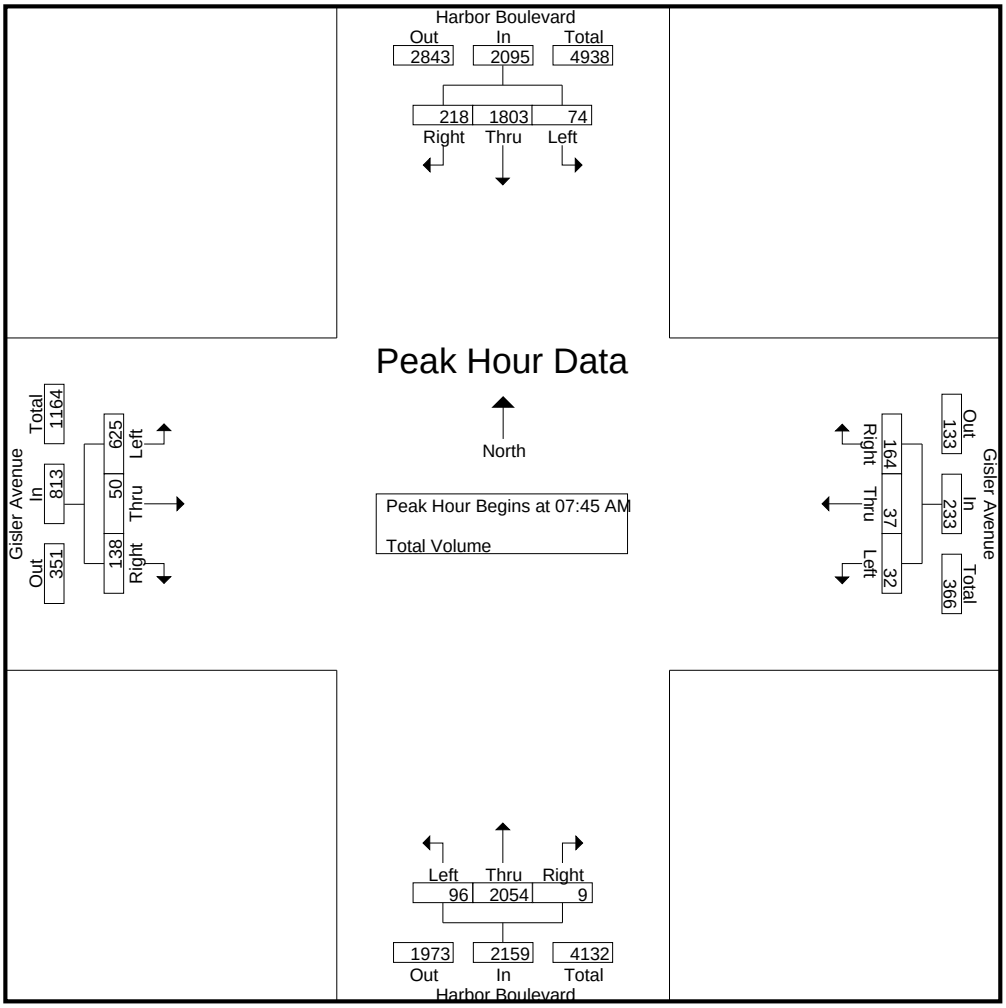

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	22	462	**59**	543	7	9	**47**	63	**28**	499	0	527	143	14	28	185
+15 mins.	13	439	55	507	8	10	34	52	19	511	2	532	**169**	9	32	210
+30 mins.	21	445	45	511	6	5	37	48	26	**523**	**4**	**553**	158	**15**	**39**	**212**
+45 mins.	**23**	**507**	31	**561**	**11**	**13**	46	**70**	23	521	3	547	155	12	39	206
Total Volume	79	1853	190	2122	32	37	164	233	96	2054	9	2159	625	50	138	813
% App. Total	3.7	87.3	9		13.7	15.9	70.4		4.4	95.1	0.4		76.9	6.2	17	
PHF	.859	.914	.805	.946	.727	.712	.872	.832	.857	.982	.563	.976	.925	.833	.885	.959

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Gisler Avenue
Weather: Clear

File Name : 17_CSM_Harbor_Gisler PM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Harbor Boulevard Southbound				Gisler Avenue Westbound				Harbor Boulevard Northbound				Gisler Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	20	460	86	566	8	11	71	90	28	519	5	552	97	8	35	140	1348
04:15 PM	31	465	85	581	9	12	66	87	33	537	2	572	101	5	30	136	1376
04:30 PM	25	498	86	609	18	17	81	116	30	479	1	510	94	9	33	136	1371
04:45 PM	38	497	81	616	9	15	90	114	42	480	3	525	96	9	34	139	1394
Total	114	1920	338	2372	44	55	308	407	133	2015	11	2159	388	31	132	551	5489
05:00 PM	31	552	99	682	7	12	80	99	39	486	8	533	89	10	22	121	1435
05:15 PM	41	543	90	674	10	15	86	111	28	487	8	523	93	8	25	126	1434
05:30 PM	32	486	124	642	19	13	76	108	24	420	7	451	91	12	22	125	1326
05:45 PM	28	507	108	643	14	17	68	99	28	463	5	496	103	10	32	145	1383
Total	132	2088	421	2641	50	57	310	417	119	1856	28	2003	376	40	101	517	5578
Grand Total	246	4008	759	5013	94	112	618	824	252	3871	39	4162	764	71	233	1068	11067
Apprch %	4.9	80	15.1		11.4	13.6	75		6.1	93	0.9		71.5	6.6	21.8		
Total %	2.2	36.2	6.9	45.3	0.8	1	5.6	7.4	2.3	35	0.4	37.6	6.9	0.6	2.1	9.7	

	Harbor Boulevard Southbound				Gisler Avenue Westbound				Harbor Boulevard Northbound				Gisler Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	25	498	86	609	**18**	**17**	81	**116**	30	479	1	510	94	9	33	136	1371
04:45 PM	38	497	81	616	9	15	**90**	114	**42**	480	3	525	**96**	9	**34**	**139**	1394
05:00 PM	31	**552**	**99**	**682**	7	12	80	99	39	486	**8**	**533**	89	**10**	22	121	**1435**
05:15 PM	**41**	543	90	674	10	15	86	111	28	**487**	8	523	93	8	25	126	1434
Total Volume	135	2090	356	2581	44	59	337	440	139	1932	20	2091	372	36	114	522	5634
% App. Total	5.2	81	13.8		10	13.4	76.6		6.6	92.4	1		71.3	6.9	21.8		
PHF	.823	.947	.899	.946	.611	.868	.936	.948	.827	.992	.625	.981	.969	.900	.838	.939	.982

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City of Costa Mesa
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Weather: Clear

File Name : 17_CSM_Harbor_Gisler PM
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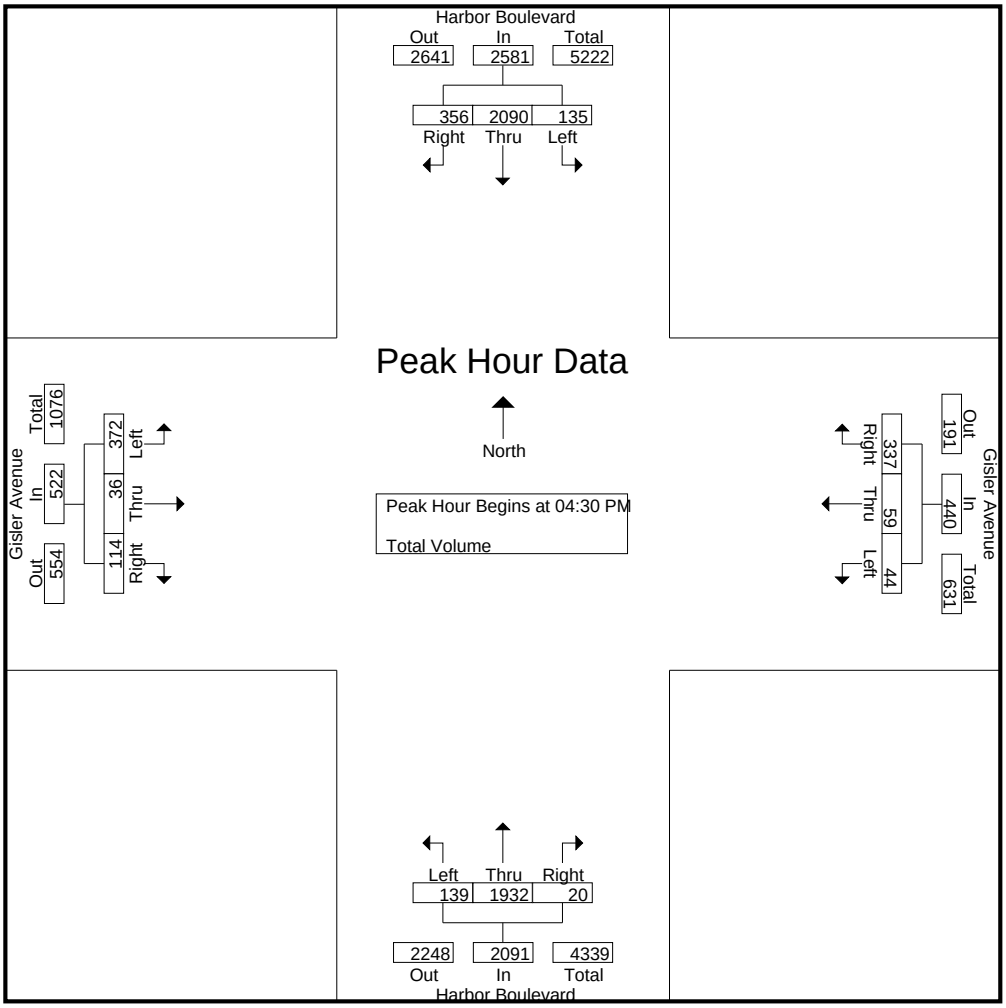

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	31	**552**	99	**682**	**18**	**17**	81	**116**	28	519	**5**	552	97	8	**35**	**140**
+15 mins.	**41**	543	90	674	9	15	**90**	114	33	**537**	2	**572**	**101**	5	30	136
+30 mins.	32	486	**124**	642	7	12	80	99	30	479	1	510	94	**9**	33	136
+45 mins.	28	507	108	643	10	15	86	111	**42**	480	3	525	96	9	34	139
Total Volume	132	2088	421	2641	44	59	337	440	133	2015	11	2159	388	31	132	551
% App. Total	5	79.1	15.9		10	13.4	76.6		6.2	93.3	0.5		70.4	5.6	24	
PHF	.805	.946	.849	.968	.611	.868	.936	.948	.792	.938	.550	.944	.960	.861	.943	.984

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Nutmeg Place
Weather: Clear

File Name : 18_CSM_Harbor_Nutmeg AM
Site Code : 00319172
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Groups Printed- Total Volume

	Harbor Boulevard Southbound				Costa Mesa Square Driveway Westbound				Harbor Boulevard Northbound				Nutmeg Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	13	262	18	293	1	1	14	16	3	347	9	359	6	0	2	8	676
07:15 AM	15	305	14	334	2	1	14	17	1	424	13	438	13	1	6	20	809
07:30 AM	18	399	8	425	6	0	16	22	2	479	8	489	11	3	2	16	952
07:45 AM	31	439	10	480	5	2	18	25	2	506	11	519	13	0	5	18	1042
Total	77	1405	50	1532	14	4	62	80	8	1756	41	1805	43	4	15	62	3479
08:00 AM	34	454	14	502	3	1	24	28	4	525	25	554	9	1	8	18	1102
08:15 AM	24	454	12	490	5	1	24	30	3	510	27	540	11	1	7	19	1079
08:30 AM	32	455	12	499	5	0	24	29	2	496	35	533	11	1	12	24	1085
08:45 AM	37	454	12	503	14	4	35	53	6	509	34	549	11	1	6	18	1123
Total	127	1817	50	1994	27	6	107	140	15	2040	121	2176	42	4	33	79	4389
Grand Total	204	3222	100	3526	41	10	169	220	23	3796	162	3981	85	8	48	141	7868
Apprch %	5.8	91.4	2.8		18.6	4.5	76.8		0.6	95.4	4.1		60.3	5.7	34		
Total %	2.6	41	1.3	44.8	0.5	0.1	2.1	2.8	0.3	48.2	2.1	50.6	1.1	0.1	0.6	1.8	

	Harbor Boulevard Southbound				Costa Mesa Square Driveway Westbound				Harbor Boulevard Northbound				Nutmeg Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	34	454	**14**	502	3	1	24	28	4	**525**	25	**554**	9	**1**	8	18	1102
08:15 AM	24	454	12	490	5	1	24	30	3	510	27	540	**11**	1	7	19	1079
08:30 AM	32	**455**	12	499	5	0	24	29	2	496	**35**	533	11	1	**12**	**24**	1085
08:45 AM	**37**	454	12	**503**	**14**	**4**	**35**	**53**	**6**	509	34	549	11	1	6	18	**1123**
Total Volume	127	1817	50	1994	27	6	107	140	15	2040	121	2176	42	4	33	79	4389
% App. Total	6.4	91.1	2.5		19.3	4.3	76.4		0.7	93.8	5.6		53.2	5.1	41.8		
PHF	.858	.998	.893	.991	.482	.375	.764	.660	.625	.971	.864	.982	.955	1.00	.688	.823	.977

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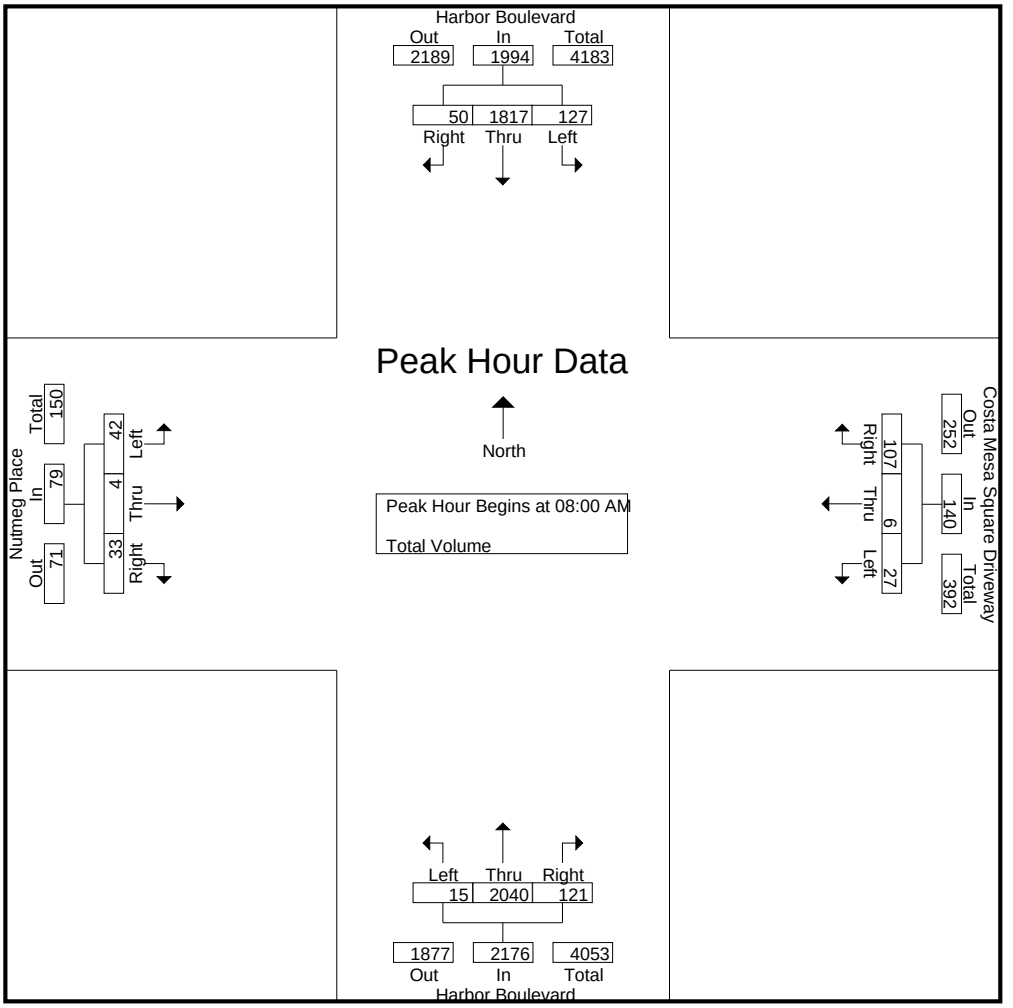

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:45 AM			
+0 mins.	34	454	**14**	502	3	1	24	28	4	**525**	25	**554**	**13**	0	5	18
+15 mins.	24	454	12	490	5	1	24	30	3	510	27	540	9	**1**	8	18
+30 mins.	32	**455**	12	499	5	0	24	29	2	496	**35**	533	11	1	7	19
+45 mins.	**37**	454	12	**503**	**14**	**4**	**35**	**53**	**6**	509	34	549	11	1	**12**	**24**
Total Volume	127	1817	50	1994	27	6	107	140	15	2040	121	2176	44	3	32	79
% App. Total	6.4	91.1	2.5		19.3	4.3	76.4		0.7	93.8	5.6		55.7	3.8	40.5	
PHF	.858	.998	.893	.991	.482	.375	.764	.660	.625	.971	.864	.982	.846	.750	.667	.823

Counts Unlimited
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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Nutmeg Place
Weather: Clear

File Name : 18_CSM_Harbor_Nutmeg PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				Costa Mesa Square Driveway Westbound				Harbor Boulevard Northbound				Nutmeg Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	46	449	7	502	36	6	34	76	7	484	40	531	13	6	8	27	1136
04:15 PM	48	411	13	472	42	5	35	82	13	516	50	579	12	8	12	32	1165
04:30 PM	57	475	8	540	29	6	35	70	13	433	38	484	23	6	6	35	1129
04:45 PM	48	496	9	553	31	8	35	74	12	482	46	540	12	4	22	38	1205
Total	199	1831	37	2067	138	25	139	302	45	1915	174	2134	60	24	48	132	4635
05:00 PM	50	516	15	581	34	6	32	72	6	485	47	538	15	1	13	29	1220
05:15 PM	43	529	18	590	46	5	33	84	10	475	55	540	26	4	9	39	1253
05:30 PM	39	510	4	553	35	6	30	71	15	462	36	513	13	2	20	35	1172
05:45 PM	44	506	5	555	36	3	42	81	10	433	50	493	10	3	10	23	1152
Total	176	2061	42	2279	151	20	137	308	41	1855	188	2084	64	10	52	126	4797
Grand Total	375	3892	79	4346	289	45	276	610	86	3770	362	4218	124	34	100	258	9432
Apprch %	8.6	89.6	1.8		47.4	7.4	45.2		2	89.4	8.6		48.1	13.2	38.8		
Total %	4	41.3	0.8	46.1	3.1	0.5	2.9	6.5	0.9	40	3.8	44.7	1.3	0.4	1.1	2.7	

	Harbor Boulevard Southbound				Costa Mesa Square Driveway Westbound				Harbor Boulevard Northbound				Nutmeg Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	48	496	9	553	31	**8**	**35**	74	12	482	46	**540**	12	**4**	**22**	38	1205
05:00 PM	**50**	516	15	581	34	6	32	72	6	**485**	47	538	15	1	13	29	1220
05:15 PM	43	**529**	**18**	**590**	**46**	5	33	**84**	10	475	**55**	540	**26**	4	9	**39**	**1253**
05:30 PM	39	510	4	553	35	6	30	71	**15**	462	36	513	13	2	20	35	1172
Total Volume	180	2051	46	2277	146	25	130	301	43	1904	184	2131	66	11	64	141	4850
% App. Total	7.9	90.1	2		48.5	8.3	43.2		2	89.3	8.6		46.8	7.8	45.4		
PHF	.900	.969	.639	.965	.793	.781	.929	.896	.717	.981	.836	.987	.635	.688	.727	.904	.968

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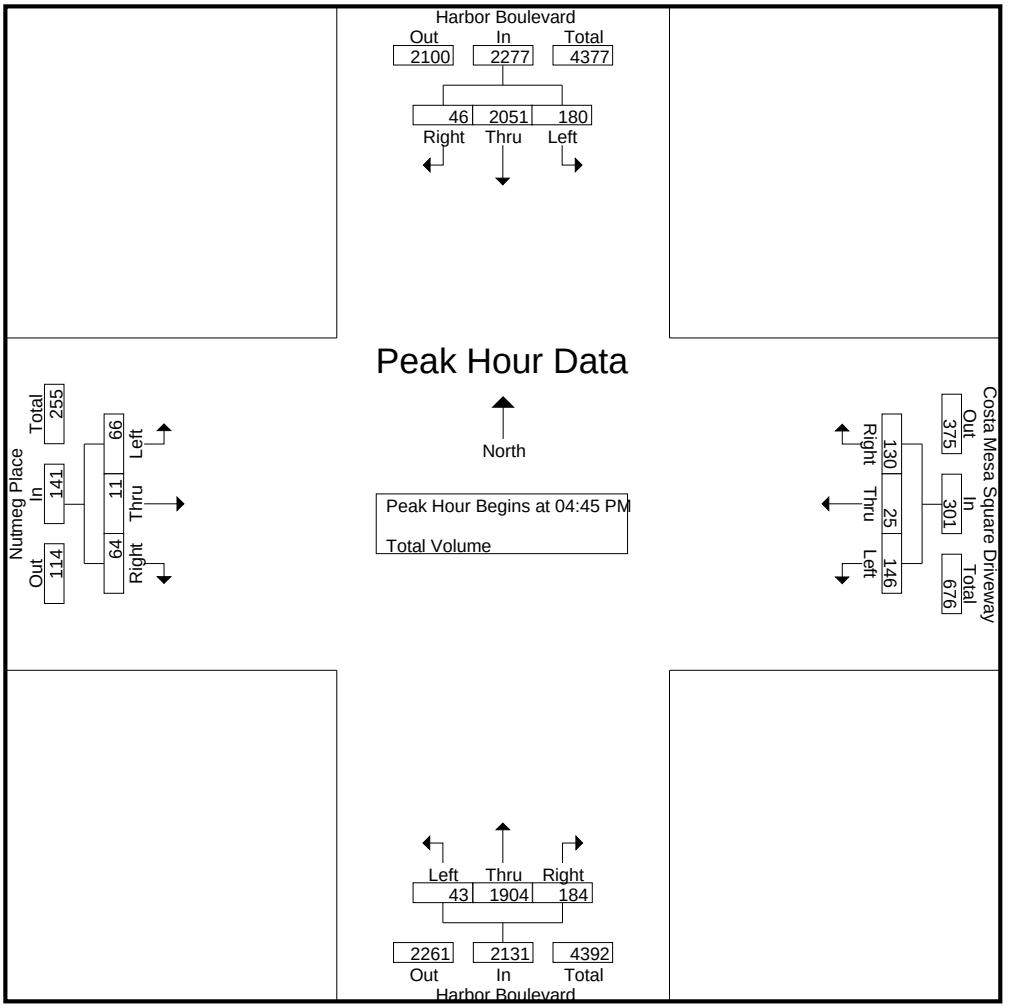
City of Costa Mesa
N/S: Harbor Boulevard
E/W: Nutmeg Place
Weather: Clear

File Name : 18_CSM_Harbor_Nutmeg PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:15 PM				04:30 PM			
+0 mins.	**50**	516	15	581	34	**6**	32	72	**13**	**516**	**50**	**579**	23	**6**	6	35
+15 mins.	43	**529**	**18**	**590**	**46**	5	33	**84**	13	433	38	484	12	4	**22**	38
+30 mins.	39	510	4	553	35	6	30	71	12	482	46	540	15	1	13	29
+45 mins.	44	506	5	555	36	3	**42**	81	6	485	47	538	**26**	4	9	**39**
Total Volume	176	2061	42	2279	151	20	137	308	44	1916	181	2141	76	15	50	141
% App. Total	7.7	90.4	1.8		49	6.5	44.5		2.1	89.5	8.5		53.9	10.6	35.5	
PHF	.880	.974	.583	.966	.821	.833	.815	.917	.846	.928	.905	.924	.731	.625	.568	.904

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Baker Street
Weather: Clear

File Name : 19_CSM_Harbor_Baker AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				Baker Street Westbound				Harbor Boulevard Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	24	216	27	267	28	19	26	73	3	308	26	337	44	34	2	80	757
07:15 AM	43	237	31	311	27	30	28	85	9	394	34	437	58	35	13	106	939
07:30 AM	51	317	39	407	38	27	35	100	5	400	53	458	42	54	12	108	1073
07:45 AM	48	345	52	445	45	50	34	129	8	413	55	476	62	63	24	149	1199
Total	166	1115	149	1430	138	126	123	387	25	1515	168	1708	206	186	51	443	3968
08:00 AM	36	378	54	468	46	61	49	156	13	459	71	543	72	63	20	155	1322
08:15 AM	47	365	44	456	42	49	40	131	9	452	65	526	56	70	10	136	1249
08:30 AM	51	360	69	480	52	50	28	130	9	453	41	503	54	58	11	123	1236
08:45 AM	56	371	50	477	53	55	34	142	16	455	55	526	61	57	14	132	1277
Total	190	1474	217	1881	193	215	151	559	47	1819	232	2098	243	248	55	546	5084
Grand Total	356	2589	366	3311	331	341	274	946	72	3334	400	3806	449	434	106	989	9052
Apprch %	10.8	78.2	11.1		35	36	29		1.9	87.6	10.5		45.4	43.9	10.7		
Total %	3.9	28.6	4	36.6	3.7	3.8	3	10.5	0.8	36.8	4.4	42	5	4.8	1.2	10.9	

	Harbor Boulevard Southbound				Baker Street Westbound				Harbor Boulevard Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	36	**378**	54	468	46	**61**	**49**	**156**	13	**459**	**71**	**543**	**72**	63	**20**	**155**	**1322**
08:15 AM	47	365	44	456	42	49	40	131	9	452	65	526	56	**70**	10	136	1249
08:30 AM	51	360	**69**	**480**	52	50	28	130	9	453	41	503	54	58	11	123	1236
08:45 AM	**56**	371	50	477	**53**	55	34	142	**16**	455	55	526	61	57	14	132	1277
Total Volume	190	1474	217	1881	193	215	151	559	47	1819	232	2098	243	248	55	546	5084
% App. Total	10.1	78.4	11.5		34.5	38.5	27		2.2	86.7	11.1		44.5	45.4	10.1		
PHF	.848	.975	.786	.980	.910	.881	.770	.896	.734	.991	.817	.966	.844	.886	.688	.881	.961

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City of Costa Mesa
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E/W: Baker Street
Weather: Clear

File Name : 19_CSM_Harbor_Baker AM
Site Code : 00319172
Start Date : 3/14/2019
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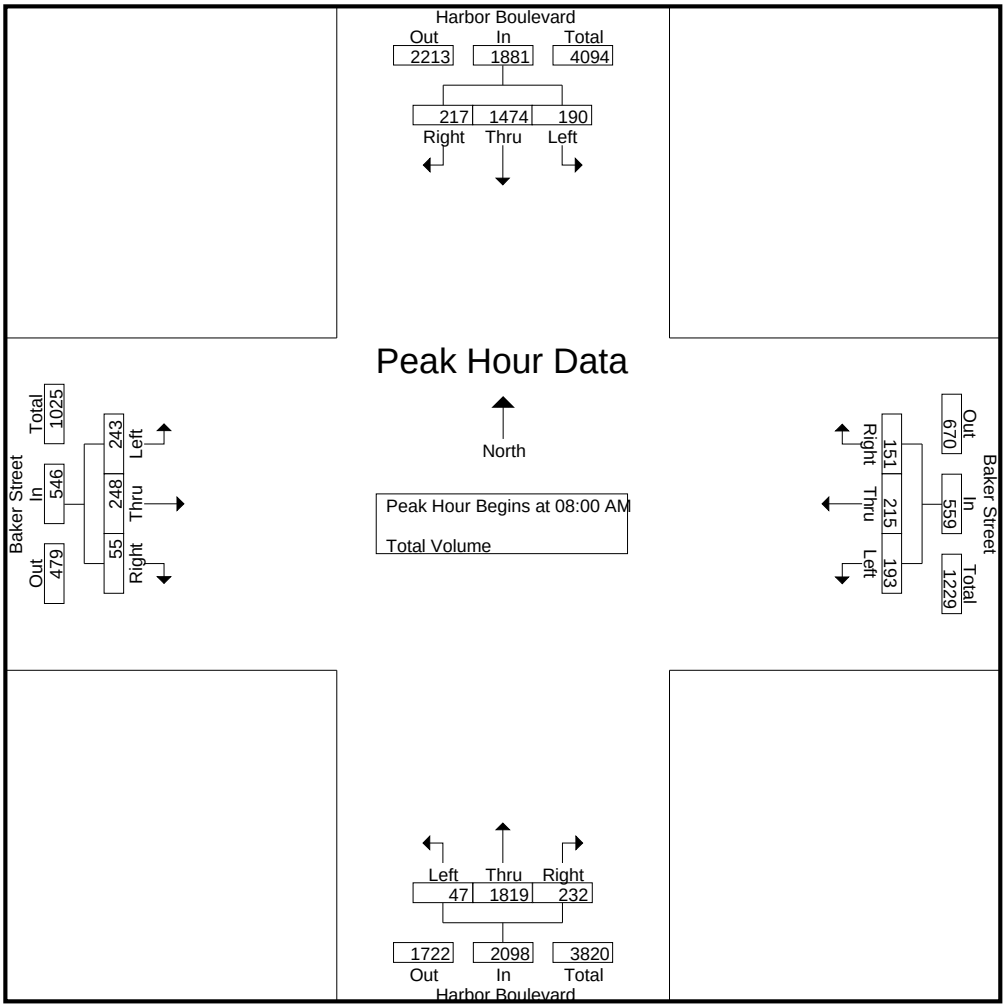

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:45 AM			
+0 mins.	36	**378**	54	468	46	**61**	**49**	**156**	13	**459**	**71**	**543**	62	63	**24**	149
+15 mins.	47	365	44	456	42	49	40	131	9	452	65	526	**72**	63	20	**155**
+30 mins.	51	360	**69**	**480**	52	50	28	130	9	453	41	503	56	**70**	10	136
+45 mins.	**56**	371	50	477	**53**	55	34	142	**16**	455	55	526	54	58	11	123
Total Volume	190	1474	217	1881	193	215	151	559	47	1819	232	2098	244	254	65	563
% App. Total	10.1	78.4	11.5		34.5	38.5	27		2.2	86.7	11.1		43.3	45.1	11.5	
PHF	.848	.975	.786	.980	.910	.881	.770	.896	.734	.991	.817	.966	.847	.907	.677	.908

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Baker Street
Weather: Clear

File Name : 19_CSM_Harbor_Baker PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Harbor Boulevard Southbound				Baker Street Westbound				Harbor Boulevard Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	51	396	57	504	101	124	72	297	13	414	49	476	76	53	18	147	1424
04:15 PM	59	370	50	479	92	114	77	283	17	450	64	531	64	61	9	134	1427
04:30 PM	42	414	57	513	107	158	93	358	21	370	56	447	46	42	19	107	1425
04:45 PM	38	464	49	551	126	166	90	382	13	390	45	448	52	63	22	137	1518
Total	190	1644	213	2047	426	562	332	1320	64	1624	214	1902	238	219	68	525	5794
05:00 PM	43	479	47	569	116	154	76	346	9	403	39	451	49	55	24	128	1494
05:15 PM	53	484	62	599	112	152	90	354	20	427	53	500	49	51	22	122	1575
05:30 PM	52	450	73	575	104	158	83	345	11	388	59	458	44	59	17	120	1498
05:45 PM	50	444	65	559	90	164	74	328	14	384	45	443	53	42	11	106	1436
Total	198	1857	247	2302	422	628	323	1373	54	1602	196	1852	195	207	74	476	6003
Grand Total	388	3501	460	4349	848	1190	655	2693	118	3226	410	3754	433	426	142	1001	11797
Apprch %	8.9	80.5	10.6		31.5	44.2	24.3		3.1	85.9	10.9		43.3	42.6	14.2		
Total %	3.3	29.7	3.9	36.9	7.2	10.1	5.6	22.8	1	27.3	3.5	31.8	3.7	3.6	1.2	8.5	

	Harbor Boulevard Southbound				Baker Street Westbound				Harbor Boulevard Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	38	464	49	551	**126**	**166**	**90**	**382**	13	390	45	448	**52**	**63**	22	**137**	1518
05:00 PM	43	479	47	569	116	154	76	346	9	403	39	451	49	55	**24**	128	1494
05:15 PM	**53**	**484**	62	**599**	112	152	90	354	**20**	**427**	53	**500**	49	51	22	122	**1575**
05:30 PM	52	450	**73**	575	104	158	83	345	11	388	**59**	458	44	59	17	120	1498
Total Volume	186	1877	231	2294	458	630	339	1427	53	1608	196	1857	194	228	85	507	6085
% App. Total	8.1	81.8	10.1		32.1	44.1	23.8		2.9	86.6	10.6		38.3	45	16.8		
PHF	.877	.970	.791	.957	.909	.949	.942	.934	.663	.941	.831	.929	.933	.905	.885	.925	.966

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City of Costa Mesa
N/S: Harbor Boulevard
E/W: Baker Street
Weather: Clear

File Name : 19_CSM_Harbor_Baker PM
Site Code : 00319172
Start Date : 3/14/2019
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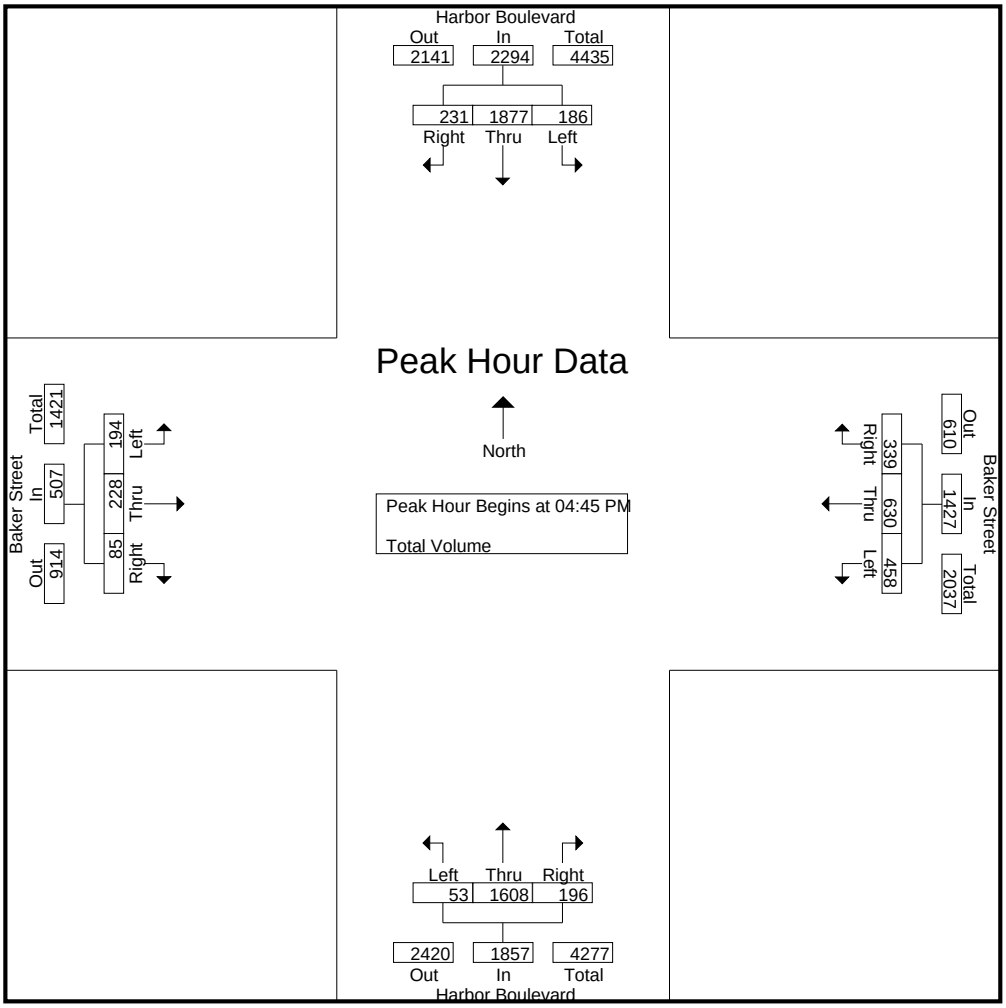

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	43	479	47	569	107	158	**93**	358	13	414	49	476	**76**	53	18	**147**
+15 mins.	**53**	**484**	62	**599**	**126**	**166**	90	**382**	17	**450**	**64**	**531**	64	61	9	134
+30 mins.	52	450	**73**	575	116	154	76	346	**21**	370	56	447	46	42	19	107
+45 mins.	50	444	65	559	112	152	90	354	13	390	45	448	52	**63**	**22**	137
Total Volume	198	1857	247	2302	461	630	349	1440	64	1624	214	1902	238	219	68	525
% App. Total	8.6	80.7	10.7		32	43.8	24.2		3.4	85.4	11.3		45.3	41.7	13	
PHF	.934	.959	.846	.961	.915	.949	.938	.942	.762	.902	.836	.895	.783	.869	.773	.893

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City of Costa Mesa
N/S: Susan Street
E/W: Sunflower Avenue
Weather: Clear

File Name : 16_CSM_Susan_Sunflower AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Susan Street Southbound				Sunflower Avenue Westbound				Susan Street Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	12	16	2	30	2	28	14	44	18	38	9	65	8	51	2	61	200
07:15 AM	10	5	5	20	2	46	13	61	13	47	2	62	8	72	4	84	227
07:30 AM	16	16	2	34	10	52	17	79	12	41	10	63	7	72	6	85	261
07:45 AM	21	23	5	49	16	79	29	124	30	85	30	145	28	109	10	147	465
Total	59	60	14	133	30	205	73	308	73	211	51	335	51	304	22	377	1153
08:00 AM	16	23	12	51	10	74	23	107	20	67	8	95	14	70	17	101	354
08:15 AM	18	18	7	43	14	51	27	92	12	64	3	79	13	66	9	88	302
08:30 AM	8	28	12	48	9	42	12	63	12	48	5	65	7	56	18	81	257
08:45 AM	6	18	3	27	17	54	15	86	10	48	4	62	10	60	16	86	261
Total	48	87	34	169	50	221	77	348	54	227	20	301	44	252	60	356	1174
Grand Total	107	147	48	302	80	426	150	656	127	438	71	636	95	556	82	733	2327
Apprch %	35.4	48.7	15.9		12.2	64.9	22.9		20	68.9	11.2		13	75.9	11.2		
Total %	4.6	6.3	2.1	13	3.4	18.3	6.4	28.2	5.5	18.8	3.1	27.3	4.1	23.9	3.5	31.5	

	Susan Street Southbound				Sunflower Avenue Westbound				Susan Street Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	16	2	34	10	52	17	79	12	41	10	63	7	72	6	85	261
07:45 AM	**21**	**23**	5	49	**16**	**79**	**29**	**124**	**30**	**85**	**30**	**145**	**28**	**109**	10	**147**	**465**
08:00 AM	16	23	**12**	**51**	10	74	23	107	20	67	8	95	14	70	**17**	101	354
08:15 AM	18	18	7	43	14	51	27	92	12	64	3	79	13	66	9	88	302
Total Volume	71	80	26	177	50	256	96	402	74	257	51	382	62	317	42	421	1382
% App. Total	40.1	45.2	14.7		12.4	63.7	23.9		19.4	67.3	13.4		14.7	75.3	10		
PHF	.845	.870	.542	.868	.781	.810	.828	.810	.617	.756	.425	.659	.554	.727	.618	.716	.743

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City of Costa Mesa
N/S: Susan Street
E/W: Sunflower Avenue
Weather: Clear

File Name : 16_CSM_Susan_Sunflower AM
Site Code : 00319172
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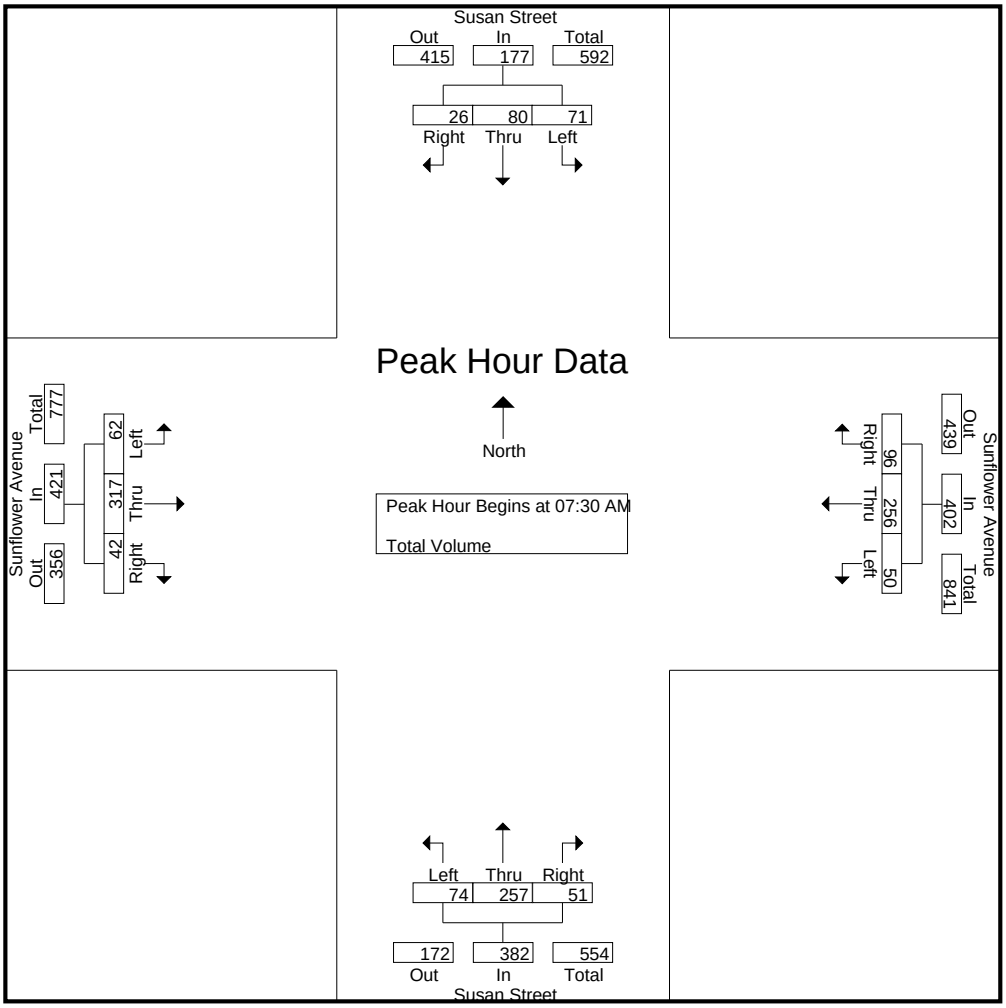

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:45 AM				07:30 AM			
+0 mins.	**21**	23	5	49	10	52	17	79	**30**	**85**	**30**	**145**	7	72	6	85
+15 mins.	16	23	**12**	**51**	**16**	**79**	**29**	**124**	20	67	8	95	**28**	**109**	10	**147**
+30 mins.	18	18	7	43	10	74	23	107	12	64	3	79	14	70	**17**	101
+45 mins.	8	**28**	12	48	14	51	27	92	12	48	5	65	13	66	9	88
Total Volume	63	92	36	191	50	256	96	402	74	264	46	384	62	317	42	421
% App. Total	33	48.2	18.8		12.4	63.7	23.9		19.3	68.8	12		14.7	75.3	10	
PHF	.750	.821	.750	.936	.781	.810	.828	.810	.617	.776	.383	.662	.554	.727	.618	.716

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City of Costa Mesa
N/S: Susan Street
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Weather: Clear

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Groups Printed- Total Volume

	Susan Street Southbound				Sunflower Avenue Westbound				Susan Street Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	20	25	8	53	11	142	36	189	56	140	7	203	17	82	7	106	551
04:15 PM	16	29	13	58	10	123	42	175	61	142	31	234	24	87	6	117	584
04:30 PM	15	27	19	61	14	132	44	190	59	143	23	225	21	112	10	143	619
04:45 PM	19	37	12	68	14	157	47	218	68	126	30	224	19	114	6	139	649
Total	70	118	52	240	49	554	169	772	244	551	91	886	81	395	29	505	2403
05:00 PM	15	58	28	101	6	145	43	194	79	170	38	287	27	123	11	161	743
05:15 PM	13	33	20	66	7	137	46	190	51	155	32	238	21	135	5	161	655
05:30 PM	18	42	18	78	10	129	60	199	81	163	39	283	22	83	7	112	672
05:45 PM	15	19	20	54	7	127	49	183	85	158	31	274	32	77	4	113	624
Total	61	152	86	299	30	538	198	766	296	646	140	1082	102	418	27	547	2694
Grand Total	131	270	138	539	79	1092	367	1538	540	1197	231	1968	183	813	56	1052	5097
Apprch %	24.3	50.1	25.6		5.1	71	23.9		27.4	60.8	11.7		17.4	77.3	5.3		
Total %	2.6	5.3	2.7	10.6	1.5	21.4	7.2	30.2	10.6	23.5	4.5	38.6	3.6	16	1.1	20.6	

	Susan Street Southbound				Sunflower Avenue Westbound				Susan Street Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**19**	37	12	68	**14**	**157**	47	**218**	68	126	30	224	19	114	6	139	649
05:00 PM	15	**58**	**28**	**101**	6	145	43	194	79	**170**	38	**287**	**27**	123	**11**	**161**	**743**
05:15 PM	13	33	20	66	7	137	46	190	51	155	32	238	21	**135**	5	161	655
05:30 PM	18	42	18	78	10	129	**60**	199	**81**	163	**39**	283	22	83	7	112	672
Total Volume	65	170	78	313	37	568	196	801	279	614	139	1032	89	455	29	573	2719
% App. Total	20.8	54.3	24.9		4.6	70.9	24.5		27	59.5	13.5		15.5	79.4	5.1		
PHF	.855	.733	.696	.775	.661	.904	.817	.919	.861	.903	.891	.899	.824	.843	.659	.890	.915

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City of Costa Mesa
N/S: Susan Street
E/W: Sunflower Avenue
Weather: Clear

File Name : 16_CSM_Susan_Sunflower PM
Site Code : 00319172
Start Date : 3/14/2019
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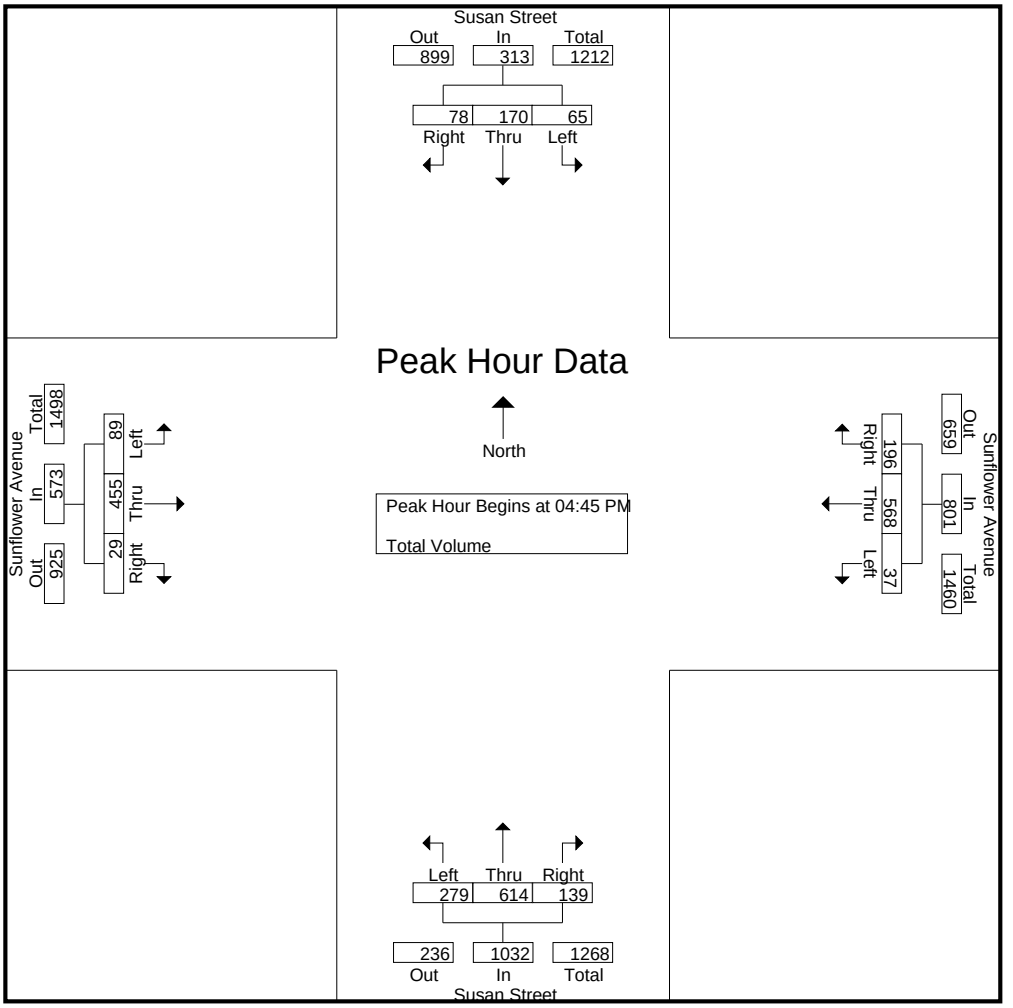

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				05:00 PM				04:30 PM			
+0 mins.	**19**	37	12	68	**14**	**157**	47	**218**	79	**170**	38	**287**	21	112	10	143
+15 mins.	15	**58**	**28**	**101**	6	145	43	194	51	155	32	238	19	114	6	139
+30 mins.	13	33	20	66	7	137	46	190	81	163	**39**	283	**27**	123	**11**	**161**
+45 mins.	18	42	18	78	10	129	**60**	199	**85**	158	31	274	21	**135**	5	161
Total Volume	65	170	78	313	37	568	196	801	296	646	140	1082	88	484	32	604
% App. Total	20.8	54.3	24.9		4.6	70.9	24.5		27.4	59.7	12.9		14.6	80.1	5.3	
PHF	.855	.733	.696	.775	.661	.904	.817	.919	.871	.950	.897	.943	.815	.896	.727	.938

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City of Costa Mesa
N/S: Susan Street
E/W: South Coast Drive
Weather: Clear

File Name : 15_CSM_Susan_South Coast AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Susan Street Southbound				South Coast Drive Westbound				Susan Street Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	14	0	13	27	0	28	4	32	9	51	9	69	4	41	0	45	173
07:15 AM	9	0	6	15	0	19	3	22	18	67	10	95	6	55	0	61	193
07:30 AM	26	0	15	41	1	33	1	35	30	79	24	133	10	71	0	81	290
07:45 AM	20	1	18	39	0	49	18	67	37	133	28	198	21	70	0	91	395
Total	69	1	52	122	1	129	26	156	94	330	71	495	41	237	0	278	1051
08:00 AM	13	0	19	32	0	31	10	41	41	105	23	169	18	76	0	94	336
08:15 AM	14	1	17	32	0	34	7	41	44	108	16	168	24	71	0	95	336
08:30 AM	18	0	10	28	0	32	8	40	36	91	16	143	31	59	1	91	302
08:45 AM	14	1	11	26	3	44	7	54	53	96	22	171	30	51	0	81	332
Total	59	2	57	118	3	141	32	176	174	400	77	651	103	257	1	361	1306
Grand Total	128	3	109	240	4	270	58	332	268	730	148	1146	144	494	1	639	2357
Apprch %	53.3	1.2	45.4		1.2	81.3	17.5		23.4	63.7	12.9		22.5	77.3	0.2		
Total %	5.4	0.1	4.6	10.2	0.2	11.5	2.5	14.1	11.4	31	6.3	48.6	6.1	21	0	27.1	

	Susan Street Southbound				South Coast Drive Westbound				Susan Street Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**20**	**1**	18	**39**	0	**49**	**18**	**67**	37	**133**	**28**	**198**	21	70	0	91	**395**
08:00 AM	13	0	**19**	32	0	31	10	41	41	105	23	169	18	**76**	0	94	336
08:15 AM	14	1	17	32	0	34	7	41	**44**	108	16	168	24	71	0	**95**	336
08:30 AM	18	0	10	28	0	32	8	40	36	91	16	143	**31**	59	**1**	91	302
Total Volume	65	2	64	131	0	146	43	189	158	437	83	678	94	276	1	371	1369
% App. Total	49.6	1.5	48.9		0	77.2	22.8		23.3	64.5	12.2		25.3	74.4	0.3		
PHF	.813	.500	.842	.840	.000	.745	.597	.705	.898	.821	.741	.856	.758	.908	.250	.976	.866

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City of Costa Mesa
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E/W: South Coast Drive
Weather: Clear

File Name : 15_CSM_Susan_South Coast AM
Site Code : 00319172
Start Date : 3/14/2019
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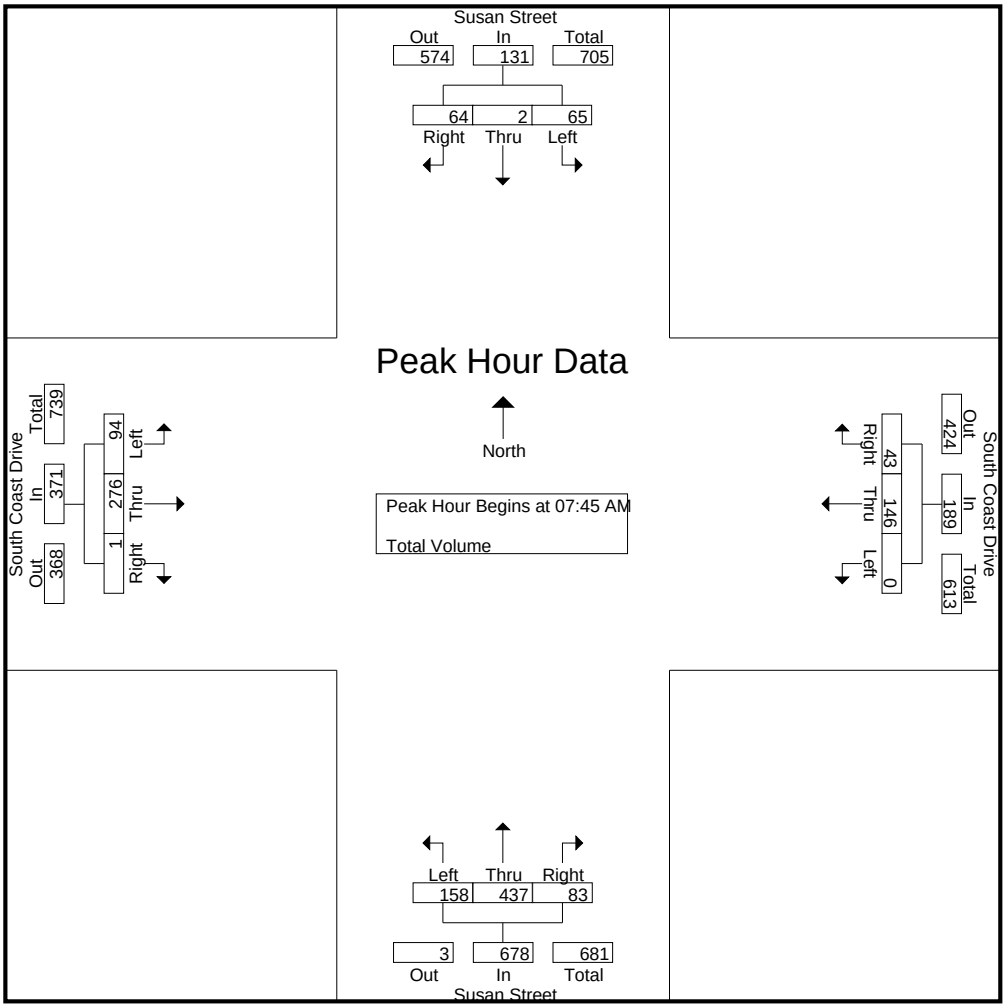

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	**26**	0	15	**41**	0	**49**	**18**	**67**	37	**133**	**28**	**198**	21	70	0	91
+15 mins.	20	**1**	18	39	0	31	10	41	41	105	23	169	18	**76**	0	94
+30 mins.	13	0	**19**	32	0	34	7	41	**44**	108	16	168	24	71	0	**95**
+45 mins.	14	1	17	32	0	32	8	40	36	91	16	143	**31**	59	**1**	91
Total Volume	73	2	69	144	0	146	43	189	158	437	83	678	94	276	1	371
% App. Total	50.7	1.4	47.9		0	77.2	22.8		23.3	64.5	12.2		25.3	74.4	0.3	
PHF	.702	.500	.908	.878	.000	.745	.597	.705	.898	.821	.741	.856	.758	.908	.250	.976

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City of Costa Mesa
N/S: Susan Street
E/W: South Coast Drive
Weather: Clear

File Name : 15_CSM_Susan_South Coast PM
Site Code : 00319172
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Groups Printed- Total Volume

	Susan Street Southbound				South Coast Drive Westbound				Susan Street Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	26	3	21	50	13	145	36	194	162	174	21	357	12	38	3	53	654
04:15 PM	20	4	20	44	6	149	33	188	135	178	25	338	25	54	1	80	650
04:30 PM	30	7	31	68	8	146	26	180	147	192	10	349	14	53	0	67	664
04:45 PM	35	5	43	83	13	161	31	205	122	187	7	316	20	63	1	84	688
Total	111	19	115	245	40	601	126	767	566	731	63	1360	71	208	5	284	2656
05:00 PM	45	5	57	107	5	168	36	209	134	183	16	333	26	64	4	94	743
05:15 PM	36	3	31	70	13	175	40	228	137	173	21	331	22	40	3	65	694
05:30 PM	27	6	40	73	7	171	43	221	135	208	13	356	20	38	5	63	713
05:45 PM	28	6	18	52	9	135	33	177	119	197	16	332	26	53	4	83	644
Total	136	20	146	302	34	649	152	835	525	761	66	1352	94	195	16	305	2794
Grand Total	247	39	261	547	74	1250	278	1602	1091	1492	129	2712	165	403	21	589	5450
Apprch %	45.2	7.1	47.7		4.6	78	17.4		40.2	55	4.8		28	68.4	3.6		
Total %	4.5	0.7	4.8	10	1.4	22.9	5.1	29.4	20	27.4	2.4	49.8	3	7.4	0.4	10.8	

	Susan Street Southbound				South Coast Drive Westbound				Susan Street Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	35	5	43	83	**13**	161	31	205	122	187	7	316	20	63	1	84	688
05:00 PM	**45**	5	**57**	**107**	5	168	36	209	134	183	16	333	**26**	**64**	4	**94**	**743**
05:15 PM	36	3	31	70	13	**175**	40	**228**	**137**	173	**21**	331	22	40	3	65	694
05:30 PM	27	**6**	40	73	7	171	**43**	221	135	**208**	13	**356**	20	38	**5**	63	713
Total Volume	143	19	171	333	38	675	150	863	528	751	57	1336	88	205	13	306	2838
% App. Total	42.9	5.7	51.4		4.4	78.2	17.4		39.5	56.2	4.3		28.8	67	4.2		
PHF	.794	.792	.750	.778	.731	.964	.872	.946	.964	.903	.679	.938	.846	.801	.650	.814	.955

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City of Costa Mesa
N/S: Susan Street
E/W: South Coast Drive
Weather: Clear

File Name : 15_CSM_Susan_South Coast PM
Site Code : 00319172
Start Date : 3/14/2019
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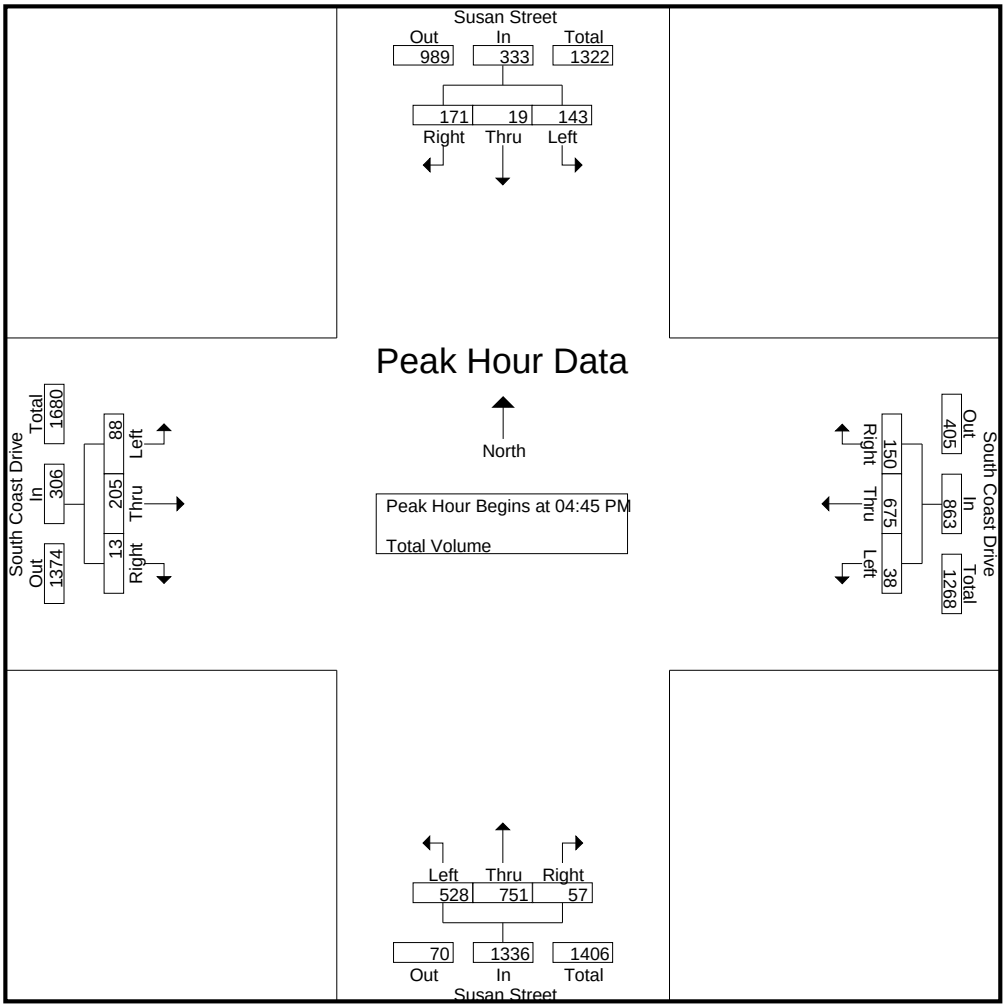

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:00 PM				04:15 PM			
+0 mins.	35	5	43	83	**13**	161	31	205	**162**	174	21	**357**	25	54	1	80
+15 mins.	**45**	5	**57**	**107**	5	168	36	209	135	178	**25**	338	14	53	0	67
+30 mins.	36	3	31	70	13	**175**	40	**228**	147	**192**	10	349	20	63	1	84
+45 mins.	27	**6**	40	73	7	171	**43**	221	122	187	7	316	**26**	**64**	**4**	**94**
Total Volume	143	19	171	333	38	675	150	863	566	731	63	1360	85	234	6	325
% App. Total	42.9	5.7	51.4		4.4	78.2	17.4		41.6	53.8	4.6		26.2	72	1.8	
PHF	.794	.792	.750	.778	.731	.964	.872	.946	.873	.952	.630	.952	.817	.914	.375	.864

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City of Costa Mesa
N/S: Fairview Street
E/W: MacArthur Boulevard
Weather: Clear

File Name : 05_CSM_Fairview_MacArthur AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Fairview Street Southbound				MacArthur Boulevard Westbound				Fairview Street Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	58	335	33	426	37	86	18	141	15	88	20	123	14	181	21	216	906
07:15 AM	107	382	27	516	30	112	27	169	27	157	8	192	19	246	38	303	1180
07:30 AM	97	402	34	533	56	98	47	201	33	197	18	248	27	289	34	350	1332
07:45 AM	120	368	47	535	58	140	45	243	39	190	11	240	37	274	31	342	1360
Total	382	1487	141	2010	181	436	137	754	114	632	57	803	97	990	124	1211	4778
08:00 AM	78	344	46	468	40	109	25	174	32	191	15	238	38	269	44	351	1231
08:15 AM	71	376	56	503	40	108	22	170	27	120	16	163	43	302	45	390	1226
08:30 AM	75	328	32	435	33	98	26	157	22	152	16	190	33	313	32	378	1160
08:45 AM	82	333	51	466	40	99	17	156	33	145	15	193	38	235	34	307	1122
Total	306	1381	185	1872	153	414	90	657	114	608	62	784	152	1119	155	1426	4739
Grand Total	688	2868	326	3882	334	850	227	1411	228	1240	119	1587	249	2109	279	2637	9517
Apprch %	17.7	73.9	8.4		23.7	60.2	16.1		14.4	78.1	7.5		9.4	80	10.6		
Total %	7.2	30.1	3.4	40.8	3.5	8.9	2.4	14.8	2.4	13	1.3	16.7	2.6	22.2	2.9	27.7	

	Fairview Street Southbound				MacArthur Boulevard Westbound				Fairview Street Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	97	**402**	34	533	56	98	**47**	201	33	**197**	**18**	**248**	27	289	34	350	1332
07:45 AM	**120**	368	47	**535**	**58**	**140**	45	**243**	**39**	190	11	240	37	274	31	342	**1360**
08:00 AM	78	344	46	468	40	109	25	174	32	191	15	238	38	269	44	351	1231
08:15 AM	71	376	**56**	503	40	108	22	170	27	120	16	163	**43**	**302**	**45**	**390**	1226
Total Volume	366	1490	183	2039	194	455	139	788	131	698	60	889	145	1134	154	1433	5149
% App. Total	17.9	73.1	9		24.6	57.7	17.6		14.7	78.5	6.7		10.1	79.1	10.7		
PHF	.763	.927	.817	.953	.836	.813	.739	.811	.840	.886	.833	.896	.843	.939	.856	.919	.947

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City of Costa Mesa
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E/W: MacArthur Boulevard
Weather: Clear

File Name : 05_CSM_Fairview_MacArthur AM
Site Code : 00319172
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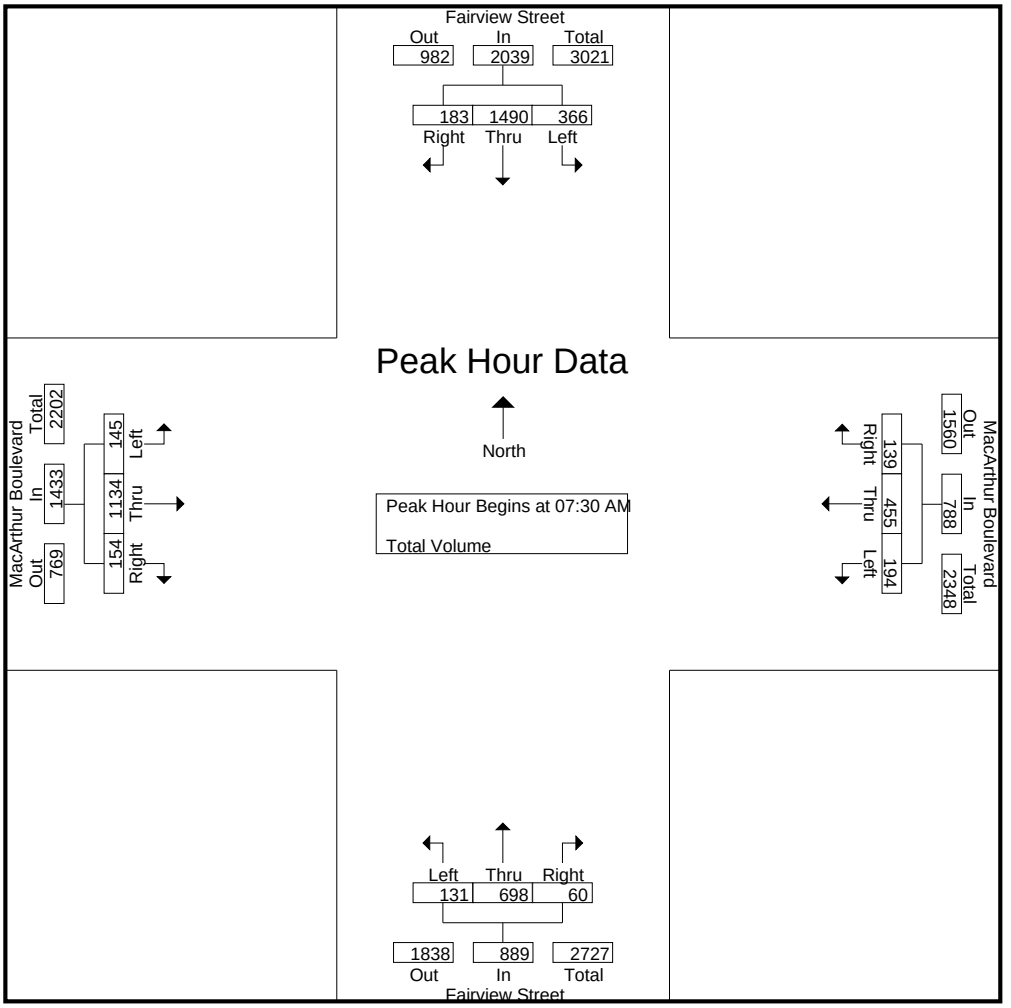

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:15 AM				07:45 AM			
+0 mins.	107	382	27	516	56	98	**47**	201	27	157	8	192	37	274	31	342
+15 mins.	97	**402**	34	533	**58**	**140**	45	**243**	33	**197**	**18**	**248**	38	269	44	351
+30 mins.	**120**	368	**47**	**535**	40	109	25	174	**39**	190	11	240	**43**	302	**45**	**390**
+45 mins.	78	344	46	468	40	108	22	170	32	191	15	238	33	**313**	32	378
Total Volume	402	1496	154	2052	194	455	139	788	131	735	52	918	151	1158	152	1461
% App. Total	19.6	72.9	7.5		24.6	57.7	17.6		14.3	80.1	5.7		10.3	79.3	10.4	
PHF	.838	.930	.819	.959	.836	.813	.739	.811	.840	.933	.722	.925	.878	.925	.844	.937

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City of Costa Mesa
N/S: Fairview Street
E/W: MacArthur Boulevard
Weather: Clear

File Name : 05_CSM_Fairview_MacArthur PM
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Groups Printed- Total Volume

	Fairview Street Southbound				MacArthur Boulevard Westbound				Fairview Street Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	40	183	37	260	31	317	78	426	47	415	29	491	76	176	46	298	1475
04:15 PM	30	180	29	239	42	331	84	457	42	417	13	472	81	155	39	275	1443
04:30 PM	41	202	25	268	49	311	85	445	62	371	19	452	65	174	51	290	1455
04:45 PM	48	183	26	257	40	339	66	445	55	385	28	468	77	171	48	296	1466
Total	159	748	117	1024	162	1298	313	1773	206	1588	89	1883	299	676	184	1159	5839
05:00 PM	55	200	32	287	50	377	91	518	54	398	28	480	79	224	43	346	1631
05:15 PM	49	203	23	275	49	338	87	474	58	413	22	493	82	203	42	327	1569
05:30 PM	39	190	31	260	46	345	86	477	59	426	24	509	86	201	43	330	1576
05:45 PM	48	178	36	262	48	358	83	489	62	374	30	466	67	184	35	286	1503
Total	191	771	122	1084	193	1418	347	1958	233	1611	104	1948	314	812	163	1289	6279
Grand Total	350	1519	239	2108	355	2716	660	3731	439	3199	193	3831	613	1488	347	2448	12118
Apprch %	16.6	72.1	11.3		9.5	72.8	17.7		11.5	83.5	5		25	60.8	14.2		
Total %	2.9	12.5	2	17.4	2.9	22.4	5.4	30.8	3.6	26.4	1.6	31.6	5.1	12.3	2.9	20.2	

	Fairview Street Southbound				MacArthur Boulevard Westbound				Fairview Street Northbound				MacArthur Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**55**	200	32	**287**	**50**	**377**	**91**	**518**	54	398	28	480	79	**224**	**43**	**346**	**1631**
05:15 PM	49	**203**	23	275	49	338	87	474	58	413	22	493	82	203	42	327	1569
05:30 PM	39	190	31	260	46	345	86	477	59	**426**	24	**509**	**86**	201	43	330	1576
05:45 PM	48	178	**36**	262	48	358	83	489	**62**	374	**30**	466	67	184	35	286	1503
Total Volume	191	771	122	1084	193	1418	347	1958	233	1611	104	1948	314	812	163	1289	6279
% App. Total	17.6	71.1	11.3		9.9	72.4	17.7		12	82.7	5.3		24.4	63	12.6		
PHF	.868	.950	.847	.944	.965	.940	.953	.945	.940	.945	.867	.957	.913	.906	.948	.931	.962

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City of Costa Mesa
N/S: Fairview Street
E/W: MacArthur Boulevard
Weather: Clear

File Name : 05_CSM_Fairview_MacArthur PM
Site Code : 00319172
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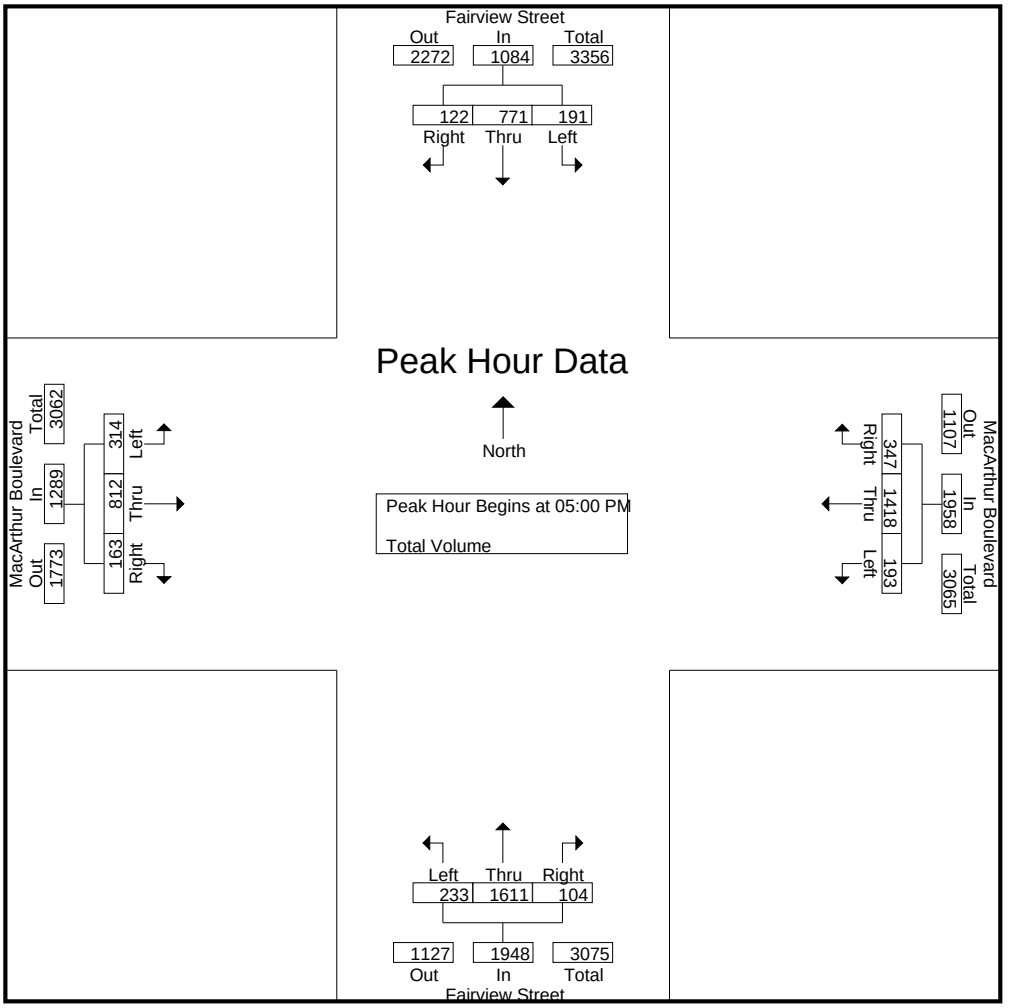

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:45 PM				04:45 PM			
+0 mins.	41	202	25	268	**50**	**377**	**91**	**518**	55	385	**28**	468	77	171	**48**	296
+15 mins.	48	183	26	257	49	338	87	474	54	398	28	480	79	**224**	43	**346**
+30 mins.	**55**	200	**32**	**287**	46	345	86	477	58	413	22	493	82	203	42	327
+45 mins.	49	**203**	23	275	48	358	83	489	**59**	**426**	24	**509**	**86**	201	43	330
Total Volume	193	788	106	1087	193	1418	347	1958	226	1622	102	1950	324	799	176	1299
% App. Total	17.8	72.5	9.8		9.9	72.4	17.7		11.6	83.2	5.2		24.9	61.5	13.5	
PHF	.877	.970	.828	.947	.965	.940	.953	.945	.958	.952	.911	.958	.942	.892	.917	.939

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City of Costa Mesa
N/S: Fairview Road
E/W: Sunflower Avenue
Weather: Clear

File Name : 20_CSM_Fairview_Sunflower AM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Fairview Road Southbound				Sunflower Avenue Westbound				Fairview Road Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	22	347	18	387	58	29	13	100	16	113	28	157	14	32	7	53	697
07:15 AM	36	405	21	462	49	49	16	114	29	198	19	246	1	52	10	63	885
07:30 AM	40	400	29	469	65	79	29	173	39	224	19	282	8	59	9	76	1000
07:45 AM	69	370	40	479	65	112	43	220	58	206	36	300	12	81	12	105	1104
Total	167	1522	108	1797	237	269	101	607	142	741	102	985	35	224	38	297	3686
08:00 AM	69	355	41	465	52	66	37	155	23	184	40	247	9	74	18	101	968
08:15 AM	49	371	43	463	59	53	14	126	23	133	27	183	5	61	16	82	854
08:30 AM	41	338	29	408	43	43	9	95	17	162	21	200	13	54	6	73	776
08:45 AM	30	338	39	407	51	48	11	110	28	174	31	233	7	44	12	63	813
Total	189	1402	152	1743	205	210	71	486	91	653	119	863	34	233	52	319	3411
Grand Total	356	2924	260	3540	442	479	172	1093	233	1394	221	1848	69	457	90	616	7097
Apprch %	10.1	82.6	7.3		40.4	43.8	15.7		12.6	75.4	12		11.2	74.2	14.6		
Total %	5	41.2	3.7	49.9	6.2	6.7	2.4	15.4	3.3	19.6	3.1	26	1	6.4	1.3	8.7	

	Fairview Road Southbound				Sunflower Avenue Westbound				Fairview Road Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	36	**405**	21	462	49	49	16	114	29	198	19	246	1	52	10	63	885
07:30 AM	40	400	29	469	**65**	79	29	173	39	**224**	19	282	8	59	9	76	1000
07:45 AM	**69**	370	40	**479**	65	**112**	**43**	**220**	**58**	206	36	**300**	**12**	**81**	12	**105**	**1104**
08:00 AM	69	355	**41**	465	52	66	37	155	23	184	**40**	247	9	74	**18**	101	968
Total Volume	214	1530	131	1875	231	306	125	662	149	812	114	1075	30	266	49	345	3957
% App. Total	11.4	81.6	7		34.9	46.2	18.9		13.9	75.5	10.6		8.7	77.1	14.2		
PHF	.775	.944	.799	.979	.888	.683	.727	.752	.642	.906	.713	.896	.625	.821	.681	.821	.896

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E/W: Sunflower Avenue
Weather: Clear

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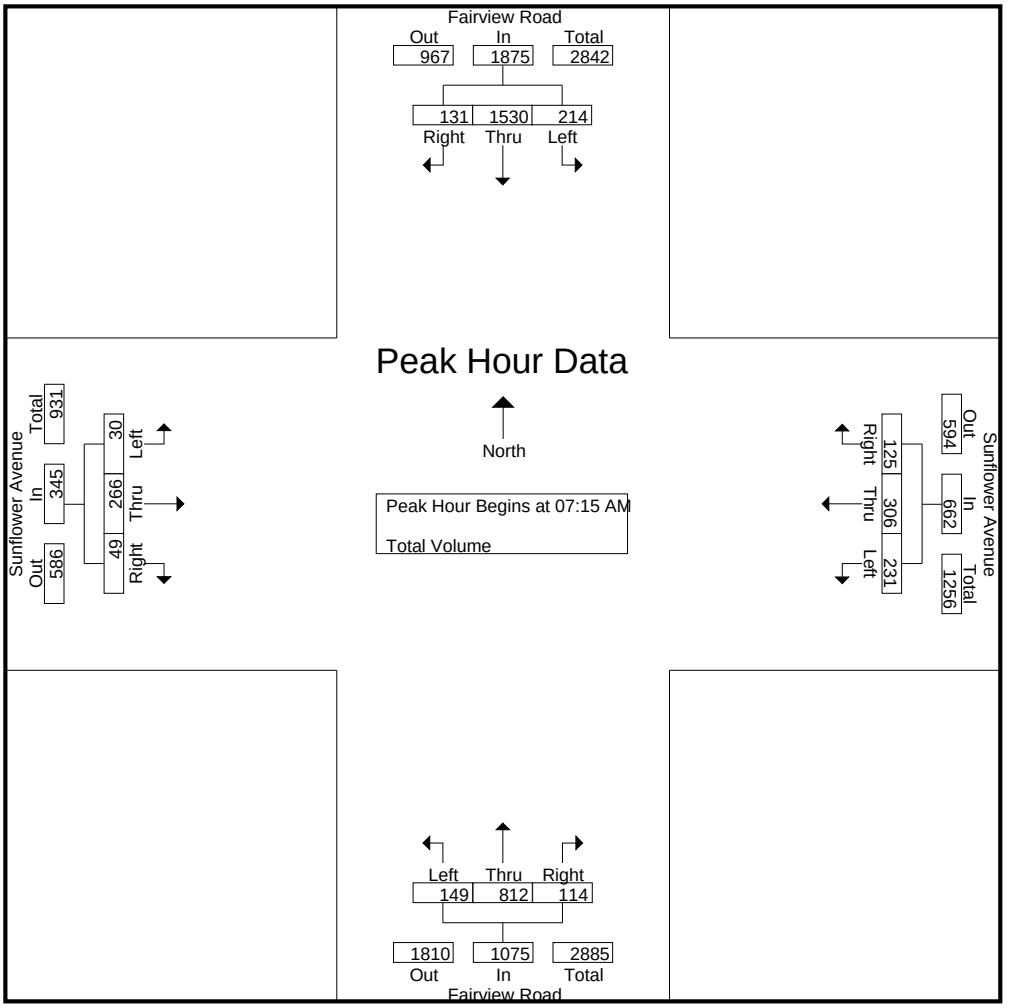

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:15 AM				07:30 AM			
+0 mins.	40	**400**	29	469	**65**	79	29	173	29	198	19	246	8	59	9	76
+15 mins.	**69**	370	40	**479**	65	**112**	**43**	**220**	39	**224**	19	282	**12**	**81**	12	**105**
+30 mins.	69	355	41	465	52	66	37	155	**58**	206	36	**300**	9	74	**18**	101
+45 mins.	49	371	**43**	463	59	53	14	126	23	184	**40**	247	5	61	16	82
Total Volume	227	1496	153	1876	241	310	123	674	149	812	114	1075	34	275	55	364
% App. Total	12.1	79.7	8.2		35.8	46	18.2		13.9	75.5	10.6		9.3	75.5	15.1	
PHF	.822	.935	.890	.979	.927	.692	.715	.766	.642	.906	.713	.896	.708	.849	.764	.867

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City of Costa Mesa
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E/W: Sunflower Avenue
Weather: Clear

File Name : 20_CSM_Fairview_Sunflower PM
Site Code : 00319172
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Groups Printed- Total Volume

	Fairview Road Southbound				Sunflower Avenue Westbound				Fairview Road Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	23	219	15	257	37	135	40	212	23	410	49	482	42	73	21	136	1087
04:15 PM	29	197	23	249	48	118	37	203	37	410	61	508	45	72	17	134	1094
04:30 PM	24	240	21	285	43	138	24	205	36	403	46	485	63	90	21	174	1149
04:45 PM	20	194	24	238	50	162	24	236	59	393	58	510	56	97	28	181	1165
Total	96	850	83	1029	178	553	125	856	155	1616	214	1985	206	332	87	625	4495
05:00 PM	20	237	17	274	38	169	54	261	54	420	71	545	57	124	23	204	1284
05:15 PM	21	232	15	268	51	166	42	259	52	385	72	509	46	126	28	200	1236
05:30 PM	30	220	26	276	43	136	39	218	50	402	72	524	43	96	18	157	1175
05:45 PM	31	206	19	256	57	143	48	248	41	410	80	531	43	79	11	133	1168
Total	102	895	77	1074	189	614	183	986	197	1617	295	2109	189	425	80	694	4863
Grand Total	198	1745	160	2103	367	1167	308	1842	352	3233	509	4094	395	757	167	1319	9358
Apprch %	9.4	83	7.6		19.9	63.4	16.7		8.6	79	12.4		29.9	57.4	12.7		
Total %	2.1	18.6	1.7	22.5	3.9	12.5	3.3	19.7	3.8	34.5	5.4	43.7	4.2	8.1	1.8	14.1	

	Fairview Road Southbound				Sunflower Avenue Westbound				Fairview Road Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	20	**237**	17	274	38	**169**	**54**	**261**	**54**	**420**	71	**545**	**57**	124	23	**204**	**1284**
05:15 PM	21	232	15	268	51	166	42	259	52	385	72	509	46	**126**	**28**	200	1236
05:30 PM	30	220	**26**	**276**	43	136	39	218	50	402	72	524	43	96	18	157	1175
05:45 PM	**31**	206	19	256	**57**	143	48	248	41	410	**80**	531	43	79	11	133	1168
Total Volume	102	895	77	1074	189	614	183	986	197	1617	295	2109	189	425	80	694	4863
% App. Total	9.5	83.3	7.2		19.2	62.3	18.6		9.3	76.7	14		27.2	61.2	11.5		
PHF	.823	.944	.740	.973	.829	.908	.847	.944	.912	.963	.922	.967	.829	.843	.714	.850	.947

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City of Costa Mesa
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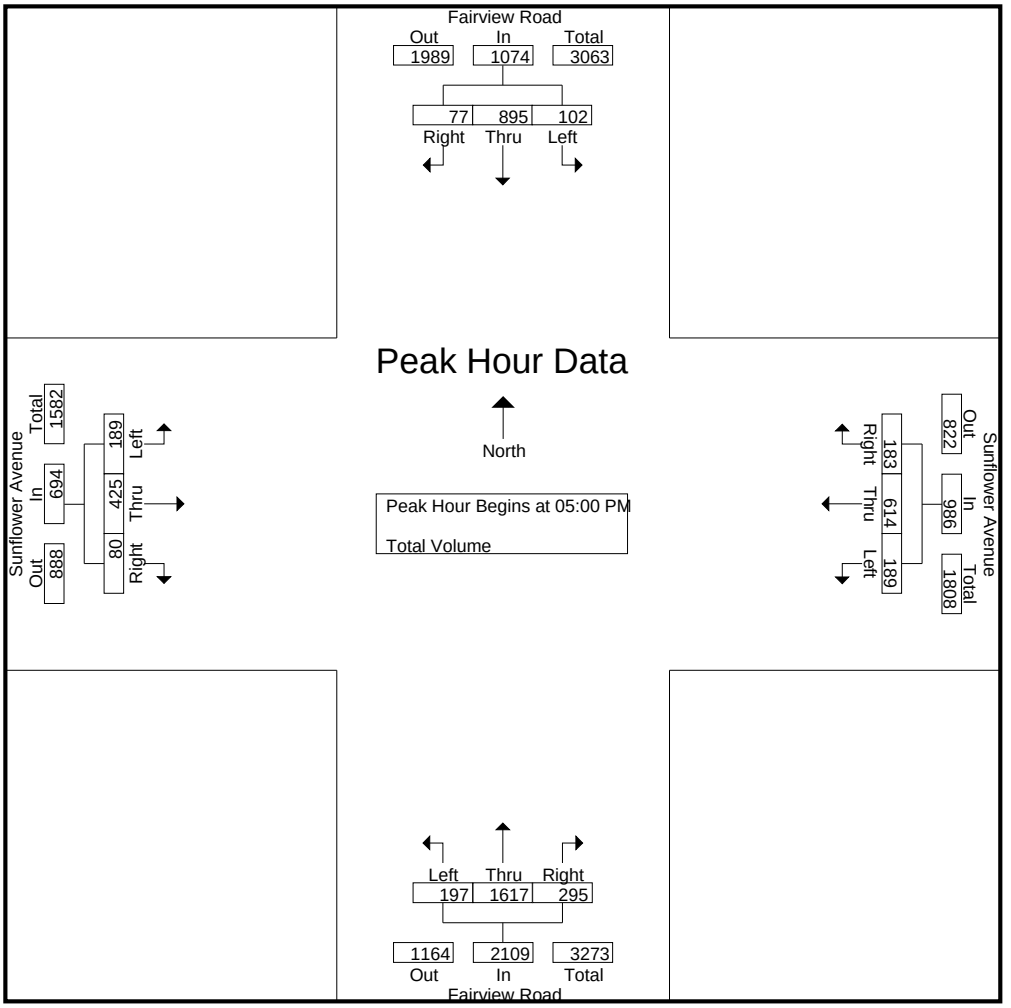

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	20	**237**	17	274	38	**169**	**54**	**261**	**54**	**420**	71	**545**	**63**	90	21	174
+15 mins.	21	232	15	268	51	166	42	259	52	385	72	509	56	97	**28**	181
+30 mins.	30	220	**26**	**276**	43	136	39	218	50	402	72	524	57	124	23	**204**
+45 mins.	**31**	206	19	256	**57**	143	48	248	41	410	**80**	531	46	**126**	28	200
Total Volume	102	895	77	1074	189	614	183	986	197	1617	295	2109	222	437	100	759
% App. Total	9.5	83.3	7.2		19.2	62.3	18.6		9.3	76.7	14		29.2	57.6	13.2	
PHF	.823	.944	.740	.973	.829	.908	.847	.944	.912	.963	.922	.967	.881	.867	.893	.930

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City of Costa Mesa
N/S: Fairview Road
E/W: South Coast Drive
Weather: Clear

File Name : 21_CSM_Fairview_South Coast AM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Fairview Road Southbound				South Coast Drive Westbound				Fairview Road Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	9	363	4	376	48	24	13	85	34	129	20	183	3	10	17	30	674
07:15 AM	6	434	5	445	53	27	27	107	26	219	27	272	4	22	18	44	868
07:30 AM	7	445	10	462	86	34	39	159	49	246	30	325	4	21	29	54	1000
07:45 AM	6	436	17	459	79	35	32	146	71	264	45	380	3	26	25	54	1039
Total	28	1678	36	1742	266	120	111	497	180	858	122	1160	14	79	89	182	3581
08:00 AM	8	416	10	434	66	34	17	117	53	232	50	335	1	29	23	53	939
08:15 AM	9	423	15	447	42	31	10	83	63	169	35	267	6	21	21	48	845
08:30 AM	8	377	23	408	62	25	12	99	69	192	28	289	6	26	21	53	849
08:45 AM	14	374	20	408	56	33	18	107	86	217	43	346	6	24	23	53	914
Total	39	1590	68	1697	226	123	57	406	271	810	156	1237	19	100	88	207	3547
Grand Total	67	3268	104	3439	492	243	168	903	451	1668	278	2397	33	179	177	389	7128
Apprch %	1.9	95	3		54.5	26.9	18.6		18.8	69.6	11.6		8.5	46	45.5		
Total %	0.9	45.8	1.5	48.2	6.9	3.4	2.4	12.7	6.3	23.4	3.9	33.6	0.5	2.5	2.5	5.5	

	Fairview Road Southbound				South Coast Drive Westbound				Fairview Road Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	6	434	5	445	53	27	27	107	26	219	27	272	**4**	22	18	44	868
07:30 AM	7	**445**	10	**462**	**86**	34	**39**	**159**	49	246	30	325	4	21	**29**	**54**	1000
07:45 AM	6	436	**17**	459	79	**35**	32	146	**71**	**264**	45	**380**	3	26	25	54	**1039**
08:00 AM	**8**	416	10	434	66	34	17	117	53	232	**50**	335	1	**29**	23	53	939
Total Volume	27	1731	42	1800	284	130	115	529	199	961	152	1312	12	98	95	205	3846
% App. Total	1.5	96.2	2.3		53.7	24.6	21.7		15.2	73.2	11.6		5.9	47.8	46.3		
PHF	.844	.972	.618	.974	.826	.929	.737	.832	.701	.910	.760	.863	.750	.845	.819	.949	.925

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Weather: Clear

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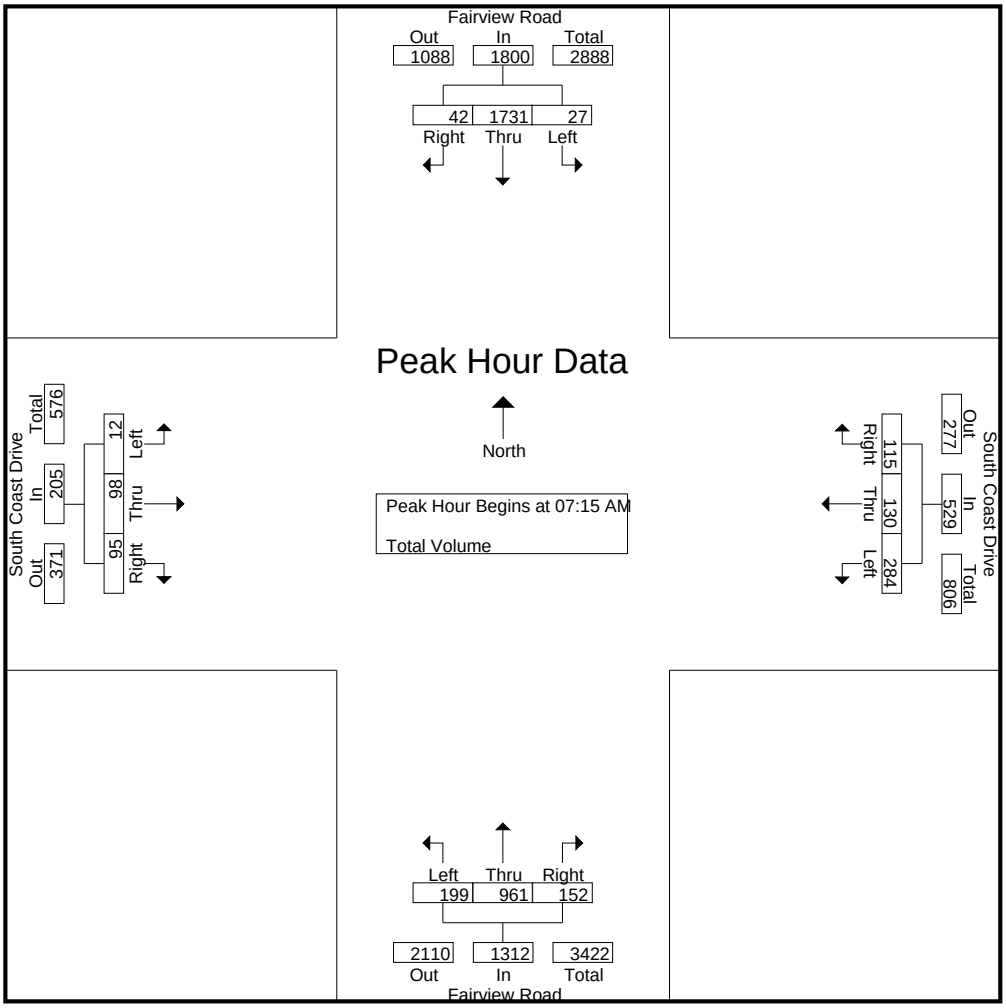

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	7	**445**	10	**462**	53	27	27	107	26	219	27	272	4	21	**29**	**54**
+15 mins.	6	436	**17**	459	**86**	34	**39**	**159**	49	246	30	325	3	26	25	54
+30 mins.	8	416	10	434	79	**35**	32	146	**71**	**264**	45	**380**	1	**29**	23	53
+45 mins.	**9**	423	15	447	66	34	17	117	53	232	**50**	335	**6**	21	21	48
Total Volume	30	1720	52	1802	284	130	115	529	199	961	152	1312	14	97	98	209
% App. Total	1.7	95.4	2.9		53.7	24.6	21.7		15.2	73.2	11.6		6.7	46.4	46.9	
PHF	.833	.966	.765	.975	.826	.929	.737	.832	.701	.910	.760	.863	.583	.836	.845	.968

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City of Costa Mesa
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Weather: Clear

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Groups Printed- Total Volume

	Fairview Road Southbound				South Coast Drive Westbound				Fairview Road Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	251	11	266	56	113	101	270	56	357	61	474	19	36	65	120	1130
04:15 PM	22	249	7	278	70	133	105	308	41	384	67	492	14	42	56	112	1190
04:30 PM	13	259	10	282	78	100	106	284	34	355	83	472	15	47	91	153	1191
04:45 PM	15	258	18	291	78	95	106	279	44	406	66	516	28	52	94	174	1260
Total	54	1017	46	1117	282	441	418	1141	175	1502	277	1954	76	177	306	559	4771
05:00 PM	12	264	14	290	82	102	105	289	21	417	54	492	24	50	131	205	1276
05:15 PM	19	272	17	308	65	128	112	305	37	404	56	497	27	32	112	171	1281
05:30 PM	20	255	15	290	68	113	101	282	50	392	62	504	19	34	88	141	1217
05:45 PM	10	257	10	277	57	99	114	270	41	404	57	502	27	39	94	160	1209
Total	61	1048	56	1165	272	442	432	1146	149	1617	229	1995	97	155	425	677	4983
Grand Total	115	2065	102	2282	554	883	850	2287	324	3119	506	3949	173	332	731	1236	9754
Apprch %	5	90.5	4.5		24.2	38.6	37.2		8.2	79	12.8		14	26.9	59.1		
Total %	1.2	21.2	1	23.4	5.7	9.1	8.7	23.4	3.3	32	5.2	40.5	1.8	3.4	7.5	12.7	

	Fairview Road Southbound				South Coast Drive Westbound				Fairview Road Northbound				South Coast Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	15	258	**18**	291	78	95	106	279	44	406	**66**	**516**	**28**	**52**	94	174	1260
05:00 PM	12	264	14	290	**82**	102	105	289	21	**417**	54	492	24	50	**131**	**205**	1276
05:15 PM	19	**272**	17	**308**	65	**128**	**112**	**305**	37	404	56	497	27	32	112	171	**1281**
05:30 PM	**20**	255	15	290	68	113	101	282	**50**	392	62	504	19	34	88	141	1217
Total Volume	66	1049	64	1179	293	438	424	1155	152	1619	238	2009	98	168	425	691	5034
% App. Total	5.6	89	5.4		25.4	37.9	36.7		7.6	80.6	11.8		14.2	24.3	61.5		
PHF	.825	.964	.889	.957	.893	.855	.946	.947	.760	.971	.902	.973	.875	.808	.811	.843	.982

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City of Costa Mesa
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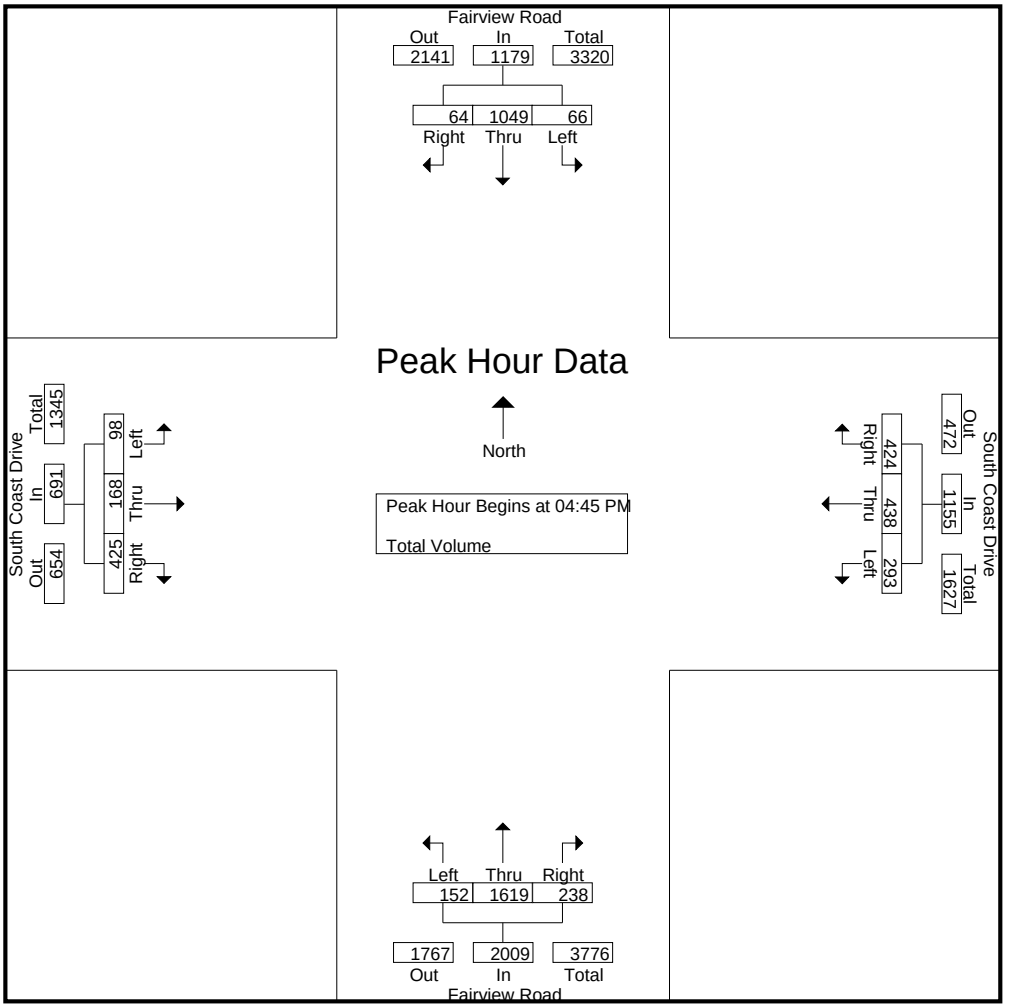

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:15 PM				04:45 PM				04:30 PM			
+0 mins.	15	258	**18**	291	70	**133**	105	**308**	44	406	**66**	**516**	15	47	91	153
+15 mins.	12	264	14	290	78	100	**106**	284	21	**417**	54	492	**28**	**52**	94	174
+30 mins.	19	**272**	17	**308**	78	95	106	279	37	404	56	497	24	50	**131**	**205**
+45 mins.	**20**	255	15	290	**82**	102	105	289	**50**	392	62	504	27	32	112	171
Total Volume	66	1049	64	1179	308	430	422	1160	152	1619	238	2009	94	181	428	703
% App. Total	5.6	89	5.4		26.6	37.1	36.4		7.6	80.6	11.8		13.4	25.7	60.9	
PHF	.825	.964	.889	.957	.939	.808	.995	.942	.760	.971	.902	.973	.839	.870	.817	.857

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City of Costa Mesa
N/S: Fairview Road
E/W: I-405 Northbound Ramps
Weather: Clear

File Name : 22_CSM_Fairview_405N AM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Fairview Road Southbound				I-405 Northbound Off Ramp Westbound				Fairview Road Northbound				I-405 Northbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	376	82	458	82	0	100	182	0	115	0	115	0	0	0	0	755
07:15 AM	0	449	82	531	93	0	152	245	0	134	0	134	0	0	0	0	910
07:30 AM	0	497	92	589	139	0	167	306	0	176	0	176	0	0	0	0	1071
07:45 AM	0	465	113	578	148	0	179	327	0	214	0	214	0	0	0	0	1119
Total	0	1787	369	2156	462	0	598	1060	0	639	0	639	0	0	0	0	3855
08:00 AM	0	433	103	536	161	0	142	303	0	227	0	227	0	0	0	0	1066
08:15 AM	0	422	75	497	145	0	127	272	0	173	0	173	0	0	0	0	942
08:30 AM	0	413	76	489	125	0	137	262	0	179	0	179	0	0	0	0	930
08:45 AM	0	422	64	486	135	1	172	308	2	200	0	202	0	0	0	0	996
Total	0	1690	318	2008	566	1	578	1145	2	779	0	781	0	0	0	0	3934
Grand Total	0	3477	687	4164	1028	1	1176	2205	2	1418	0	1420	0	0	0	0	7789
Apprch %	0	83.5	16.5		46.6	0	53.3		0.1	99.9	0		0	0	0		
Total %	0	44.6	8.8	53.5	13.2	0	15.1	28.3	0	18.2	0	18.2	0	0	0	0	

	Fairview Road Southbound				I-405 Northbound Off Ramp Westbound				Fairview Road Northbound				I-405 Northbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**497**	92	**589**	139	0	167	306	0	176	0	176	0	0	0	0	1071
07:45 AM	0	465	**113**	578	148	0	**179**	**327**	0	214	0	214	0	0	0	0	**1119**
08:00 AM	0	433	103	536	**161**	0	142	303	0	**227**	0	**227**	0	0	0	0	1066
08:15 AM	0	422	75	497	145	0	127	272	0	173	0	173	0	0	0	0	942
Total Volume	0	1817	383	2200	593	0	615	1208	0	790	0	790	0	0	0	0	4198
% App. Total	0	82.6	17.4		49.1	0	50.9		0	100	0		0	0	0		
PHF	.000	.914	.847	.934	.921	.000	.859	.924	.000	.870	.000	.870	.000	.000	.000	.000	.938

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File Name : 22_CSM_Fairview_405N AM
Site Code : 00319172
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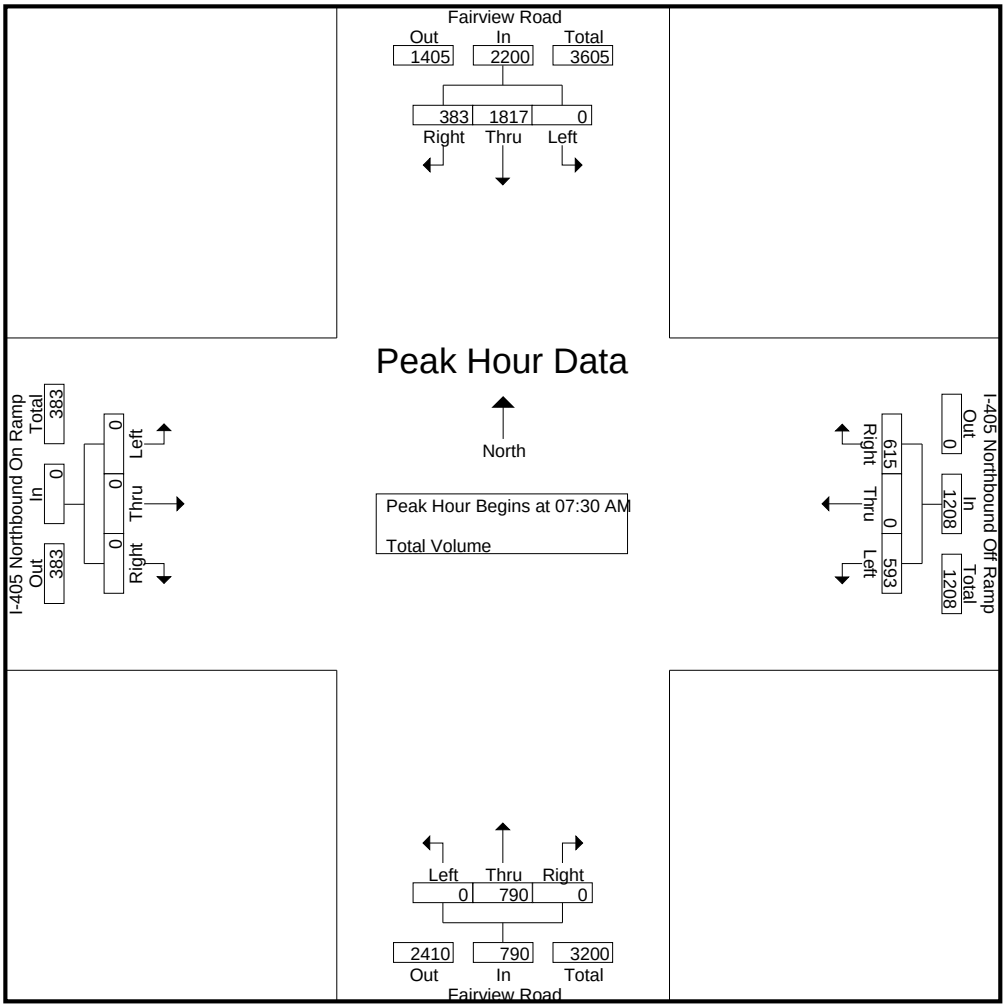

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:45 AM				07:00 AM			
+0 mins.	0	449	82	531	139	0	167	306	0	214	0	214	0	0	0	0
+15 mins.	0	**497**	92	**589**	148	0	**179**	**327**	0	**227**	0	**227**	0	0	0	0
+30 mins.	0	465	**113**	578	**161**	0	142	303	0	173	0	173	0	0	0	0
+45 mins.	0	433	103	536	145	0	127	272	0	179	0	179	0	0	0	0
Total Volume	0	1844	390	2234	593	0	615	1208	0	793	0	793	0	0	0	0
% App. Total	0	82.5	17.5		49.1	0	50.9		0	100	0		0	0	0	
PHF	.000	.928	.863	.948	.921	.000	.859	.924	.000	.873	.000	.873	.000	.000	.000	.000

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City of Costa Mesa
N/S: Fairview Road
E/W: I-405 Northbound Ramps
Weather: Clear

File Name : 22_CSM_Fairview_405N PM
Site Code : 00319172
Start Date : 3/14/2019
Page No : 1

Groups Printed- Total Volume

	Fairview Road Southbound				I-405 Northbound Off Ramp Westbound				Fairview Road Northbound				I-405 Northbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	346	51	397	170	3	195	368	3	301	0	304	0	0	0	0	1069
04:15 PM	0	361	50	411	151	6	206	363	1	303	0	304	0	0	0	0	1078
04:30 PM	0	367	68	435	167	6	198	371	0	293	0	293	0	0	0	0	1099
04:45 PM	0	390	64	454	165	5	198	368	0	328	0	328	0	0	0	0	1150
Total	0	1464	233	1697	653	20	797	1470	4	1225	0	1229	0	0	0	0	4396
05:00 PM	0	394	81	475	172	7	189	368	0	302	0	302	0	0	0	0	1145
05:15 PM	0	421	56	477	150	5	204	359	0	300	0	300	0	0	0	0	1136
05:30 PM	0	388	37	425	168	2	212	382	1	294	0	295	0	0	0	0	1102
05:45 PM	0	391	55	446	165	3	205	373	1	302	0	303	0	0	0	0	1122
Total	0	1594	229	1823	655	17	810	1482	2	1198	0	1200	0	0	0	0	4505
Grand Total	0	3058	462	3520	1308	37	1607	2952	6	2423	0	2429	0	0	0	0	8901
Apprch %	0	86.9	13.1		44.3	1.3	54.4		0.2	99.8	0		0	0	0		
Total %	0	34.4	5.2	39.5	14.7	0.4	18.1	33.2	0.1	27.2	0	27.3	0	0	0	0	

	Fairview Road Southbound				I-405 Northbound Off Ramp Westbound				Fairview Road Northbound				I-405 Northbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	390	64	454	165	5	198	368	0	**328**	0	**328**	0	0	0	0	**1150**
05:00 PM	0	394	**81**	475	**172**	**7**	189	368	0	302	0	302	0	0	0	0	1145
05:15 PM	0	**421**	56	**477**	150	5	204	359	0	300	0	300	0	0	0	0	1136
05:30 PM	0	388	37	425	168	2	**212**	**382**	**1**	294	0	295	0	0	0	0	1102
Total Volume	0	1593	238	1831	655	19	803	1477	1	1224	0	1225	0	0	0	0	4533
% App. Total	0	87	13		44.3	1.3	54.4		0.1	99.9	0		0	0	0		
PHF	.000	.946	.735	.960	.952	.679	.947	.967	.250	.933	.000	.934	.000	.000	.000	.000	.985

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File Name : 22_CSM_Fairview_405N PM
Site Code : 00319172
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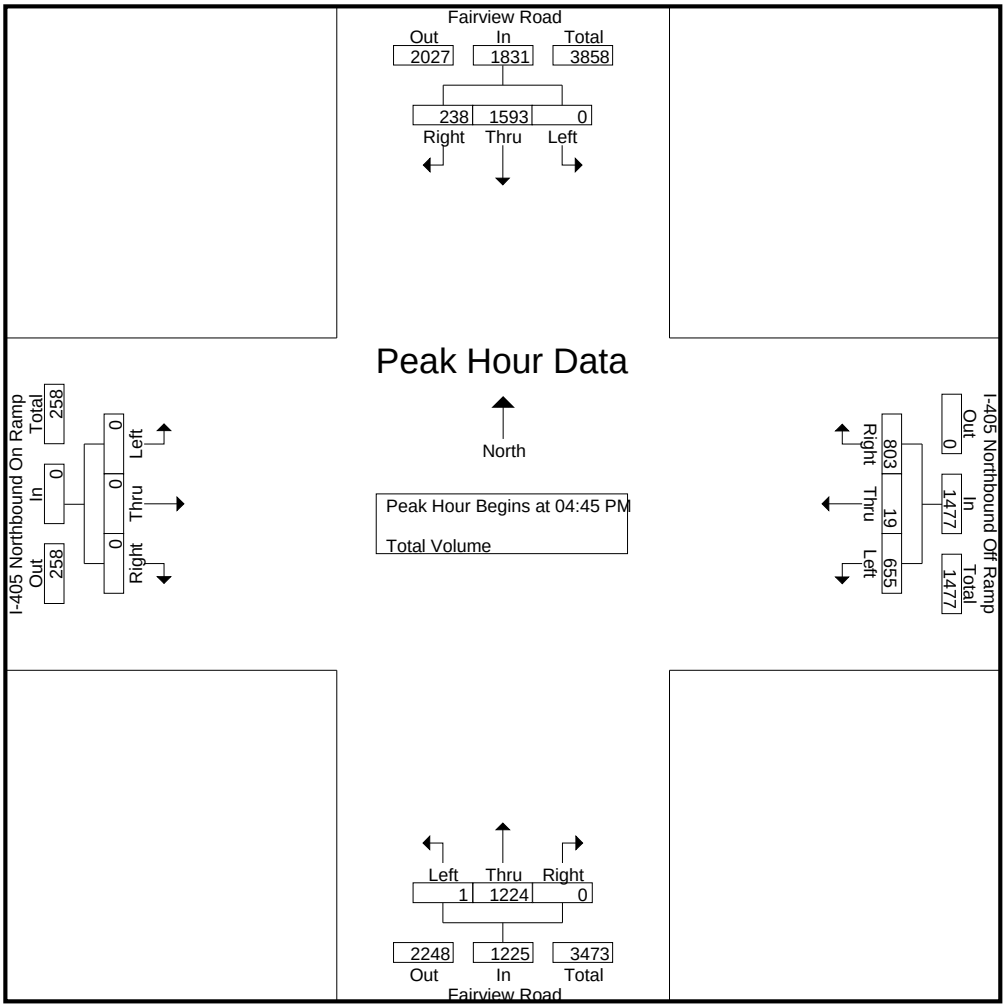

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	367	68	435	**172**	**7**	189	368	**3**	301	0	304	0	0	0	0
+15 mins.	0	390	64	454	150	5	204	359	1	303	0	304	0	0	0	0
+30 mins.	0	394	**81**	475	168	2	**212**	**382**	0	293	0	293	0	0	0	0
+45 mins.	0	**421**	56	**477**	165	3	205	373	0	**328**	0	**328**	0	0	0	0
Total Volume	0	1572	269	1841	655	17	810	1482	4	1225	0	1229	0	0	0	0
% App. Total	0	85.4	14.6		44.2	1.1	54.7		0.3	99.7	0		0	0	0	
PHF	.000	.933	.830	.965	.952	.607	.955	.970	.333	.934	.000	.937	.000	.000	.000	.000

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City of Costa Mesa
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Weather: Clear

File Name : 23_CSM_Fairview_405S AM
Site Code : 00319172
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Page No : 1

Groups Printed- Total Volume

	Fairview Road Southbound				I-405 Southbound On Ramp Westbound				Fairview Road Northbound				I-405 Southbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	275	183	0	458	0	0	0	0	0	84	182	266	29	0	45	74	798
07:15 AM	278	256	0	534	0	0	0	0	0	101	227	328	30	0	36	66	928
07:30 AM	280	356	0	636	0	0	0	0	0	146	269	415	26	2	46	74	1125
07:45 AM	251	366	0	617	0	0	0	0	0	176	238	414	36	0	71	107	1138
Total	1084	1161	0	2245	0	0	0	0	0	507	916	1423	121	2	198	321	3989
08:00 AM	248	340	0	588	0	0	0	0	0	192	229	421	33	0	77	110	1119
08:15 AM	236	323	0	559	0	0	0	0	0	147	213	360	26	2	50	78	997
08:30 AM	264	277	0	541	0	0	0	0	0	149	217	366	29	3	74	106	1013
08:45 AM	229	331	0	560	0	0	0	0	0	166	202	368	40	0	91	131	1059
Total	977	1271	0	2248	0	0	0	0	0	654	861	1515	128	5	292	425	4188
Grand Total	2061	2432	0	4493	0	0	0	0	0	1161	1777	2938	249	7	490	746	8177
Apprch %	45.9	54.1	0		0	0	0		0	39.5	60.5		33.4	0.9	65.7		
Total %	25.2	29.7	0	54.9	0	0	0	0	0	14.2	21.7	35.9	3	0.1	6	9.1	

	Fairview Road Southbound				I-405 Southbound On Ramp Westbound				Fairview Road Northbound				I-405 Southbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**280**	356	0	**636**	0	0	0	0	0	146	**269**	415	26	**2**	46	74	1125
07:45 AM	251	**366**	0	617	0	0	0	0	0	176	238	414	**36**	0	71	107	**1138**
08:00 AM	248	340	0	588	0	0	0	0	0	**192**	229	**421**	33	0	**77**	**110**	1119
08:15 AM	236	323	0	559	0	0	0	0	0	147	213	360	26	2	50	78	997
Total Volume	1015	1385	0	2400	0	0	0	0	0	661	949	1610	121	4	244	369	4379
% App. Total	42.3	57.7	0		0	0	0		0	41.1	58.9		32.8	1.1	66.1		
PHF	.906	.946	.000	.943	.000	.000	.000	.000	.000	.861	.882	.956	.840	.500	.792	.839	.962

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City of Costa Mesa
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E/W: I-405 Southbound Ramps
Weather: Clear

File Name : 23_CSM_Fairview_405S AM
Site Code : 00319172
Start Date : 3/14/2019
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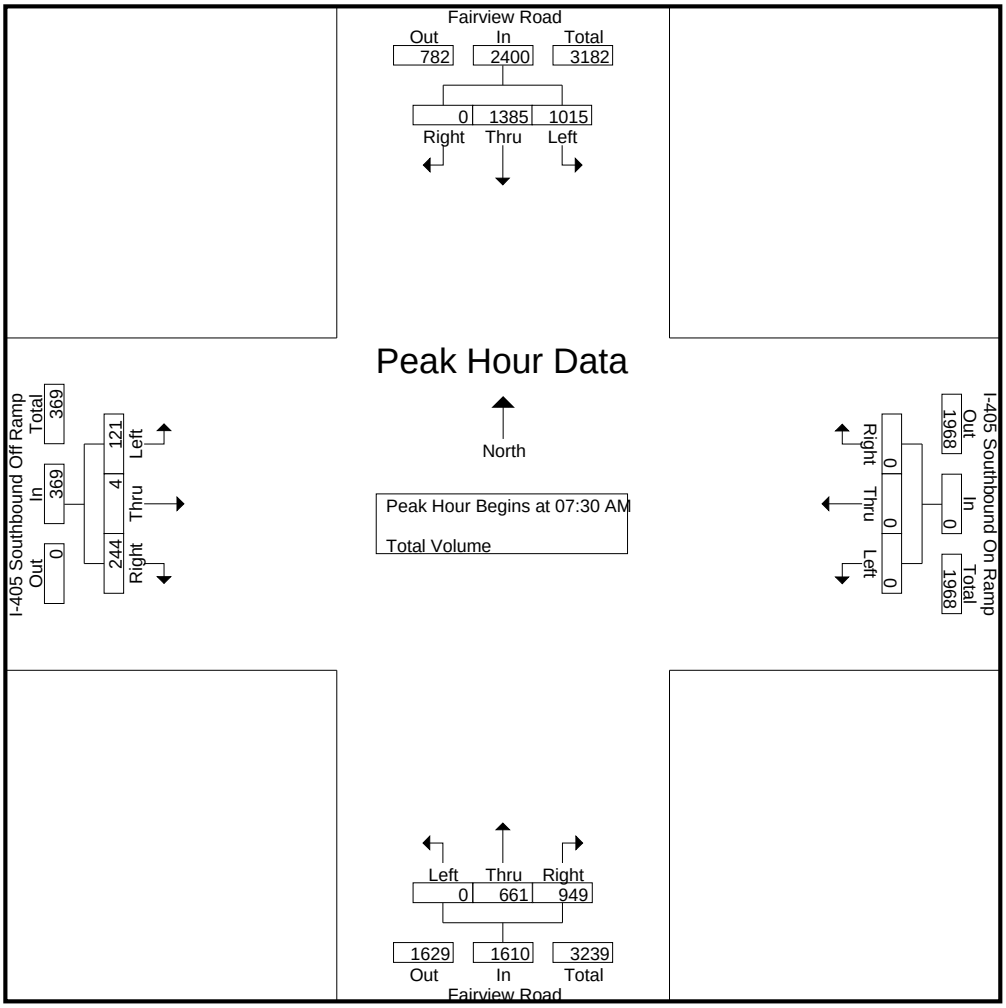

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:30 AM				08:00 AM			
+0 mins.	**280**	356	0	**636**	0	0	0	0	0	146	**269**	415	33	0	77	110
+15 mins.	251	**366**	0	617	0	0	0	0	0	176	238	414	26	2	50	78
+30 mins.	248	340	0	588	0	0	0	0	0	**192**	229	**421**	29	**3**	74	106
+45 mins.	236	323	0	559	0	0	0	0	0	147	213	360	**40**	0	**91**	**131**
Total Volume	1015	1385	0	2400	0	0	0	0	0	661	949	1610	128	5	292	425
% App. Total	42.3	57.7	0		0	0	0		0	41.1	58.9		30.1	1.2	68.7	
PHF	.906	.946	.000	.943	.000	.000	.000	.000	.000	.861	.882	.956	.800	.417	.802	.811

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City of Costa Mesa
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E/W: I-405 Southbound Ramps
Weather: Clear

File Name : 23_CSM_Fairview_405S PM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Fairview Road Southbound				I-405 Southbound On Ramp Westbound				Fairview Road Northbound				I-405 Southbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	178	346	0	524	0	0	0	0	0	226	161	387	66	1	87	154	1065
04:15 PM	176	336	0	512	0	0	0	0	0	222	143	365	88	1	90	179	1056
04:30 PM	182	361	0	543	0	0	0	0	0	186	134	320	102	1	71	174	1037
04:45 PM	184	359	0	543	0	0	0	0	0	228	98	326	108	0	81	189	1058
Total	720	1402	0	2122	0	0	0	0	0	862	536	1398	364	3	329	696	4216
05:00 PM	202	374	0	576	0	0	0	0	0	228	150	378	66	0	98	164	1118
05:15 PM	169	400	0	569	0	0	0	0	0	217	135	352	89	1	93	183	1104
05:30 PM	170	389	0	559	0	0	0	0	0	194	131	325	110	1	102	213	1097
05:45 PM	191	359	0	550	0	0	0	0	0	218	122	340	94	0	95	189	1079
Total	732	1522	0	2254	0	0	0	0	0	857	538	1395	359	2	388	749	4398
Grand Total	1452	2924	0	4376	0	0	0	0	0	1719	1074	2793	723	5	717	1445	8614
Apprch %	33.2	66.8	0		0	0	0		0	61.5	38.5		50	0.3	49.6		
Total %	16.9	33.9	0	50.8	0	0	0	0	0	20	12.5	32.4	8.4	0.1	8.3	16.8	

	Fairview Road Southbound				I-405 Southbound On Ramp Westbound				Fairview Road Northbound				I-405 Southbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**202**	374	0	**576**	0	0	0	0	0	**228**	**150**	**378**	66	0	98	164	**1118**
05:15 PM	169	**400**	0	569	0	0	0	0	0	217	135	352	89	**1**	93	183	1104
05:30 PM	170	389	0	559	0	0	0	0	0	194	131	325	**110**	1	**102**	**213**	1097
05:45 PM	191	359	0	550	0	0	0	0	0	218	122	340	94	0	95	189	1079
Total Volume	732	1522	0	2254	0	0	0	0	0	857	538	1395	359	2	388	749	4398
% App. Total	32.5	67.5	0		0	0	0		0	61.4	38.6		47.9	0.3	51.8		
PHF	.906	.951	.000	.978	.000	.000	.000	.000	.000	.940	.897	.923	.816	.500	.951	.879	.983

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City of Costa Mesa
N/S: Fairview Road
E/W: I-405 Southbound Ramps
Weather: Clear

File Name : 23_CSM_Fairview_405S PM
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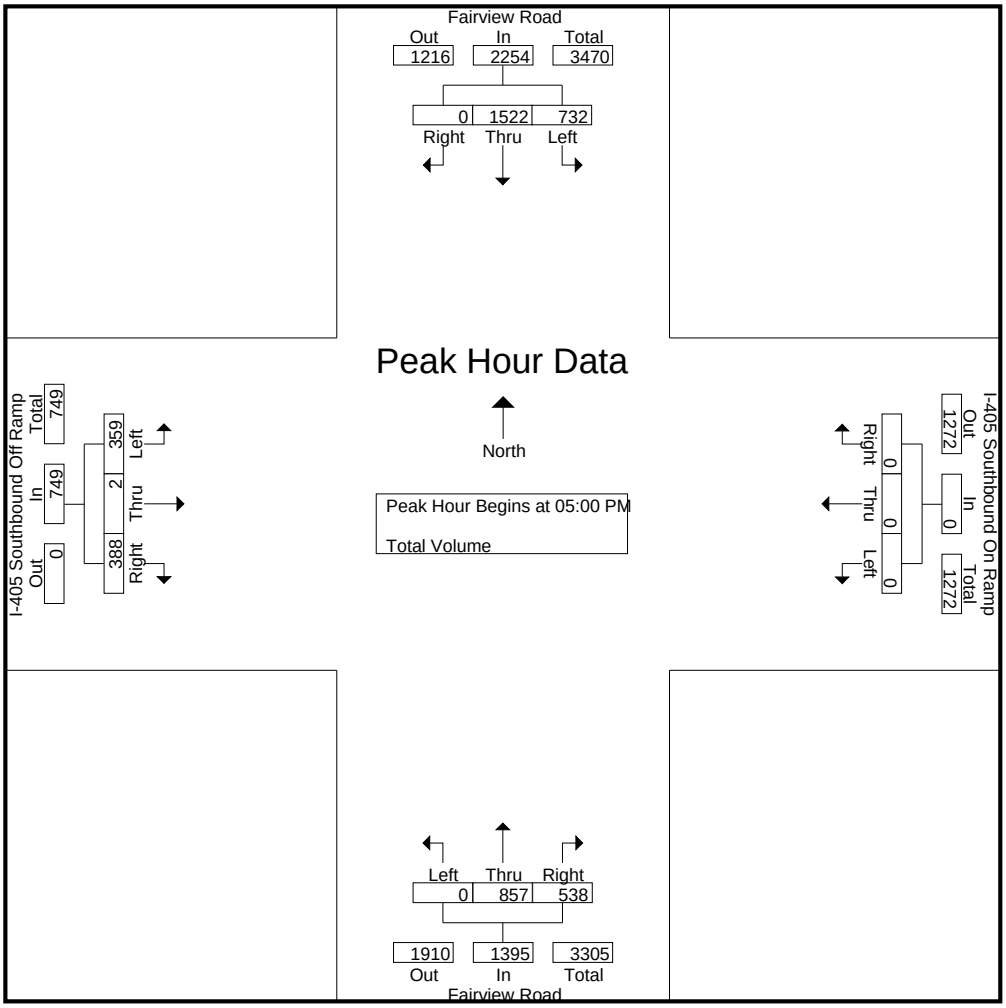

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:00 PM				04:45 PM			
+0 mins.	**202**	374	0	**576**	0	0	0	0	0	226	**161**	**387**	108	0	81	189
+15 mins.	169	**400**	0	569	0	0	0	0	0	222	143	365	66	0	98	164
+30 mins.	170	389	0	559	0	0	0	0	0	186	134	320	89	**1**	93	183
+45 mins.	191	359	0	550	0	0	0	0	0	**228**	98	326	**110**	1	**102**	**213**
Total Volume	732	1522	0	2254	0	0	0	0	0	862	536	1398	373	2	374	749
% App. Total	32.5	67.5	0		0	0	0		0	61.7	38.3		49.8	0.3	49.9	
PHF	.906	.951	.000	.978	.000	.000	.000	.000	.000	.945	.832	.903	.848	.500	.917	.879

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City of Costa Mesa
N/S: Fairview Road
E/W: Baker Street
Weather: Clear

File Name : 24_CSM_Fairview_Baker AM
Site Code : 00319172
Start Date : 3/14/2019
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Groups Printed- Total Volume

	Fairview Road Southbound				Baker Street Westbound				Fairview Road Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	34	132	44	210	33	48	28	109	12	167	83	262	37	70	17	124	705
07:15 AM	49	192	38	279	54	35	28	117	11	235	109	355	44	91	28	163	914
07:30 AM	36	310	33	379	90	70	18	178	26	306	136	468	68	132	47	247	1272
07:45 AM	43	355	46	444	81	75	23	179	41	338	180	559	52	127	48	227	1409
Total	162	989	161	1312	258	228	97	583	90	1046	508	1644	201	420	140	761	4300
08:00 AM	52	293	60	405	54	76	14	144	49	289	188	526	55	132	31	218	1293
08:15 AM	47	256	57	360	63	78	17	158	33	254	186	473	45	167	19	231	1222
08:30 AM	57	221	49	327	56	72	26	154	29	232	156	417	68	132	21	221	1119
08:45 AM	37	279	55	371	54	94	12	160	15	234	164	413	60	143	23	226	1170
Total	193	1049	221	1463	227	320	69	616	126	1009	694	1829	228	574	94	896	4804
Grand Total	355	2038	382	2775	485	548	166	1199	216	2055	1202	3473	429	994	234	1657	9104
Apprch %	12.8	73.4	13.8		40.5	45.7	13.8		6.2	59.2	34.6		25.9	60	14.1		
Total %	3.9	22.4	4.2	30.5	5.3	6	1.8	13.2	2.4	22.6	13.2	38.1	4.7	10.9	2.6	18.2	

	Fairview Road Southbound				Baker Street Westbound				Fairview Road Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	36	310	33	379	**90**	70	18	178	26	306	136	468	**68**	132	47	**247**	1272
07:45 AM	43	**355**	46	**444**	81	75	**23**	**179**	41	**338**	180	**559**	52	127	**48**	227	**1409**
08:00 AM	**52**	293	**60**	405	54	76	14	144	**49**	289	**188**	526	55	132	31	218	1293
08:15 AM	47	256	57	360	63	**78**	17	158	33	254	186	473	45	**167**	19	231	1222
Total Volume	178	1214	196	1588	288	299	72	659	149	1187	690	2026	220	558	145	923	5196
% App. Total	11.2	76.4	12.3		43.7	45.4	10.9		7.4	58.6	34.1		23.8	60.5	15.7		
PHF	.856	.855	.817	.894	.800	.958	.783	.920	.760	.878	.918	.906	.809	.835	.755	.934	.922

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City of Costa Mesa
N/S: Fairview Road
E/W: Baker Street
Weather: Clear

File Name : 24_CSM_Fairview_Baker AM
Site Code : 00319172
Start Date : 3/14/2019
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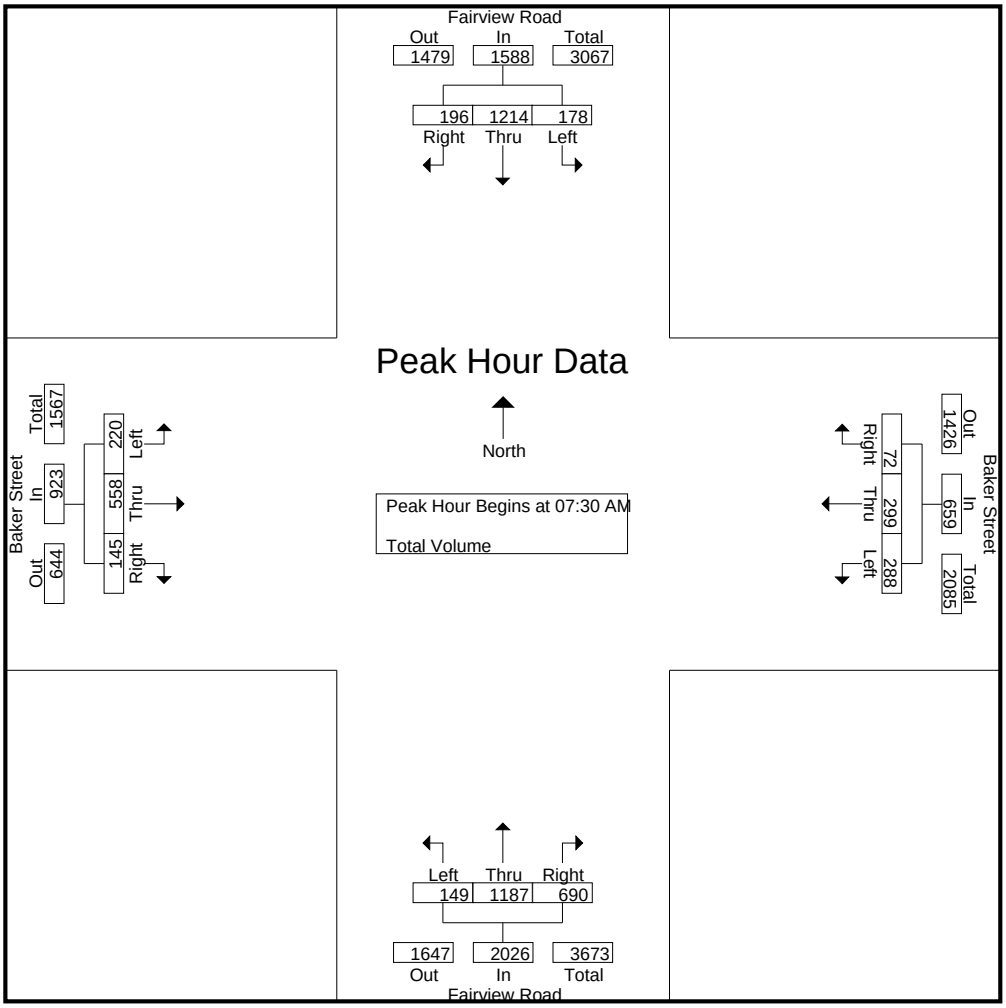

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	36	310	33	379	**90**	70	18	178	26	306	136	468	**68**	132	47	**247**
+15 mins.	43	**355**	46	**444**	81	75	**23**	**179**	41	**338**	180	**559**	52	127	**48**	227
+30 mins.	**52**	293	**60**	405	54	76	14	144	**49**	289	**188**	526	55	132	31	218
+45 mins.	47	256	57	360	63	**78**	17	158	33	254	186	473	45	**167**	19	231
Total Volume	178	1214	196	1588	288	299	72	659	149	1187	690	2026	220	558	145	923
% App. Total	11.2	76.4	12.3		43.7	45.4	10.9		7.4	58.6	34.1		23.8	60.5	15.7	
PHF	.856	.855	.817	.894	.800	.958	.783	.920	.760	.878	.918	.906	.809	.835	.755	.934

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City of Costa Mesa
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Weather: Clear

File Name : 24_CSM_Fairview_Baker PM
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Groups Printed- Total Volume

	Fairview Road Southbound				Baker Street Westbound				Fairview Road Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	60	227	74	361	132	240	43	415	59	261	87	407	57	125	50	232	1415
04:15 PM	51	268	69	388	156	259	53	468	51	260	88	399	61	114	50	225	1480
04:30 PM	46	257	84	387	171	318	60	549	42	270	102	414	53	80	38	171	1521
04:45 PM	57	265	89	411	166	313	46	525	74	206	94	374	61	94	32	187	1497
Total	214	1017	316	1547	625	1130	202	1957	226	997	371	1594	232	413	170	815	5913
05:00 PM	58	266	66	390	154	314	39	507	39	239	94	372	63	97	38	198	1467
05:15 PM	63	299	87	449	163	301	23	487	66	244	113	423	62	101	46	209	1568
05:30 PM	58	266	88	412	151	325	49	525	56	205	87	348	54	111	35	200	1485
05:45 PM	45	286	81	412	161	282	32	475	58	225	121	404	63	94	41	198	1489
Total	224	1117	322	1663	629	1222	143	1994	219	913	415	1547	242	403	160	805	6009
Grand Total	438	2134	638	3210	1254	2352	345	3951	445	1910	786	3141	474	816	330	1620	11922
Apprch %	13.6	66.5	19.9		31.7	59.5	8.7		14.2	60.8	25		29.3	50.4	20.4		
Total %	3.7	17.9	5.4	26.9	10.5	19.7	2.9	33.1	3.7	16	6.6	26.3	4	6.8	2.8	13.6	

	Fairview Road Southbound				Baker Street Westbound				Fairview Road Northbound				Baker Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	46	257	84	387	**171**	**318**	**60**	**549**	42	**270**	102	414	53	80	38	171	1521
04:45 PM	57	265	**89**	411	166	313	46	525	**74**	206	94	374	61	94	32	187	1497
05:00 PM	58	266	66	390	154	314	39	507	39	239	94	372	**63**	97	38	198	1467
05:15 PM	**63**	**299**	87	**449**	163	301	23	487	66	244	**113**	**423**	62	**101**	**46**	**209**	**1568**
Total Volume	224	1087	326	1637	654	1246	168	2068	221	959	403	1583	239	372	154	765	6053
% App. Total	13.7	66.4	19.9		31.6	60.3	8.1		14	60.6	25.5		31.2	48.6	20.1		
PHF	.889	.909	.916	.911	.956	.980	.700	.942	.747	.888	.892	.936	.948	.921	.837	.915	.965

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City of Costa Mesa
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E/W: Baker Street
Weather: Clear

File Name : 24_CSM_Fairview_Baker PM
Site Code : 00319172
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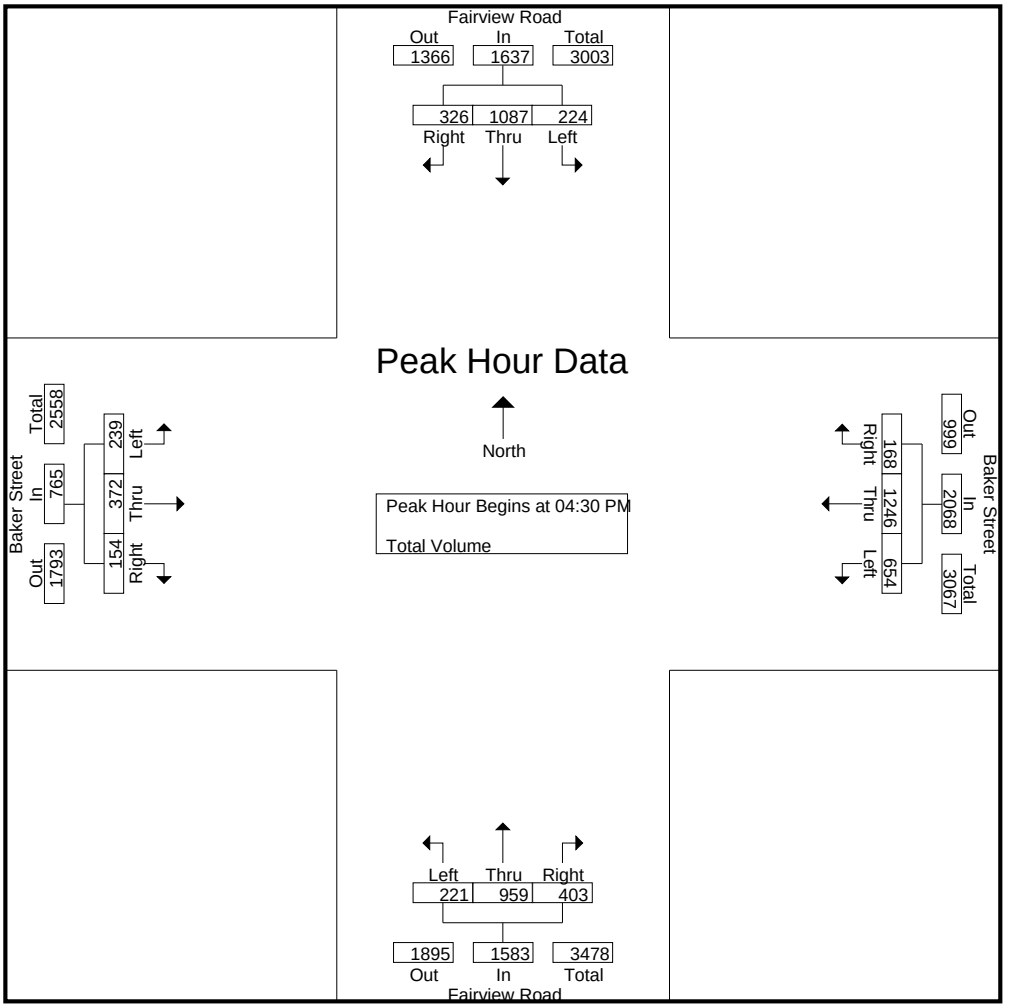

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	58	266	66	390	**171**	**318**	**60**	**549**	59	261	87	407	57	**125**	**50**	**232**
+15 mins.	**63**	**299**	87	**449**	166	313	46	525	51	260	88	399	**61**	114	50	225
+30 mins.	58	266	**88**	412	154	314	39	507	42	**270**	**102**	**414**	53	80	38	171
+45 mins.	45	286	81	412	163	301	23	487	**74**	206	94	374	61	94	32	187
Total Volume	224	1117	322	1663	654	1246	168	2068	226	997	371	1594	232	413	170	815
% App. Total	13.5	67.2	19.4		31.6	60.3	8.1		14.2	62.5	23.3		28.5	50.7	20.9	
PHF	.889	.934	.915	.926	.956	.980	.700	.942	.764	.923	.909	.963	.951	.826	.850	.878

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City of Costa Mesa
N/S: Driveway 1
E/W: Sunflower Avenue
Weather: Clear

File Name : 01_CSM_DW1_Sunflower AM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	13	16	0	0	0	3	7	10	26
07:15 AM	2	11	13	0	0	0	2	2	4	17
07:30 AM	4	24	28	0	1	1	7	5	12	41
07:45 AM	4	25	29	0	0	0	5	9	14	43
Total	13	73	86	0	1	1	17	23	40	127
08:00 AM	2	29	31	0	0	0	2	1	3	34
08:15 AM	0	16	16	0	0	0	4	2	6	22
08:30 AM	0	20	20	1	1	2	3	1	4	26
08:45 AM	2	17	19	1	0	1	4	0	4	24
Total	4	82	86	2	1	3	13	4	17	106
Grand Total	17	155	172	2	2	4	30	27	57	233
Apprch %	9.9	90.1		50	50		52.6	47.4		
Total %	7.3	66.5	73.8	0.9	0.9	1.7	12.9	11.6	24.5	
Passenger Vehicles	17	154	171	2	2	4	28	27	55	230
% Passenger Vehicles	100	99.4	99.4	100	100	100	93.3	100	96.5	98.7
Large 2 Axle Vehicles	0	1	1	0	0	0	0	0	0	1
% Large 2 Axle Vehicles	0	0.6	0.6	0	0	0	0	0	0	0.4
3 Axle Vehicles	0	0	0	0	0	0	1	0	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	3.3	0	1.8	0.4
4+ Axle Trucks	0	0	0	0	0	0	1	0	1	1
% 4+ Axle Trucks	0	0	0	0	0	0	3.3	0	1.8	0.4

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**4**	24	28	0	**1**	**1**	**7**	5	12	41
07:45 AM	4	25	29	0	0	0	5	**9**	**14**	**43**
08:00 AM	2	**29**	**31**	0	0	0	2	1	3	34
08:15 AM	0	16	16	0	0	0	4	2	6	22
Total Volume	10	94	104	0	1	1	18	17	35	140
% App. Total	9.6	90.4		0	100		51.4	48.6		
PHF	.625	.810	.839	.000	.250	.250	.643	.472	.625	.814

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City of Costa Mesa
N/S: Driveway 1
E/W: Sunflower Avenue
Weather: Clear

File Name : 01_CSM_DW1_Sunflower AM
Site Code : 99919000
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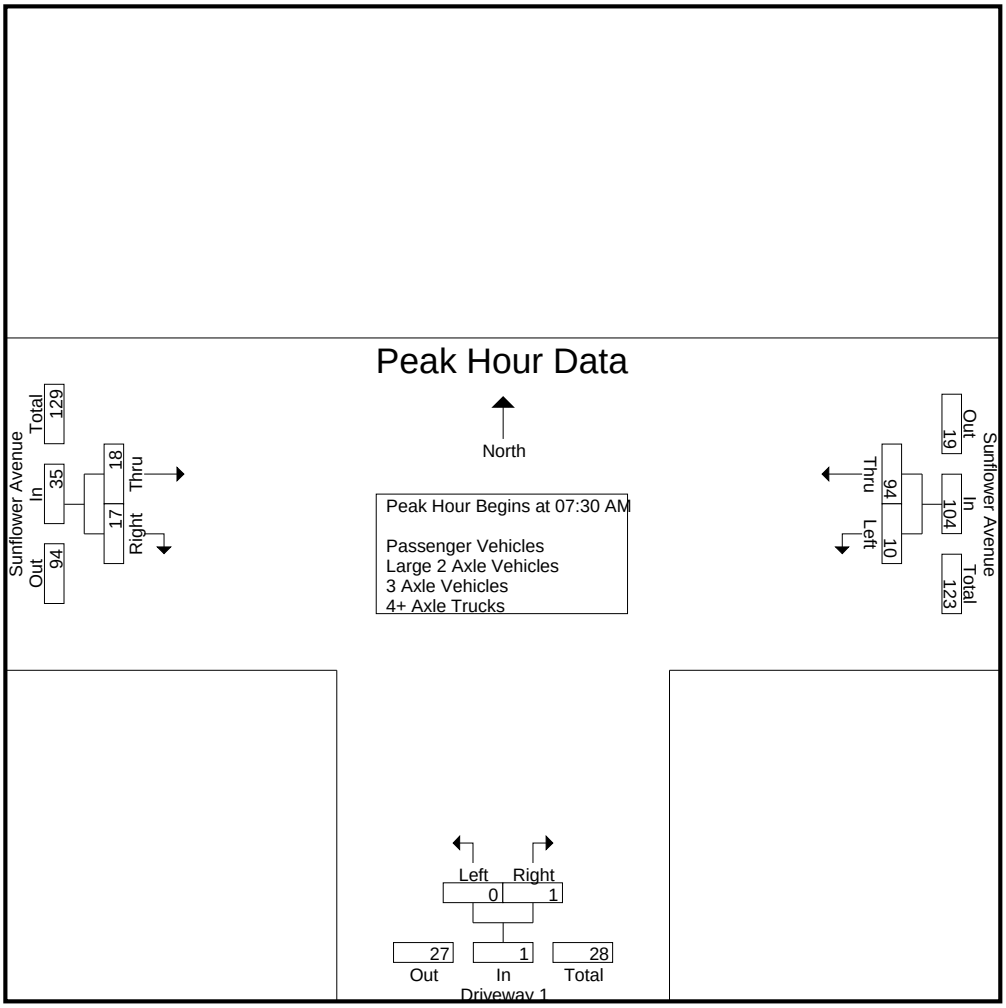

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:00 AM		
+0 mins.	**4**	24	28	0	0	0	3	7	10
+15 mins.	4	25	29	0	0	0	2	2	4
+30 mins.	2	**29**	**31**	**1**	**1**	**2**	**7**	5	12
+45 mins.	0	16	16	1	0	1	5	**9**	**14**
Total Volume	10	94	104	2	1	3	17	23	40
% App. Total	9.6	90.4		66.7	33.3		42.5	57.5	
PHF	.625	.810	.839	.500	.250	.375	.607	.639	.714

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City of Costa Mesa
N/S: Driveway 1
E/W: Sunflower Avenue
Weather: Clear

File Name : 01_CSM_DW1_Sunflower AM
Site Code : 99919000
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Groups Printed- Passenger Vehicles

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	13	16	0	0	0	3	7	10	26
07:15 AM	2	11	13	0	0	0	1	2	3	16
07:30 AM	4	24	28	0	1	1	7	5	12	41
07:45 AM	4	25	29	0	0	0	5	9	14	43
Total	13	73	86	0	1	1	16	23	39	126
08:00 AM	2	29	31	0	0	0	2	1	3	34
08:15 AM	0	16	16	0	0	0	4	2	6	22
08:30 AM	0	19	19	1	1	2	2	1	3	24
08:45 AM	2	17	19	1	0	1	4	0	4	24
Total	4	81	85	2	1	3	12	4	16	104
Grand Total	17	154	171	2	2	4	28	27	55	230
Apprch %	9.9	90.1		50	50		50.9	49.1		
Total %	7.4	67	74.3	0.9	0.9	1.7	12.2	11.7	23.9	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**4**	24	28	0	**1**	**1**	**7**	5	12	41
07:45 AM	4	25	29	0	0	0	5	**9**	**14**	**43**
08:00 AM	2	**29**	**31**	0	0	0	2	1	3	34
08:15 AM	0	16	16	0	0	0	4	2	6	22
Total Volume	10	94	104	0	1	1	18	17	35	140
% App. Total	9.6	90.4		0	100		51.4	48.6		
PHF	.625	.810	.839	.000	.250	.250	.643	.472	.625	.814

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City of Costa Mesa
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File Name : 01_CSM_DW1_Sunflower AM
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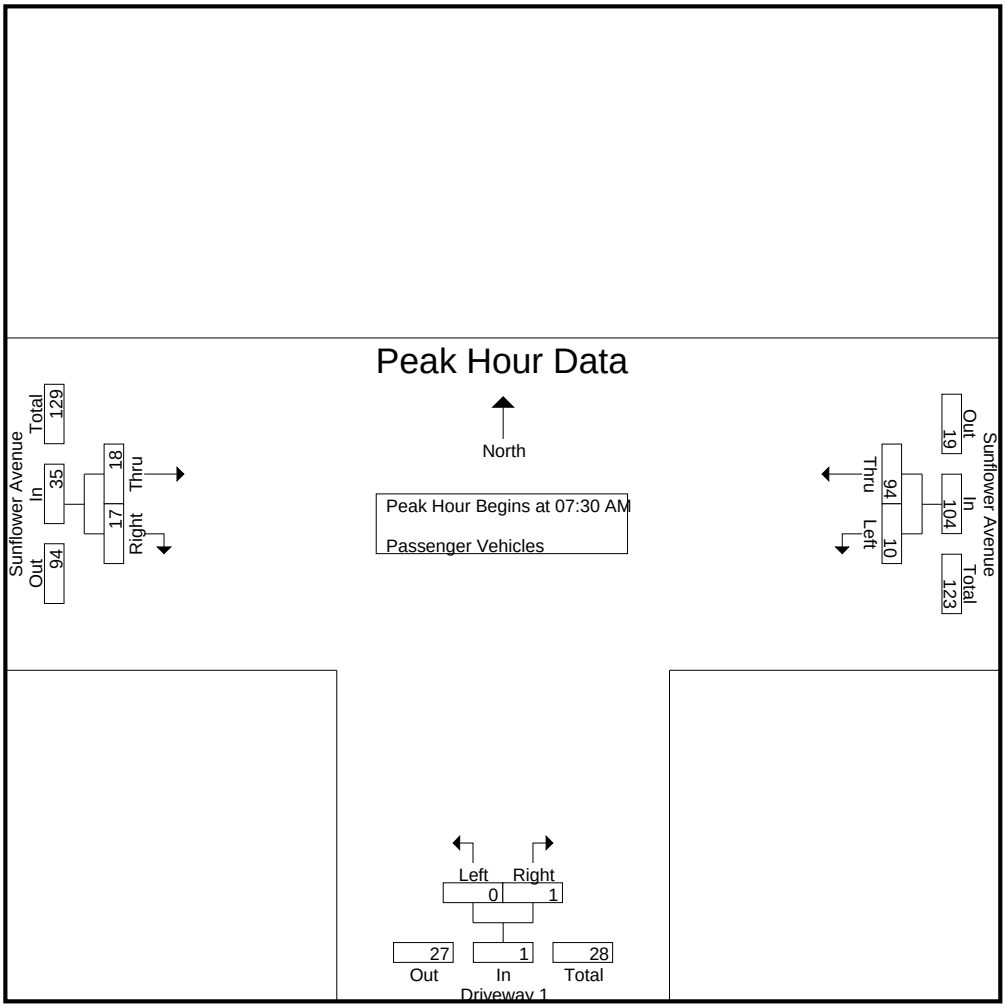

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	**4**	24	28	0	**1**	**1**	**7**	5	12
+15 mins.	4	25	29	0	0	0	5	**9**	**14**
+30 mins.	2	**29**	**31**	0	0	0	2	1	3
+45 mins.	0	16	16	0	0	0	4	2	6
Total Volume	10	94	104	0	1	1	18	17	35
% App. Total	9.6	90.4		0	100		51.4	48.6	
PHF	.625	.810	.839	.000	.250	.250	.643	.472	.625

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City of Costa Mesa
N/S: Driveway 1
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Weather: Clear

File Name : 01_CSM_DW1_Sunflower AM
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Groups Printed- Large 2 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	0	1	1	0	0	0	0	0	0	1
Apprch %	0	100		0	0		0	0		
Total %	0	100	100	0	0	0	0	0	0	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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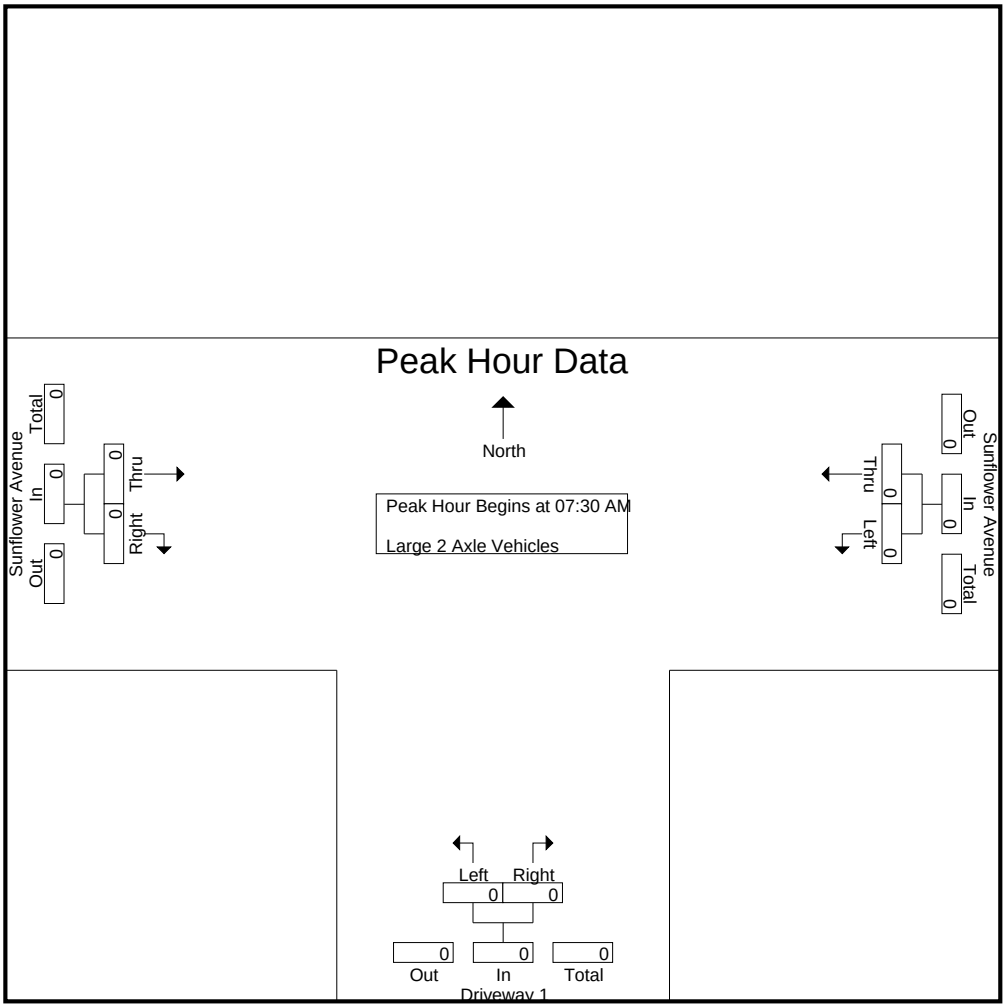

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
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Groups Printed- 3 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0		0	0		100	0		
Total %	0	0	0	0	0	0	100	0	100	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
N/S: Driveway 1
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Weather: Clear

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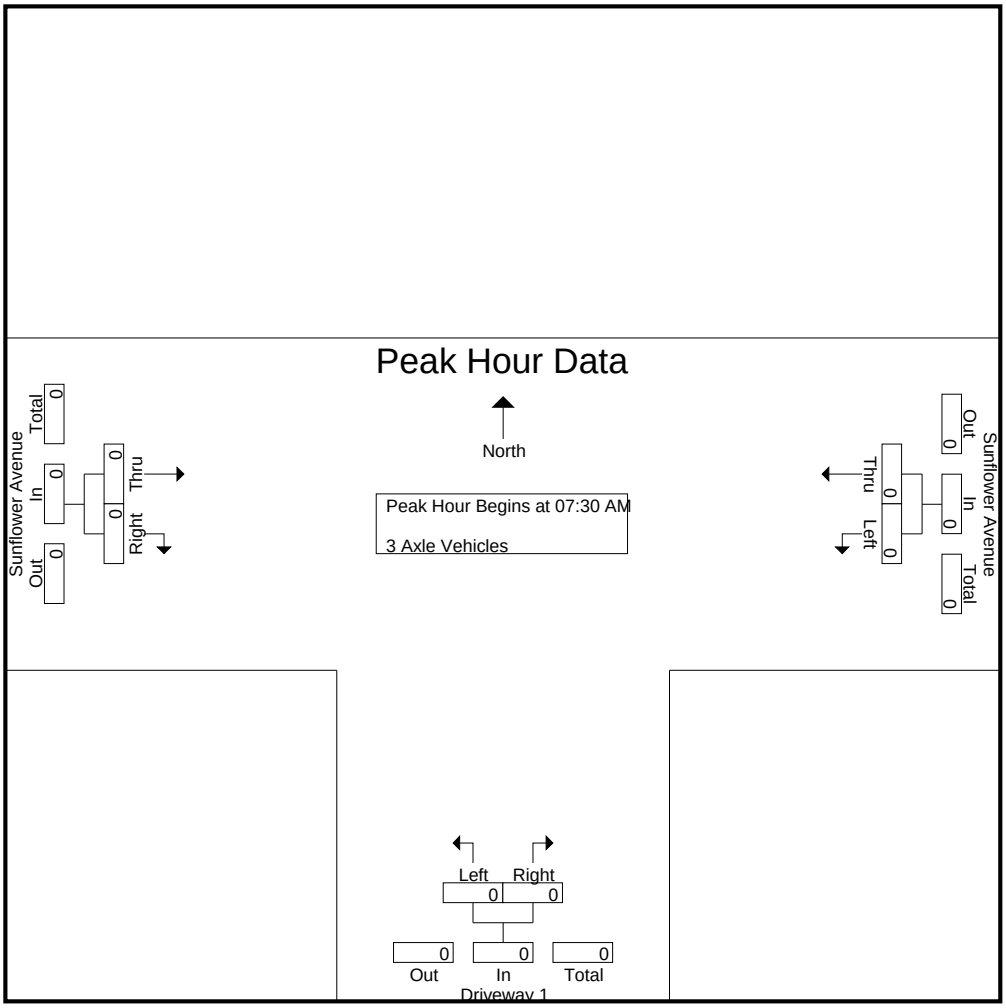

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
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Groups Printed- 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0		0	0		100	0		
Total %	0	0	0	0	0	0	100	0	100	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
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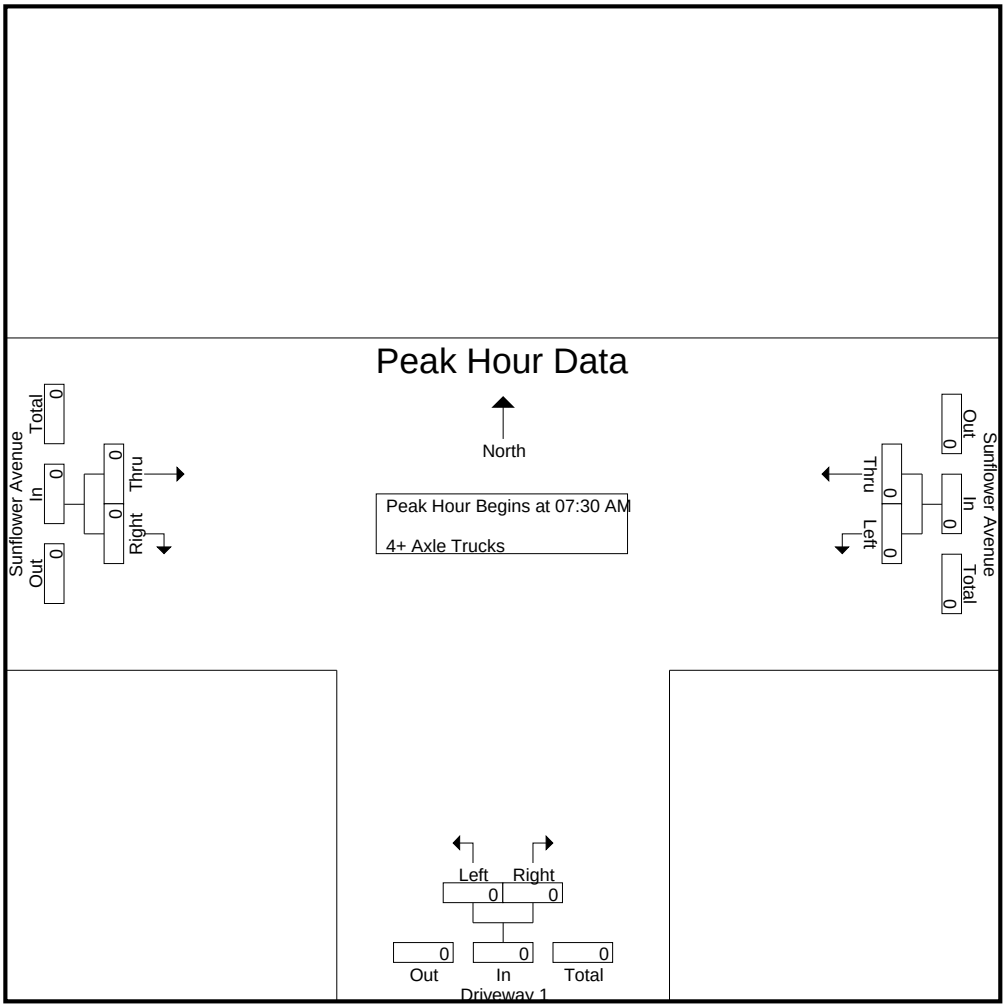

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	13	15	0	2	2	51	0	51	68
04:15 PM	0	13	13	11	5	16	12	0	12	41
04:30 PM	1	13	14	13	15	28	30	0	30	72
04:45 PM	0	23	23	1	1	2	12	1	13	38
Total	3	62	65	25	23	48	105	1	106	219
05:00 PM	1	24	25	0	0	0	39	0	39	64
05:15 PM	0	40	40	1	2	3	27	0	27	70
05:30 PM	0	52	52	0	0	0	19	0	19	71
05:45 PM	0	34	34	3	1	4	9	0	9	47
Total	1	150	151	4	3	7	94	0	94	252
Grand Total	4	212	216	29	26	55	199	1	200	471
Apprch %	1.9	98.1		52.7	47.3		99.5	0.5		
Total %	0.8	45	45.9	6.2	5.5	11.7	42.3	0.2	42.5	
Passenger Vehicles	4	207	211	29	26	55	192	1	193	459
% Passenger Vehicles	100	97.6	97.7	100	100	100	96.5	100	96.5	97.5
Large 2 Axle Vehicles	0	5	5	0	0	0	6	0	6	11
% Large 2 Axle Vehicles	0	2.4	2.3	0	0	0	3	0	3	2.3
3 Axle Vehicles	0	0	0	0	0	0	1	0	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0.5	0	0.5	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**1**	24	25	0	0	0	**39**	0	**39**	64
05:15 PM	0	40	40	1	**2**	3	27	0	27	70
05:30 PM	0	**52**	**52**	0	0	0	19	0	19	**71**
05:45 PM	0	34	34	**3**	1	**4**	9	0	9	47
Total Volume	1	150	151	4	3	7	94	0	94	252
% App. Total	0.7	99.3		57.1	42.9		100	0		
PHF	.250	.721	.726	.333	.375	.438	.603	.000	.603	.887

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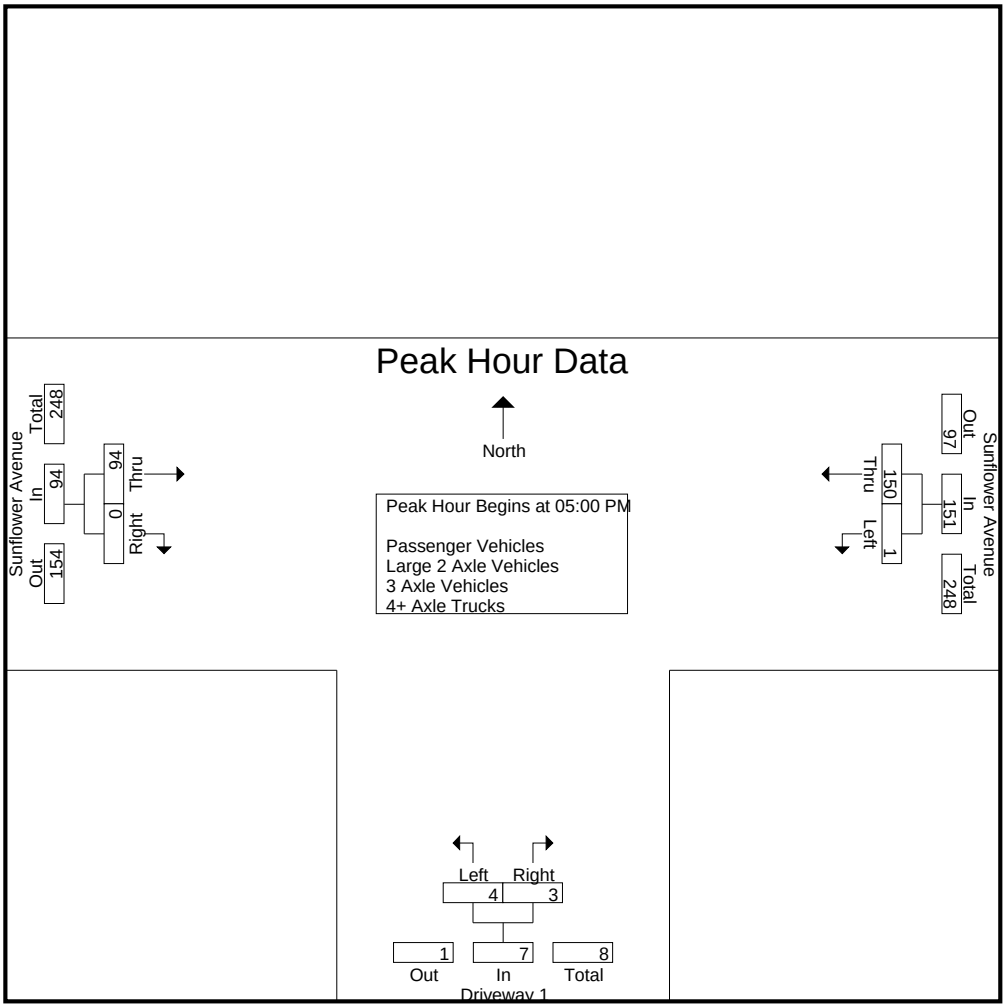

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			04:30 PM		
+0 mins.	**1**	24	25	0	2	2	30	0	30
+15 mins.	0	40	40	11	5	16	12	**1**	13
+30 mins.	0	**52**	**52**	**13**	**15**	**28**	**39**	0	**39**
+45 mins.	0	34	34	1	1	2	27	0	27
Total Volume	1	150	151	25	23	48	108	1	109
% App. Total	0.7	99.3		52.1	47.9		99.1	0.9	
PHF	.250	.721	.726	.481	.383	.429	.692	.250	.699

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Groups Printed- Passenger Vehicles

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	12	14	0	2	2	50	0	50	66
04:15 PM	0	11	11	11	5	16	12	0	12	39
04:30 PM	1	13	14	13	15	28	30	0	30	72
04:45 PM	0	22	22	1	1	2	12	1	13	37
Total	3	58	61	25	23	48	104	1	105	214
05:00 PM	1	23	24	0	0	0	36	0	36	60
05:15 PM	0	40	40	1	2	3	25	0	25	68
05:30 PM	0	52	52	0	0	0	18	0	18	70
05:45 PM	0	34	34	3	1	4	9	0	9	47
Total	1	149	150	4	3	7	88	0	88	245
Grand Total	4	207	211	29	26	55	192	1	193	459
Apprch %	1.9	98.1		52.7	47.3		99.5	0.5		
Total %	0.9	45.1	46	6.3	5.7	12	41.8	0.2	42	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**1**	23	24	0	0	0	**36**	0	**36**	60
05:15 PM	0	40	40	1	**2**	3	25	0	25	68
05:30 PM	0	**52**	**52**	0	0	0	18	0	18	**70**
05:45 PM	0	34	34	**3**	1	**4**	9	0	9	47
Total Volume	1	149	150	4	3	7	88	0	88	245
% App. Total	0.7	99.3		57.1	42.9		100	0		
PHF	.250	.716	.721	.333	.375	.438	.611	.000	.611	.875

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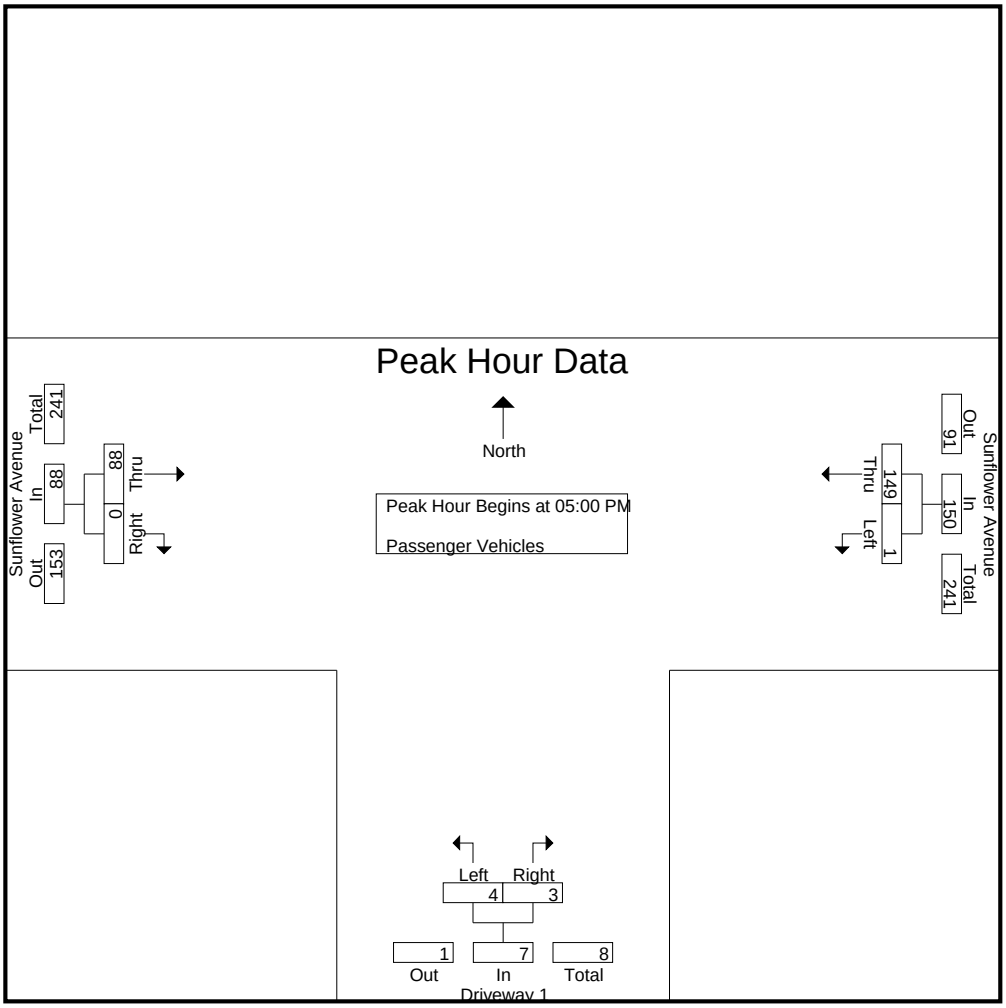

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**1**	23	24	0	0	0	**36**	0	**36**
+15 mins.	0	40	40	1	**2**	3	25	0	25
+30 mins.	0	**52**	**52**	0	0	0	18	0	18
+45 mins.	0	34	34	**3**	1	**4**	9	0	9
Total Volume	1	149	150	4	3	7	88	0	88
% App. Total	0.7	99.3		57.1	42.9		100	0	
PHF	.250	.716	.721	.333	.375	.438	.611	.000	.611

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Groups Printed- Large 2 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	1	0	1	2
04:15 PM	0	2	2	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	4	4	0	0	0	1	0	1	5
05:00 PM	0	1	1	0	0	0	3	0	3	4
05:15 PM	0	0	0	0	0	0	2	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	5	0	5	6
Grand Total	0	5	5	0	0	0	6	0	6	11
Apprch %	0	100		0	0		100	0		
Total %	0	45.5	45.5	0	0	0	54.5	0	54.5	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	**1**	**1**	0	0	0	**3**	0	**3**	**4**
05:15 PM	0	0	0	0	0	0	2	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	5	0	5	6
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.417	.000	.417	.375

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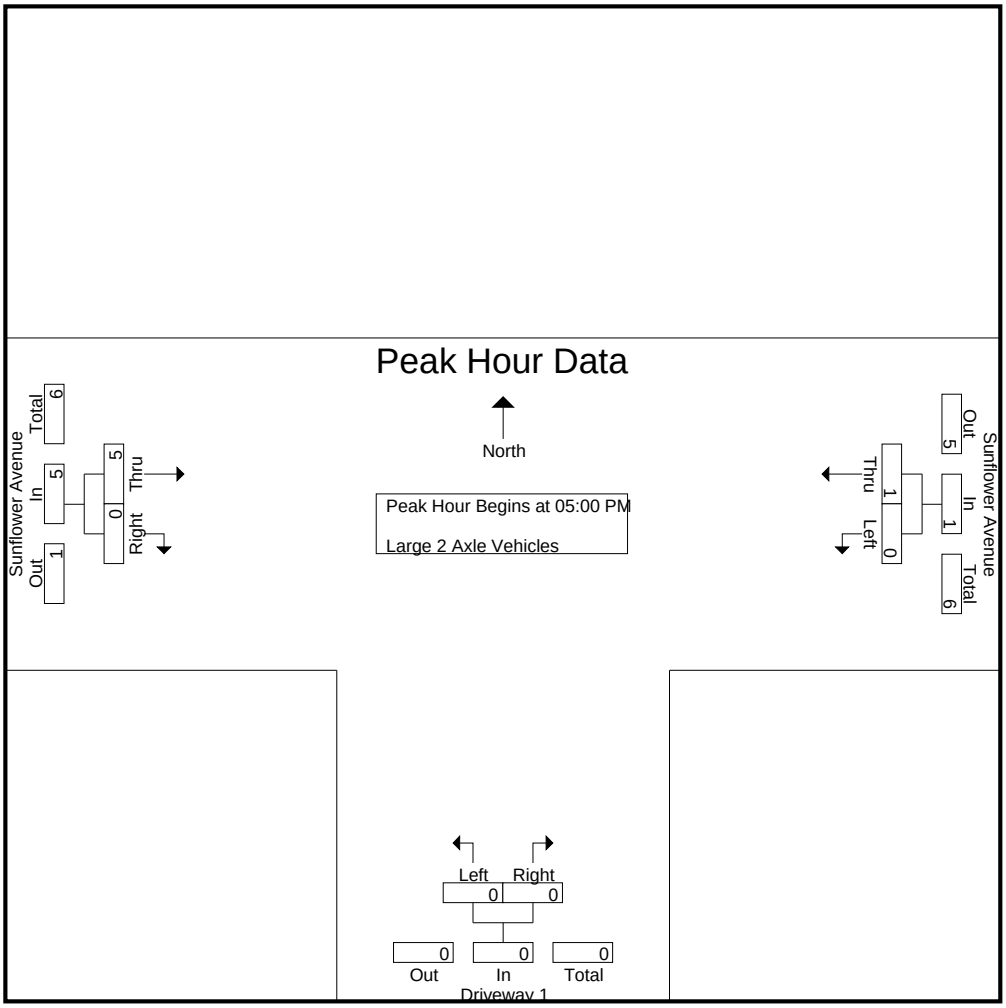

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	**1**	**1**	0	0	0	**3**	0	**3**
+15 mins.	0	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	5	0	5
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.417	.000	.417

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Groups Printed- 3 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0		0	0		100	0		
Total %	0	0	0	0	0	0	100	0	100	

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	**1**	0	**1**	**1**
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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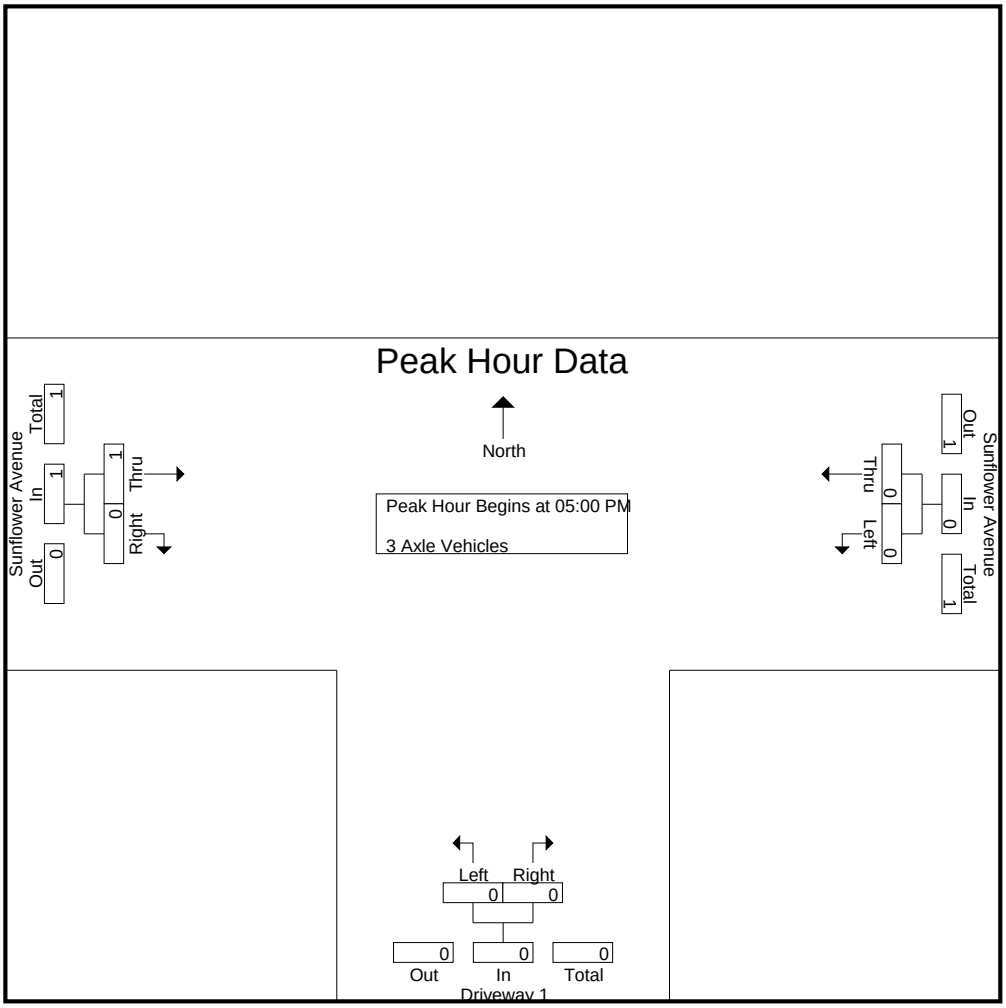

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	**1**	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250

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Groups Printed- 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Sunflower Avenue Westbound			Driveway 1 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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E/W: Sunflower Avenue
Weather: Clear

File Name : 01_CSM_DW1_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
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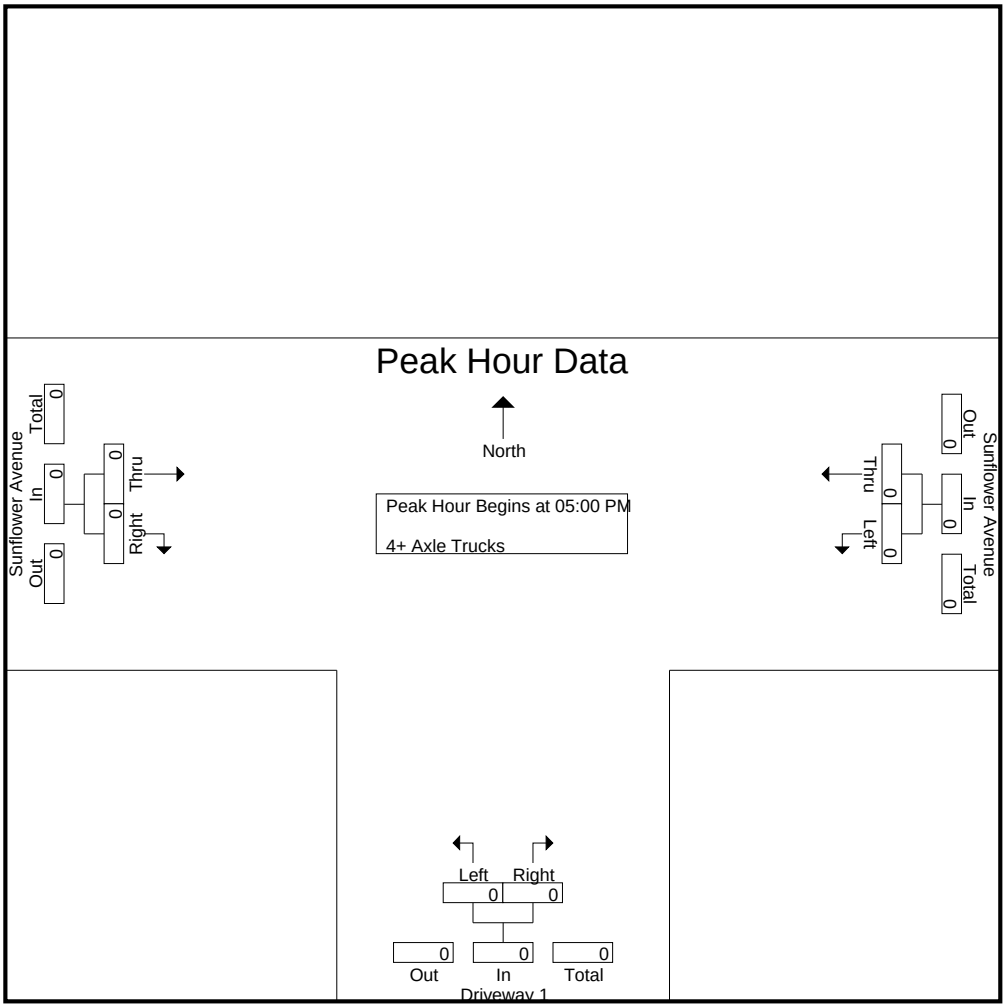

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
Site Code : 99919000
Start Date : 9/11/2019
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	18	19	0	1	1	3	0	3	23
07:15 AM	3	13	16	0	0	0	2	0	2	18
07:30 AM	2	26	28	1	0	1	8	0	8	37
07:45 AM	1	29	30	0	0	0	5	0	5	35
Total	7	86	93	1	1	2	18	0	18	113
08:00 AM	3	32	35	0	1	1	3	0	3	39
08:15 AM	0	22	22	0	0	0	4	0	4	26
08:30 AM	0	16	16	0	1	1	4	0	4	21
08:45 AM	1	19	20	0	1	1	5	0	5	26
Total	4	89	93	0	3	3	16	0	16	112
Grand Total	11	175	186	1	4	5	34	0	34	225
Apprch %	5.9	94.1		20	80		100	0		
Total %	4.9	77.8	82.7	0.4	1.8	2.2	15.1	0	15.1	
Passenger Vehicles	6	171	177	1	2	3	32	0	32	212
% Passenger Vehicles	54.5	97.7	95.2	100	50	60	94.1	0	94.1	94.2
Large 2 Axle Vehicles	0	3	3	0	0	0	0	0	0	3
% Large 2 Axle Vehicles	0	1.7	1.6	0	0	0	0	0	0	1.3
3 Axle Vehicles	0	1	1	0	0	0	1	0	1	2
% 3 Axle Vehicles	0	0.6	0.5	0	0	0	2.9	0	2.9	0.9
4+ Axle Trucks	5	0	5	0	2	2	1	0	1	8
% 4+ Axle Trucks	45.5	0	2.7	0	50	40	2.9	0	2.9	3.6

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	2	26	28	**1**	0	**1**	**8**	0	**8**	37
07:45 AM	1	29	30	0	0	0	5	0	5	35
08:00 AM	**3**	**32**	**35**	0	**1**	1	3	0	3	**39**
08:15 AM	0	22	22	0	0	0	4	0	4	26
Total Volume	6	109	115	1	1	2	20	0	20	137
% App. Total	5.2	94.8		50	50		100	0		
PHF	.500	.852	.821	.250	.250	.500	.625	.000	.625	.878

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
Site Code : 99919000
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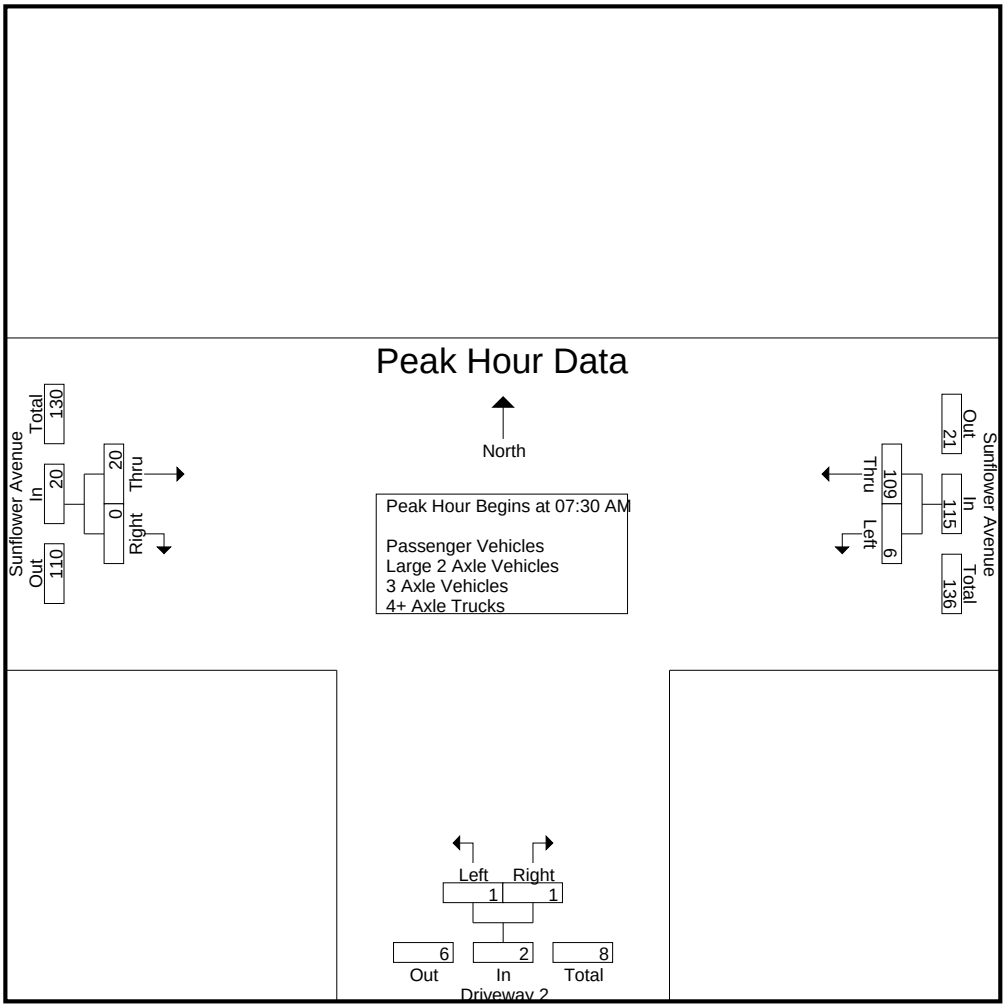

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:30 AM		
+0 mins.	2	26	28	0	**1**	**1**	**8**	0	**8**
+15 mins.	1	29	30	0	0	0	5	0	5
+30 mins.	**3**	**32**	**35**	0	1	1	3	0	3
+45 mins.	0	22	22	0	1	1	4	0	4
Total Volume	6	109	115	0	3	3	20	0	20
% App. Total	5.2	94.8		0	100		100	0	
PHF	.500	.852	.821	.000	.750	.750	.625	.000	.625

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
Site Code : 99919000
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Groups Printed- Passenger Vehicles

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	17	18	0	1	1	3	0	3	22
07:15 AM	0	13	13	0	0	0	1	0	1	14
07:30 AM	2	26	28	1	0	1	8	0	8	37
07:45 AM	0	28	28	0	0	0	5	0	5	33
Total	3	84	87	1	1	2	17	0	17	106
08:00 AM	3	31	34	0	1	1	3	0	3	38
08:15 AM	0	22	22	0	0	0	4	0	4	26
08:30 AM	0	15	15	0	0	0	3	0	3	18
08:45 AM	0	19	19	0	0	0	5	0	5	24
Total	3	87	90	0	1	1	15	0	15	106
Grand Total	6	171	177	1	2	3	32	0	32	212
Apprch %	3.4	96.6		33.3	66.7		100	0		
Total %	2.8	80.7	83.5	0.5	0.9	1.4	15.1	0	15.1	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	2	26	28	**1**	0	**1**	**8**	0	**8**	37
07:45 AM	0	28	28	0	0	0	5	0	5	33
08:00 AM	**3**	**31**	**34**	0	**1**	1	3	0	3	**38**
08:15 AM	0	22	22	0	0	0	4	0	4	26
Total Volume	5	107	112	1	1	2	20	0	20	134
% App. Total	4.5	95.5		50	50		100	0		
PHF	.417	.863	.824	.250	.250	.500	.625	.000	.625	.882

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City of Costa Mesa
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Weather: Clear

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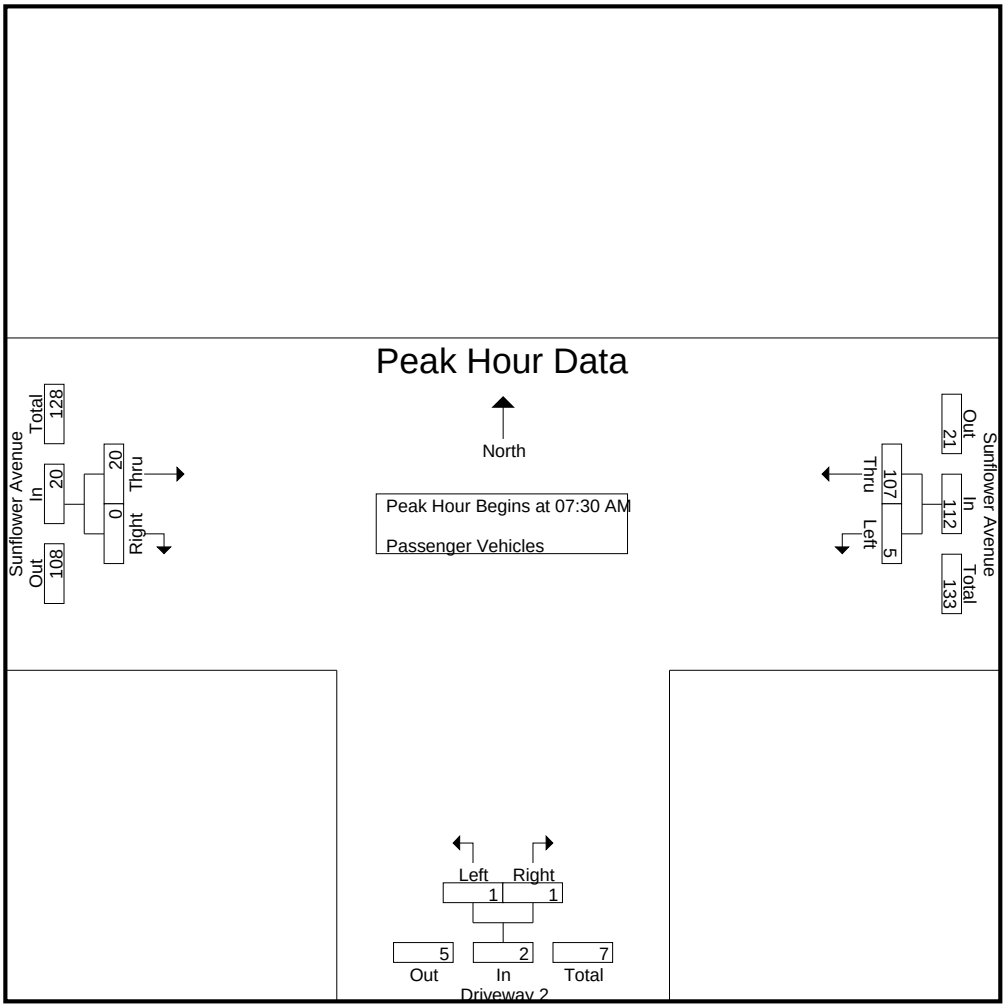

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	2	26	28	**1**	0	**1**	**8**	0	**8**
+15 mins.	0	28	28	0	0	0	5	0	5
+30 mins.	**3**	**31**	**34**	0	**1**	1	3	0	3
+45 mins.	0	22	22	0	0	0	4	0	4
Total Volume	5	107	112	1	1	2	20	0	20
% App. Total	4.5	95.5		50	50		100	0	
PHF	.417	.863	.824	.250	.250	.500	.625	.000	.625

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
Site Code : 99919000
Start Date : 9/11/2019
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Groups Printed- Large 2 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	0	0	0	0	0	2
Grand Total	0	3	3	0	0	0	0	0	0	3
Apprch %	0	100		0	0		0	0		
Total %	0	100	100	0	0	0	0	0	0	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	**1**	**1**	0	0	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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City of Costa Mesa
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File Name : 02_CSM_DW2_Sunflower AM
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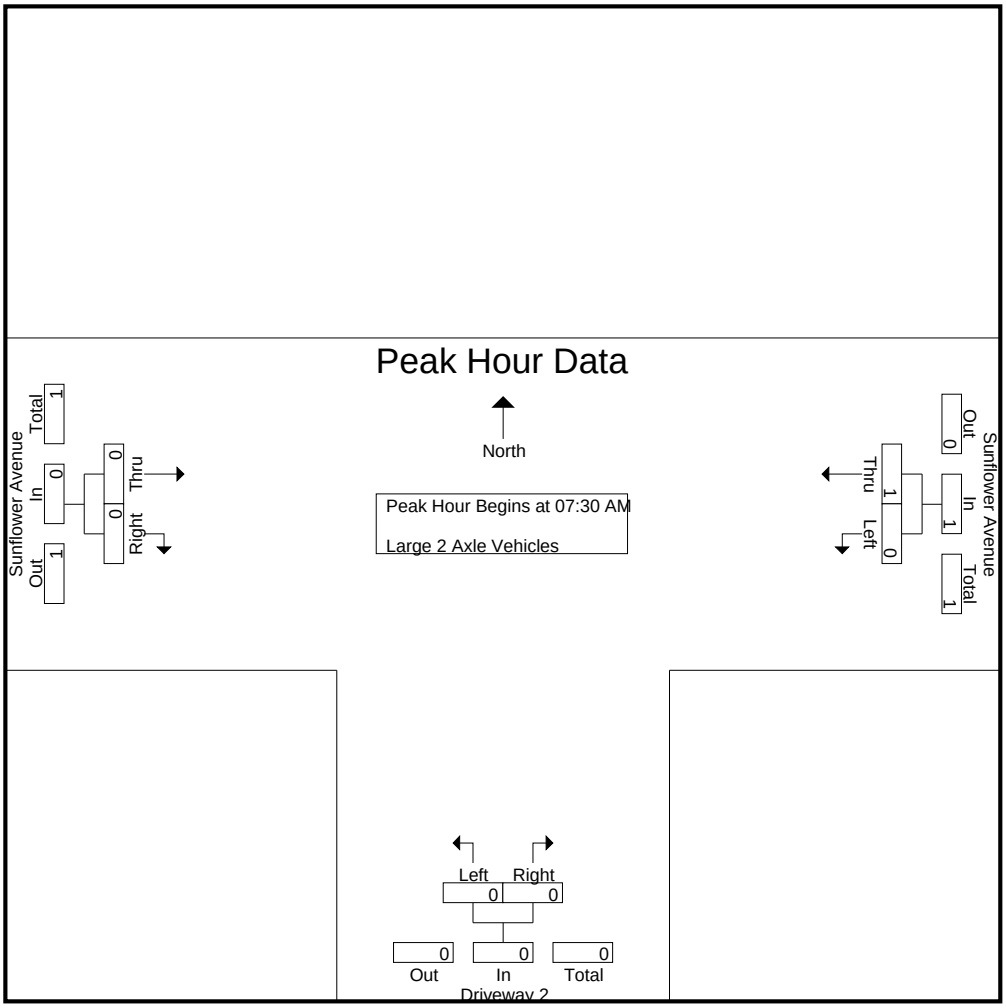

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
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Groups Printed- 3 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	1	0	0	0	0	0	0	1
Total	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	0	1	1	0	0	0	1	0	1	2
Apprch %	0	100		0	0		100	0		
Total %	0	50	50	0	0	0	50	0	50	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	**1**	**1**	0	0	0	0	0	0	**1**
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
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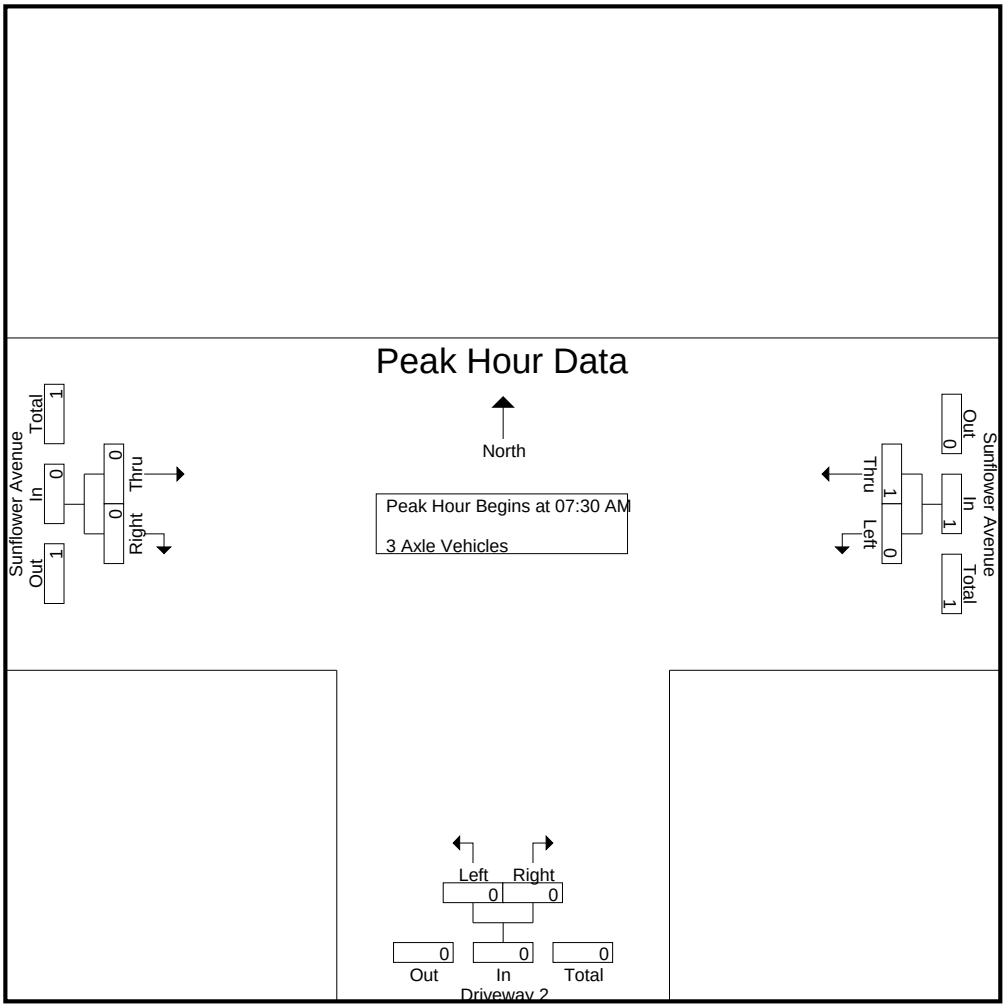

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower AM
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Groups Printed- 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	3	0	3	0	0	0	1	0	1	4
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	1	0	0	0	0	0	0	1
Total	4	0	4	0	0	0	1	0	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	1	1	0	0	0	1
08:45 AM	1	0	1	0	1	1	0	0	0	2
Total	1	0	1	0	2	2	0	0	0	3
Grand Total	5	0	5	0	2	2	1	0	1	8
Apprch %	100	0		0	100		100	0		
Total %	62.5	0	62.5	0	25	25	12.5	0	12.5	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	**1**	0	**1**	0	0	0	0	0	0	**1**
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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City of Costa Mesa
N/S: Driveway 2
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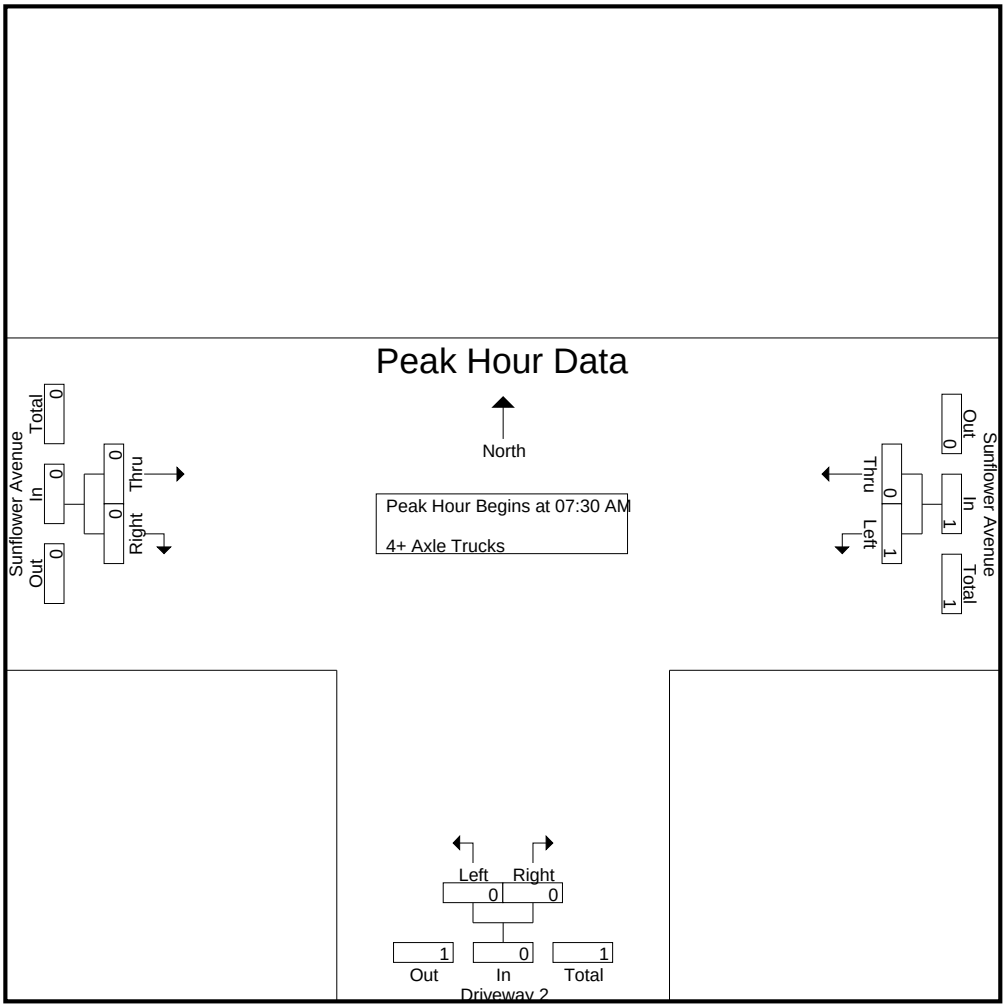

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
Site Code : 99919000
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	1	15	16	0	0	0	53	0	53	69
04:15 PM	0	16	16	0	1	1	18	0	18	35
04:30 PM	0	16	16	0	0	0	48	0	48	64
04:45 PM	0	22	22	0	0	0	14	0	14	36
Total	1	69	70	0	1	1	133	0	133	204
05:00 PM	0	26	26	0	0	0	39	0	39	65
05:15 PM	0	37	37	0	0	0	29	0	29	66
05:30 PM	0	55	55	0	0	0	20	0	20	75
05:45 PM	0	35	35	0	0	0	11	0	11	46
Total	0	153	153	0	0	0	99	0	99	252
Grand Total	1	222	223	0	1	1	232	0	232	456
Apprch %	0.4	99.6		0	100		100	0		
Total %	0.2	48.7	48.9	0	0.2	0.2	50.9	0	50.9	
Passenger Vehicles	0	216	216	0	0	0	227	0	227	443
% Passenger Vehicles	0	97.3	96.9	0	0	0	97.8	0	97.8	97.1
Large 2 Axle Vehicles	0	5	5	0	0	0	4	0	4	9
% Large 2 Axle Vehicles	0	2.3	2.2	0	0	0	1.7	0	1.7	2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	1	1	2	0	1	1	1	0	1	4
% 4+ Axle Trucks	100	0.5	0.9	0	100	100	0.4	0	0.4	0.9

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	26	26	0	0	0	**39**	0	**39**	65
05:15 PM	0	37	37	0	0	0	29	0	29	66
05:30 PM	0	**55**	**55**	0	0	0	20	0	20	**75**
05:45 PM	0	35	35	0	0	0	11	0	11	46
Total Volume	0	153	153	0	0	0	99	0	99	252
% App. Total	0	100		0	0		100	0		
PHF	.000	.695	.695	.000	.000	.000	.635	.000	.635	.840

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
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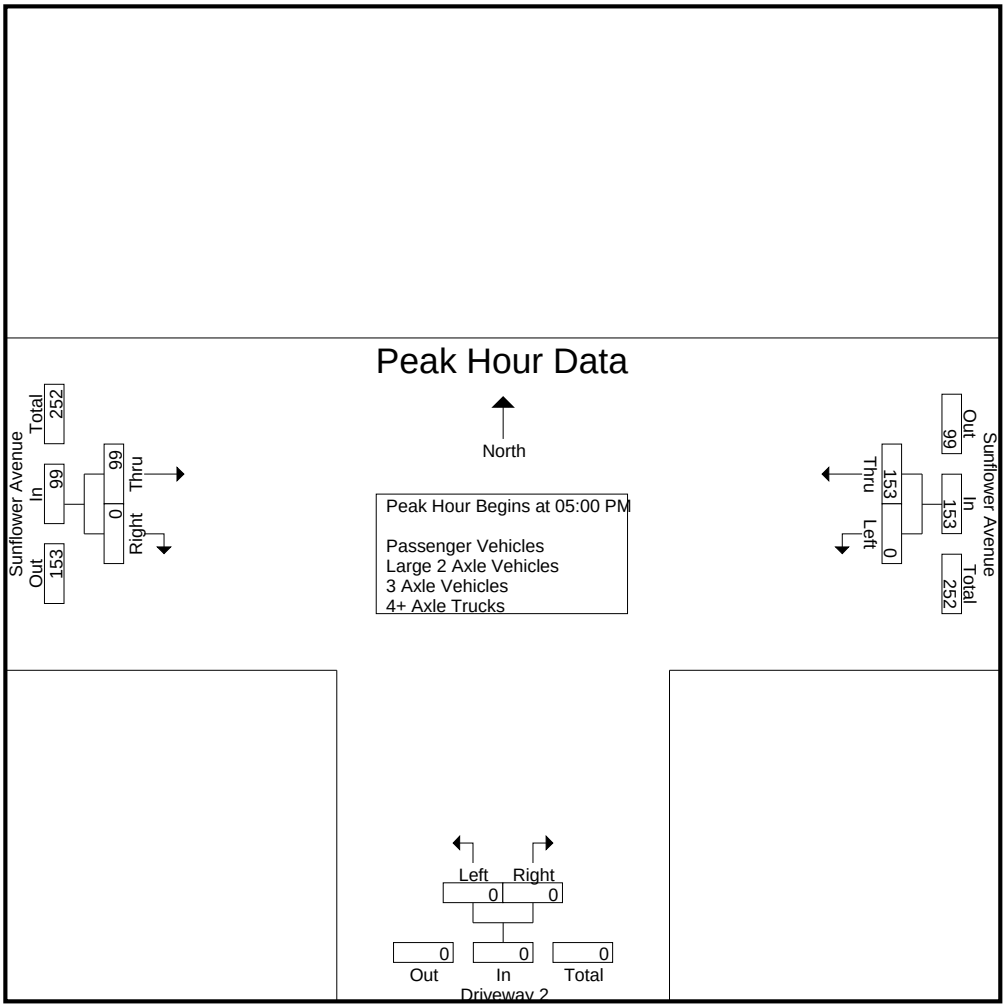

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	26	26	0	0	0	**53**	0	**53**
+15 mins.	0	37	37	0	**1**	**1**	18	0	18
+30 mins.	0	**55**	**55**	0	0	0	48	0	48
+45 mins.	0	35	35	0	0	0	14	0	14
Total Volume	0	153	153	0	1	1	133	0	133
% App. Total	0	100		0	100		100	0	
PHF	.000	.695	.695	.000	.250	.250	.627	.000	.627

Counts Unlimited
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(951) 268-6268

City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
Site Code : 99919000
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Groups Printed- Passenger Vehicles

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	14	14	0	0	0	52	0	52	66
04:15 PM	0	14	14	0	0	0	18	0	18	32
04:30 PM	0	16	16	0	0	0	48	0	48	64
04:45 PM	0	20	20	0	0	0	14	0	14	34
Total	0	64	64	0	0	0	132	0	132	196
05:00 PM	0	25	25	0	0	0	38	0	38	63
05:15 PM	0	37	37	0	0	0	27	0	27	64
05:30 PM	0	55	55	0	0	0	19	0	19	74
05:45 PM	0	35	35	0	0	0	11	0	11	46
Total	0	152	152	0	0	0	95	0	95	247
Grand Total	0	216	216	0	0	0	227	0	227	443
Apprch %	0	100		0	0		100	0		
Total %	0	48.8	48.8	0	0	0	51.2	0	51.2	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	25	25	0	0	0	**38**	0	**38**	63
05:15 PM	0	37	37	0	0	0	27	0	27	64
05:30 PM	0	**55**	**55**	0	0	0	19	0	19	**74**
05:45 PM	0	35	35	0	0	0	11	0	11	46
Total Volume	0	152	152	0	0	0	95	0	95	247
% App. Total	0	100		0	0		100	0		
PHF	.000	.691	.691	.000	.000	.000	.625	.000	.625	.834

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
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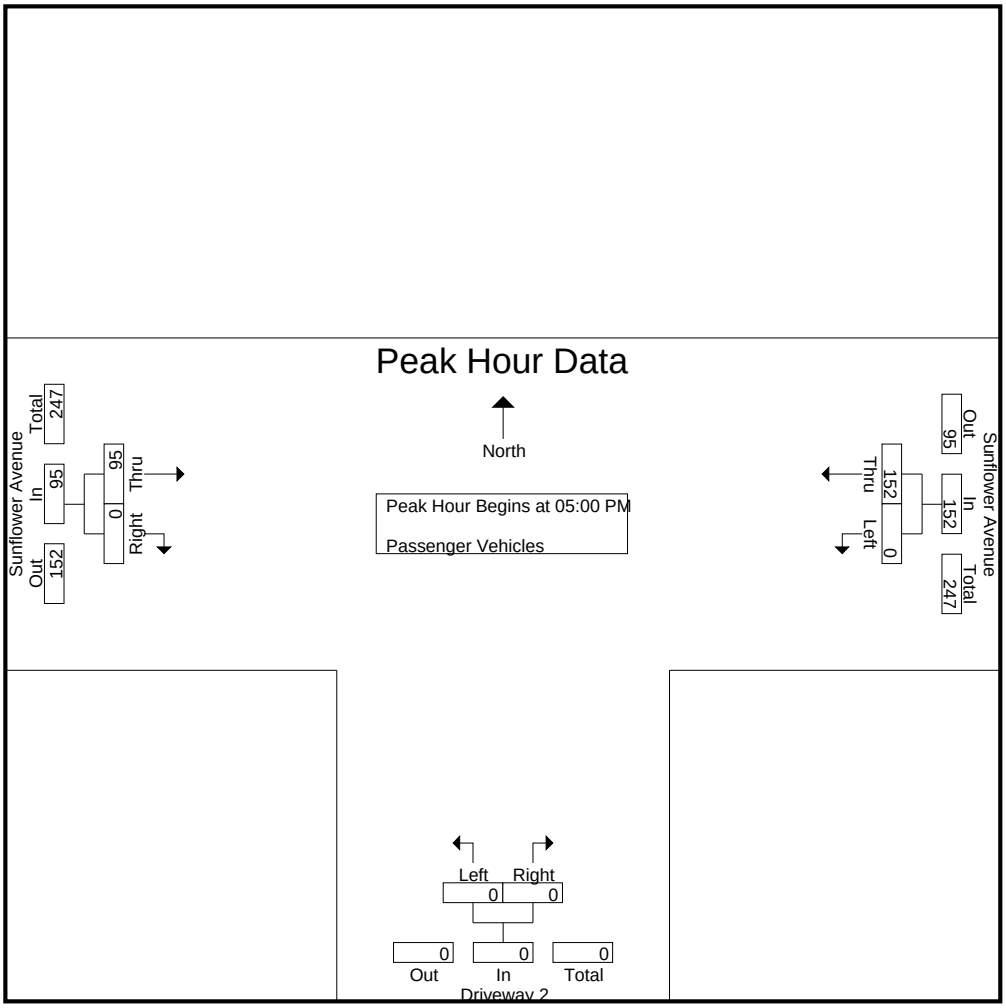

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	25	25	0	0	0	**38**	0	**38**
+15 mins.	0	37	37	0	0	0	27	0	27
+30 mins.	0	**55**	**55**	0	0	0	19	0	19
+45 mins.	0	35	35	0	0	0	11	0	11
Total Volume	0	152	152	0	0	0	95	0	95
% App. Total	0	100		0	0		100	0	
PHF	.000	.691	.691	.000	.000	.000	.625	.000	.625

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
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Groups Printed- Large 2 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	1	0	1	2
04:15 PM	0	2	2	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	4	4	0	0	0	1	0	1	5
05:00 PM	0	1	1	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	2	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	3	0	3	4
Grand Total	0	5	5	0	0	0	4	0	4	9
Apprch %	0	100		0	0		100	0		
Total %	0	55.6	55.6	0	0	0	44.4	0	44.4	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	**1**	**1**	0	0	0	1	0	1	**2**
05:15 PM	0	0	0	0	0	0	**2**	0	**2**	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	3	0	3	4
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.375	.000	.375	.500

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
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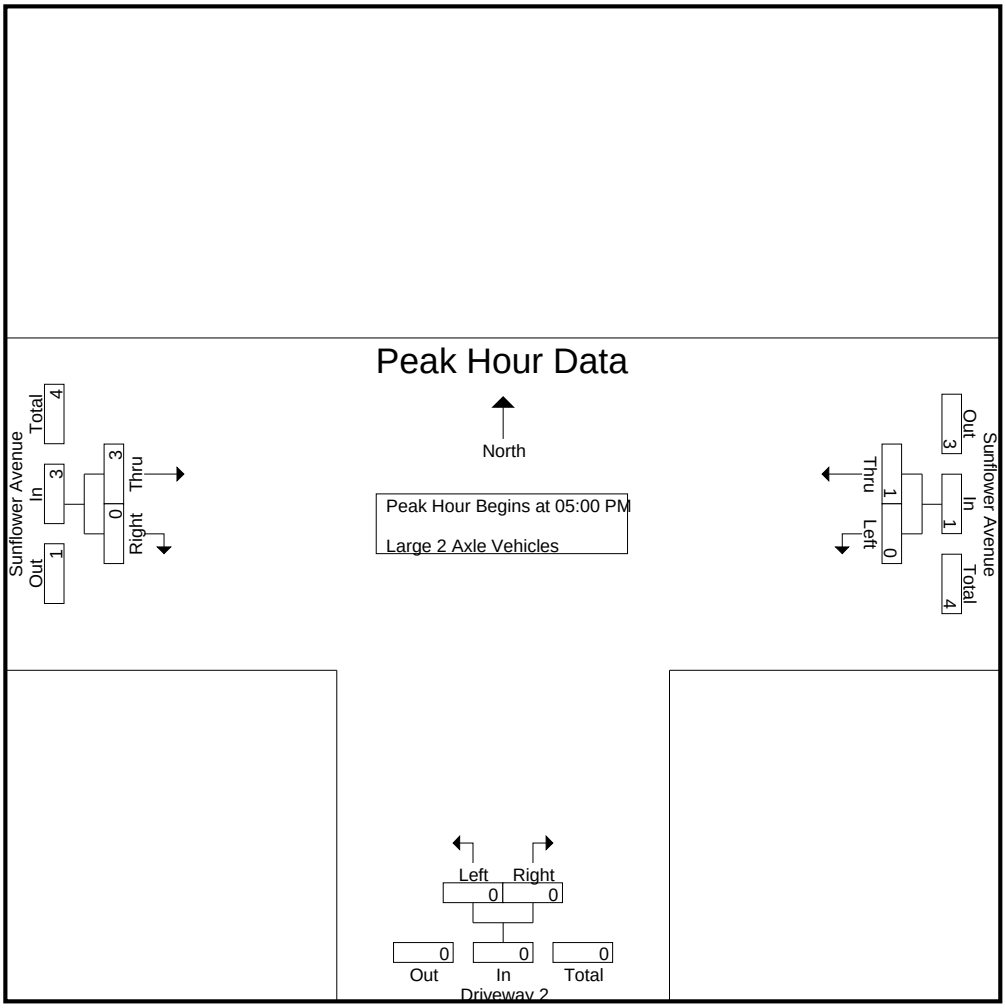

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	**1**	**1**	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	3	0	3
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.375	.000	.375

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

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Groups Printed- 3 Axle Vehicles

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
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Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
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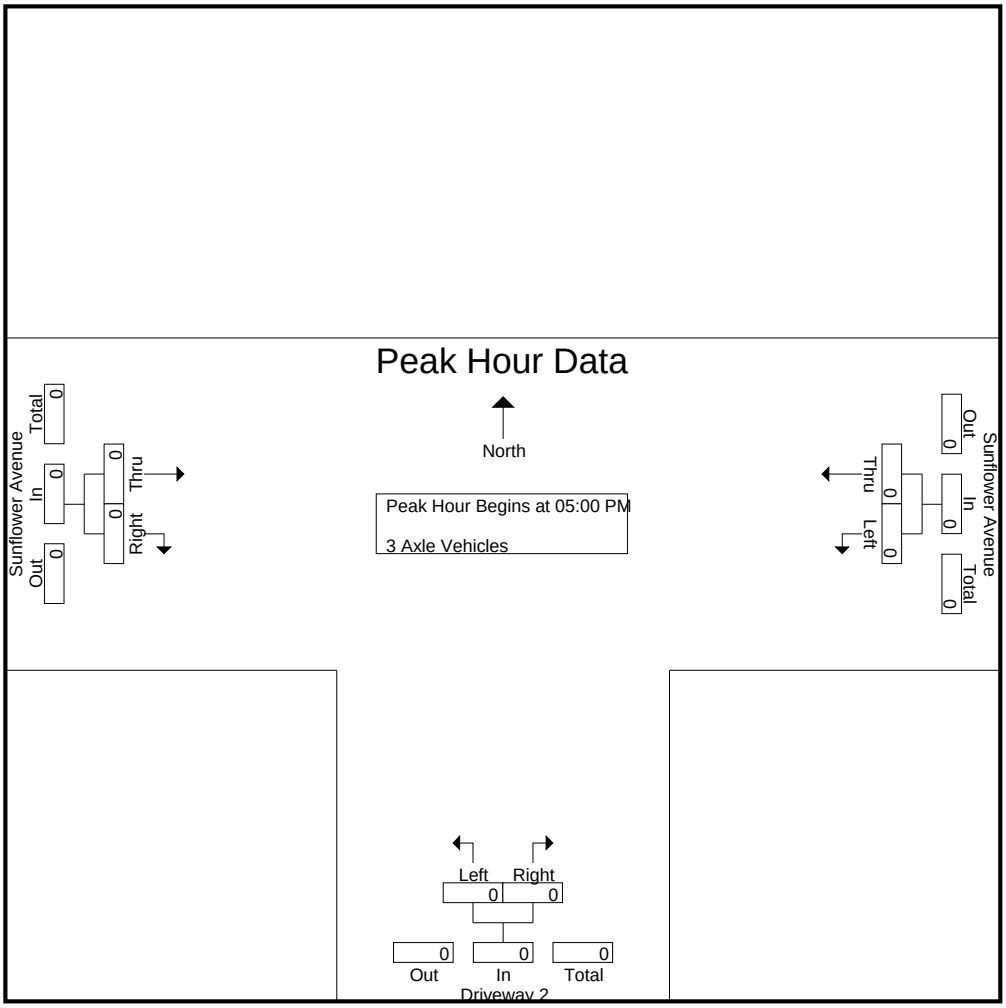

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
Site Code : 99919000
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Groups Printed- 4+ Axle Trucks

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	1	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	1	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	1	1	2	0	1	1	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	1	1	2	0	1	1	1	0	1	4
Apprch %	50	50		0	100		100	0		
Total %	25	25	50	0	25	25	25	0	25	

	Sunflower Avenue Westbound			Driveway 2 Northbound			Sunflower Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	**1**	0	**1**	**1**
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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City of Costa Mesa
N/S: Driveway 2
E/W: Sunflower Avenue
Weather: Clear

File Name : 02_CSM_DW2_Sunflower PM
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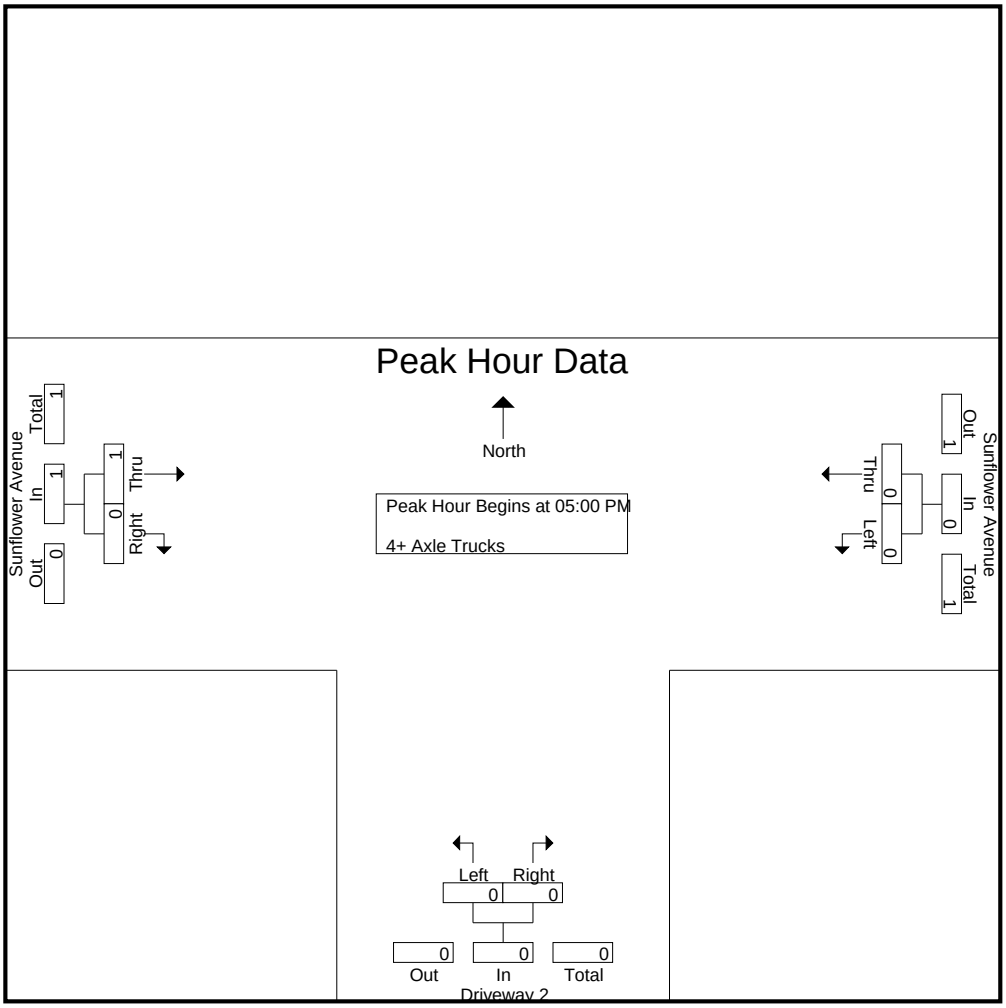

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	**1**	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250

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City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower AM
Site Code : 99919000
Start Date : 9/11/2019
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	21	0	21	0	0	0	0	0	4	0	4	25
07:15 AM	1	0	0	1	0	15	3	18	0	0	0	0	0	2	0	2	21
07:30 AM	1	0	0	1	0	30	10	40	0	0	0	0	0	8	0	8	49
07:45 AM	0	0	0	0	0	31	26	57	0	0	0	0	0	5	0	5	62
Total	2	0	0	2	0	97	39	136	0	0	0	0	0	19	0	19	157
08:00 AM	1	0	0	1	0	34	13	47	0	0	0	0	0	4	0	4	52
08:15 AM	0	0	0	0	1	27	2	30	0	0	0	0	0	6	0	6	36
08:30 AM	2	0	0	2	0	17	1	18	0	0	0	0	0	5	0	5	25
08:45 AM	1	0	0	1	1	23	0	24	0	0	1	1	0	7	0	7	33
Total	4	0	0	4	2	101	16	119	0	0	1	1	0	22	0	22	146
Grand Total	6	0	0	6	2	198	55	255	0	0	1	1	0	41	0	41	303
Apprch %	100	0	0		0.8	77.6	21.6		0	0	100		0	100	0		
Total %	2	0	0	2	0.7	65.3	18.2	84.2	0	0	0.3	0.3	0	13.5	0	13.5	
Passenger Vehicles	6	0	0	6	0	189	55	244	0	0	1	1	0	37	0	37	288
% Passenger Vehicles	100	0	0	100	0	95.5	100	95.7	0	0	100	100	0	90.2	0	90.2	95
Large 2 Axle Vehicles	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	0	4
% Large 2 Axle Vehicles	0	0	0	0	50	1.5	0	1.6	0	0	0	0	0	0	0	0	1.3
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4	0	2.4	0.3
4+ Axle Trucks	0	0	0	0	1	6	0	7	0	0	0	0	0	3	0	3	10
% 4+ Axle Trucks	0	0	0	0	50	3	0	2.7	0	0	0	0	0	7.3	0	7.3	3.3

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	0	0	**1**	0	30	10	40	0	0	0	0	0	**8**	0	**8**	49
07:45 AM	0	0	0	0	0	31	**26**	**57**	0	0	0	0	0	5	0	5	**62**
08:00 AM	1	0	0	1	0	**34**	13	47	0	0	0	0	0	4	0	4	52
08:15 AM	0	0	0	0	**1**	27	2	30	0	0	0	0	0	6	0	6	36
Total Volume	2	0	0	2	1	122	51	174	0	0	0	0	0	23	0	23	199
% App. Total	100	0	0		0.6	70.1	29.3		0	0	0		0	100	0		
PHF	.500	.000	.000	.500	.250	.897	.490	.763	.000	.000	.000	.000	.000	.719	.000	.719	.802

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Weather: Clear

File Name : 03_CSM_DW3_Sunflower AM
Site Code : 99919000
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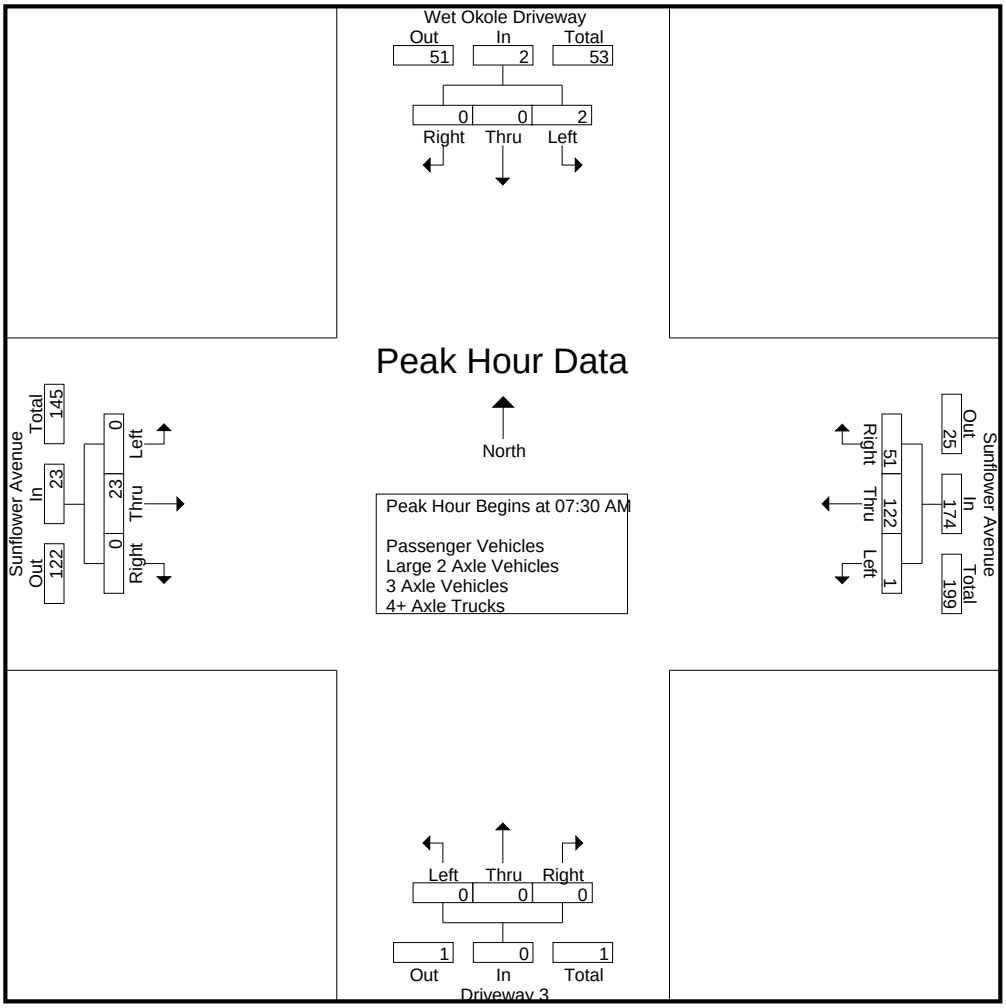

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	1	0	0	1	0	30	10	40	0	0	0	0	0	**8**	0	**8**
+15 mins.	0	0	0	0	0	31	**26**	**57**	0	0	0	0	0	5	0	5
+30 mins.	**2**	0	0	**2**	0	**34**	13	47	0	0	0	0	0	4	0	4
+45 mins.	1	0	0	1	**1**	27	2	30	0	0	**1**	**1**	0	6	0	6
Total Volume	4	0	0	4	1	122	51	174	0	0	1	1	0	23	0	23
% App. Total	100	0	0		0.6	70.1	29.3		0	0	100		0	100	0	
PHF	.500	.000	.000	.500	.250	.897	.490	.763	.000	.000	.250	.250	.000	.719	.000	.719

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Weather: Clear

File Name : 03_CSM_DW3_Sunflower AM
Site Code : 99919000
Start Date : 9/11/2019
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Groups Printed- Passenger Vehicles

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	20	0	20	0	0	0	0	0	4	0	4	24
07:15 AM	1	0	0	1	0	13	3	16	0	0	0	0	0	1	0	1	18
07:30 AM	1	0	0	1	0	30	10	40	0	0	0	0	0	8	0	8	49
07:45 AM	0	0	0	0	0	29	26	55	0	0	0	0	0	5	0	5	60
Total	2	0	0	2	0	92	39	131	0	0	0	0	0	18	0	18	151
08:00 AM	1	0	0	1	0	34	13	47	0	0	0	0	0	4	0	4	52
08:15 AM	0	0	0	0	0	27	2	29	0	0	0	0	0	6	0	6	35
08:30 AM	2	0	0	2	0	16	1	17	0	0	0	0	0	3	0	3	22
08:45 AM	1	0	0	1	0	20	0	20	0	0	1	1	0	6	0	6	28
Total	4	0	0	4	0	97	16	113	0	0	1	1	0	19	0	19	137
Grand Total	6	0	0	6	0	189	55	244	0	0	1	1	0	37	0	37	288
Apprch %	100	0	0		0	77.5	22.5		0	0	100		0	100	0		
Total %	2.1	0	0	2.1	0	65.6	19.1	84.7	0	0	0.3	0.3	0	12.8	0	12.8	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	0	0	**1**	0	30	10	40	0	0	0	0	0	**8**	0	**8**	49
07:45 AM	0	0	0	0	0	29	**26**	**55**	0	0	0	0	0	5	0	5	**60**
08:00 AM	1	0	0	1	0	**34**	13	47	0	0	0	0	0	4	0	4	52
08:15 AM	0	0	0	0	0	27	2	29	0	0	0	0	0	6	0	6	35
Total Volume	2	0	0	2	0	120	51	171	0	0	0	0	0	23	0	23	196
% App. Total	100	0	0		0	70.2	29.8		0	0	0		0	100	0		
PHF	.500	.000	.000	.500	.000	.882	.490	.777	.000	.000	.000	.000	.000	.719	.000	.719	.817

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City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

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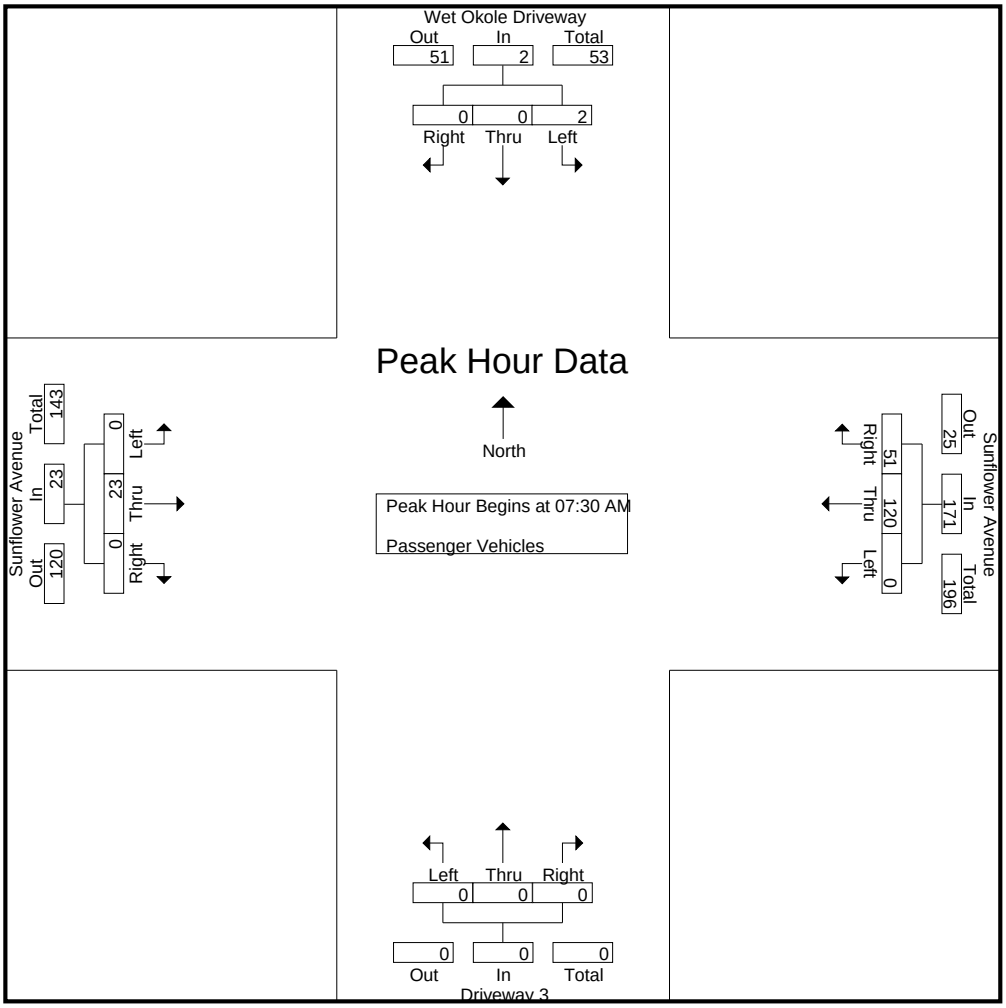

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	**1**	0	0	**1**	0	30	10	40	0	0	0	0	0	**8**	0	**8**
+15 mins.	0	0	0	0	0	29	**26**	**55**	0	0	0	0	0	5	0	5
+30 mins.	1	0	0	1	0	**34**	13	47	0	0	0	0	0	4	0	4
+45 mins.	0	0	0	0	0	27	2	29	0	0	0	0	0	6	0	6
Total Volume	2	0	0	2	0	120	51	171	0	0	0	0	0	23	0	23
% App. Total	100	0	0		0	70.2	29.8		0	0	0		0	100	0	
PHF	.500	.000	.000	.500	.000	.882	.490	.777	.000	.000	.000	.000	.000	.719	.000	.719

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City of Costa Mesa
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Weather: Clear

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Groups Printed- Large 2 Axle Vehicles

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	0	4
Apprch %	0	0	0		25	75	0		0	0	0		0	0	0		
Total %	0	0	0	0	25	75	0	100	0	0	0	0	0	0	0	0	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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City of Costa Mesa
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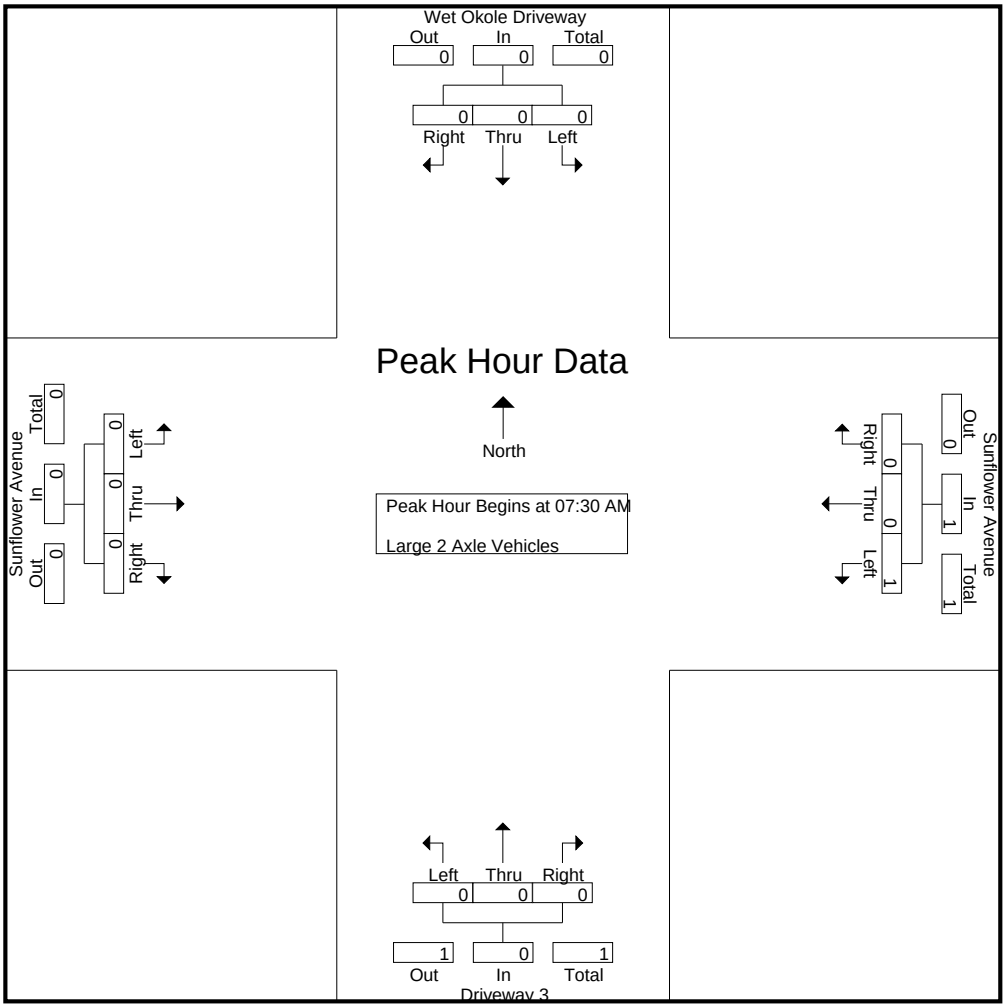

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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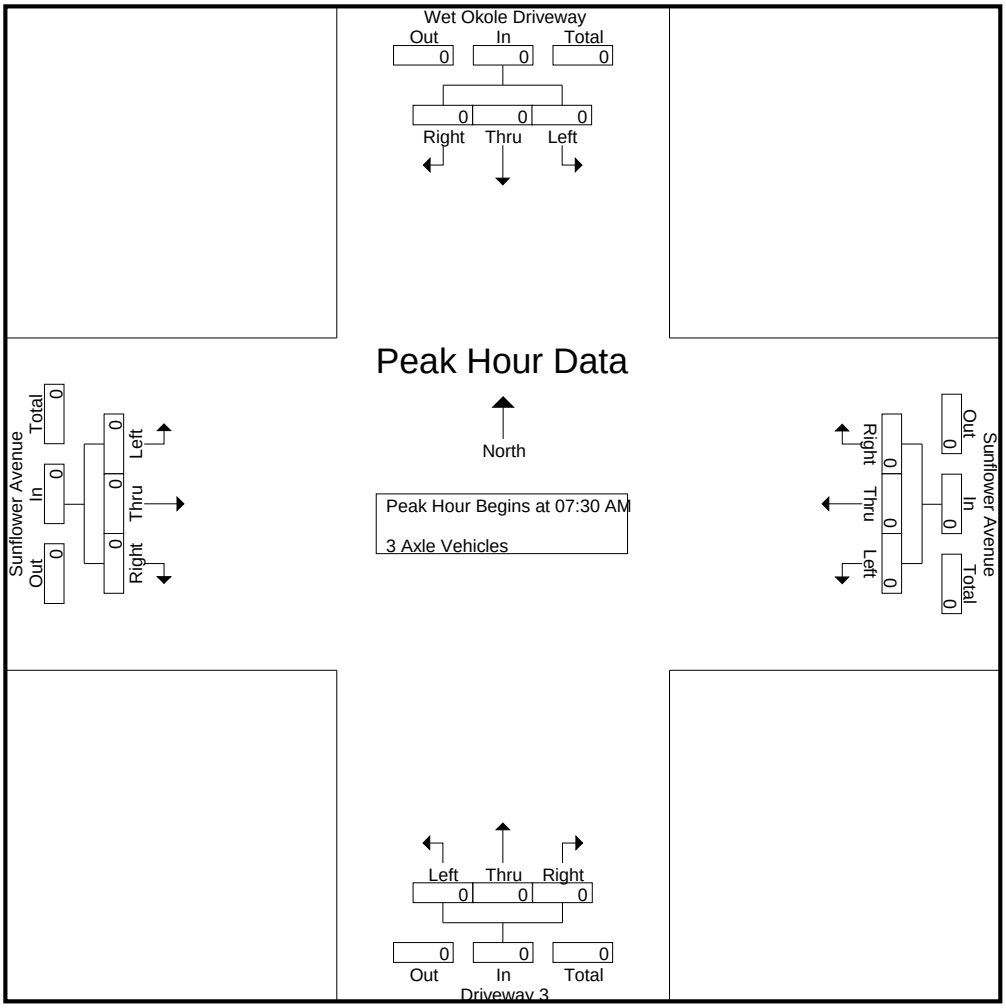

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	1	4
Total	0	0	0	0	1	2	0	3	0	0	0	0	0	2	0	2	5
Grand Total	0	0	0	0	1	6	0	7	0	0	0	0	0	3	0	3	10
Apprch %	0	0	0		14.3	85.7	0		0	0	0		0	100	0		
Total %	0	0	0	0	10	60	0	70	0	0	0	0	0	30	0	30	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	**2**
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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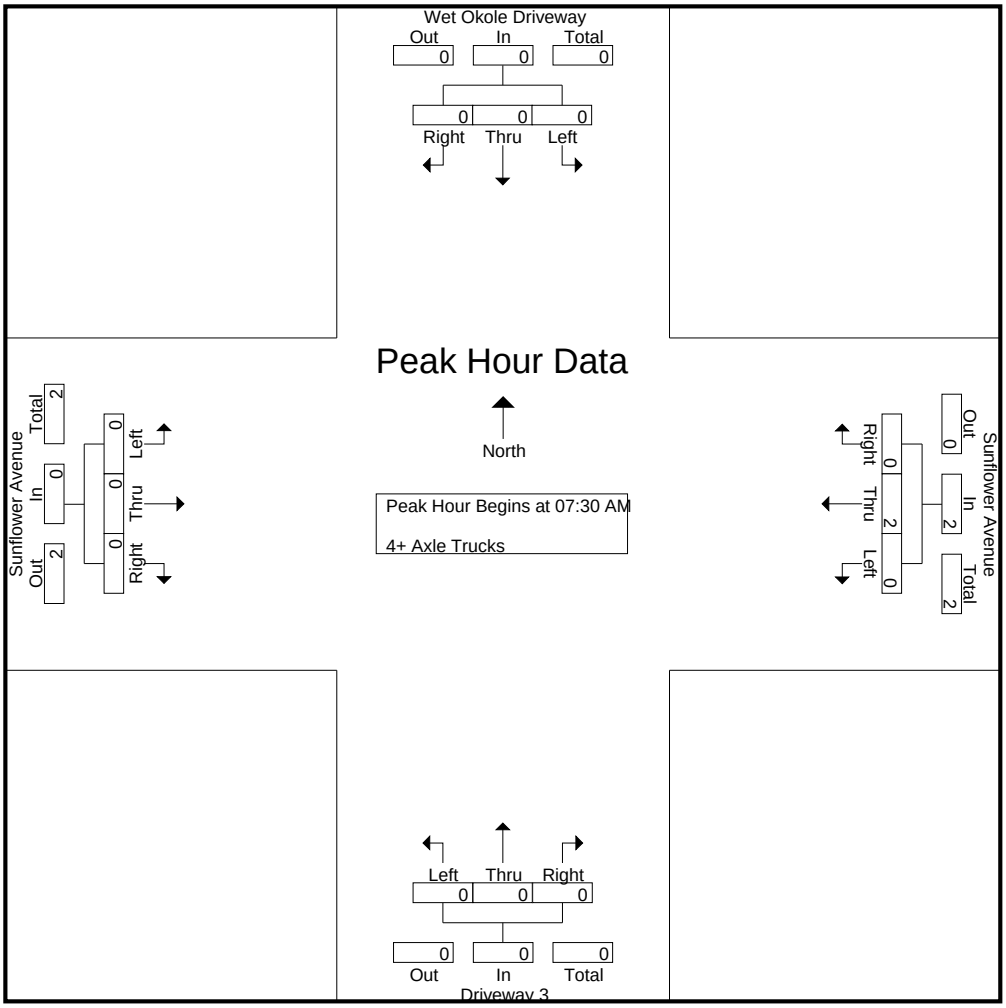

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	0	16	0	16	0	0	0	0	0	53	0	53	70
04:15 PM	2	0	0	2	0	15	0	15	0	0	0	0	0	19	0	19	36
04:30 PM	0	0	0	0	1	16	0	17	0	0	1	1	0	50	0	50	68
04:45 PM	7	0	2	9	0	19	1	20	0	0	0	0	0	14	0	14	43
Total	10	0	2	12	1	66	1	68	0	0	1	1	0	136	0	136	217
05:00 PM	43	0	1	44	0	25	0	25	0	0	0	0	0	41	0	41	110
05:15 PM	0	0	0	0	0	37	0	37	0	0	0	0	0	28	0	28	65
05:30 PM	0	0	0	0	0	60	0	60	0	0	0	0	0	24	0	24	84
05:45 PM	0	0	0	0	0	33	0	33	0	0	0	0	0	11	0	11	44
Total	43	0	1	44	0	155	0	155	0	0	0	0	0	104	0	104	303
Grand Total	53	0	3	56	1	221	1	223	0	0	1	1	0	240	0	240	520
Apprch %	94.6	0	5.4		0.4	99.1	0.4		0	0	100		0	100	0		
Total %	10.2	0	0.6	10.8	0.2	42.5	0.2	42.9	0	0	0.2	0.2	0	46.2	0	46.2	
Passenger Vehicles	53	0	3	56	1	213	1	215	0	0	1	1	0	234	0	234	506
% Passenger Vehicles	100	0	100	100	100	96.4	100	96.4	0	0	100	100	0	97.5	0	97.5	97.3
Large 2 Axle Vehicles	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4	10
% Large 2 Axle Vehicles	0	0	0	0	0	2.7	0	2.7	0	0	0	0	0	1.7	0	1.7	1.9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
% 4+ Axle Trucks	0	0	0	0	0	0.9	0	0.9	0	0	0	0	0	0.8	0	0.8	0.8

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**43**	0	**1**	**44**	0	25	0	25	0	0	0	0	0	**41**	0	**41**	**110**
05:15 PM	0	0	0	0	0	37	0	37	0	0	0	0	0	28	0	28	65
05:30 PM	0	0	0	0	0	**60**	0	**60**	0	0	0	0	0	24	0	24	84
05:45 PM	0	0	0	0	0	33	0	33	0	0	0	0	0	11	0	11	44
Total Volume	43	0	1	44	0	155	0	155	0	0	0	0	0	104	0	104	303
% App. Total	97.7	0	2.3		0	100	0		0	0	0		0	100	0		
PHF	.250	.000	.250	.250	.000	.646	.000	.646	.000	.000	.000	.000	.000	.634	.000	.634	.689

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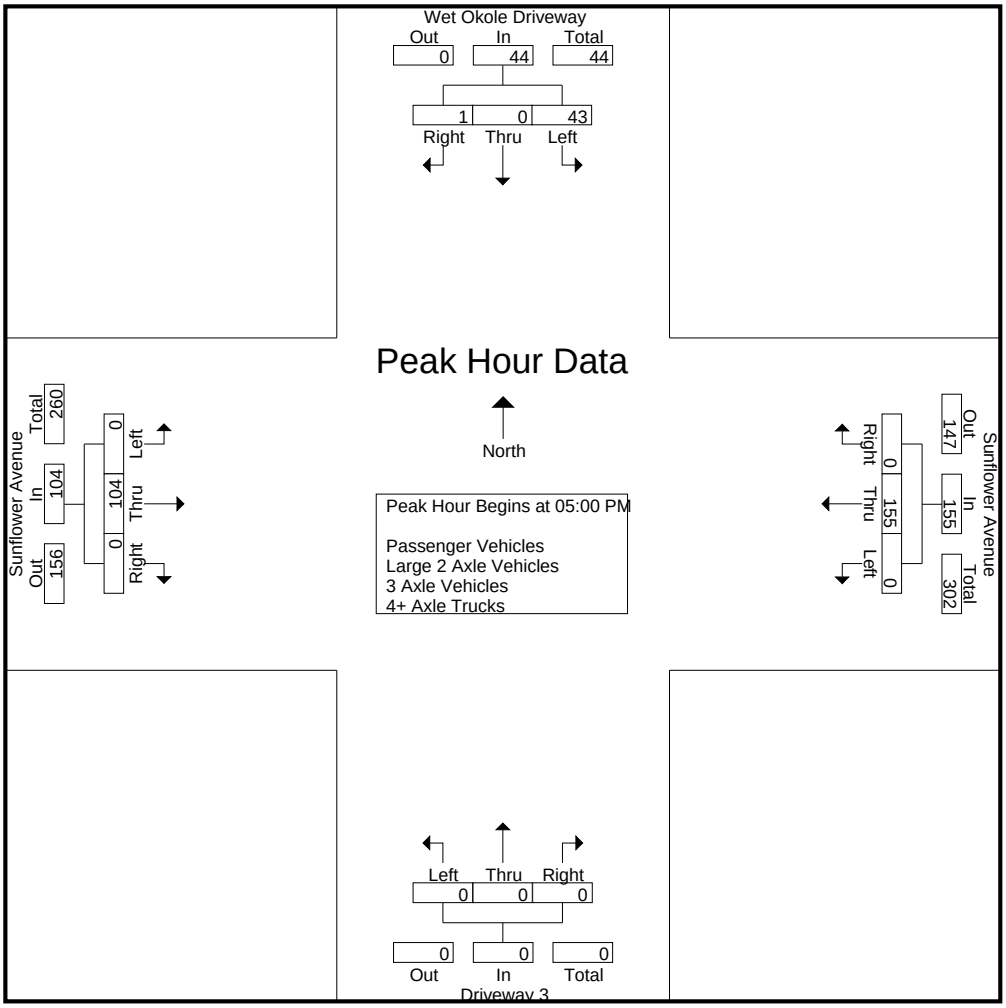

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:00 PM				04:00 PM			
+0 mins.	2	0	0	2	0	25	0	25	0	0	0	0	0	**53**	0	**53**
+15 mins.	0	0	0	0	0	37	0	37	0	0	0	0	0	19	0	19
+30 mins.	7	0	**2**	9	0	**60**	0	**60**	0	0	**1**	**1**	0	50	0	50
+45 mins.	**43**	0	1	**44**	0	33	0	33	0	0	0	0	0	14	0	14
Total Volume	52	0	3	55	0	155	0	155	0	0	1	1	0	136	0	136
% App. Total	94.5	0	5.5		0	100	0		0	0	100		0	100	0	
PHF	.302	.000	.375	.313	.000	.646	.000	.646	.000	.000	.250	.250	.000	.642	.000	.642

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 1

Groups Printed- Passenger Vehicles

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	0	14	0	14	0	0	0	0	0	52	0	52	67
04:15 PM	2	0	0	2	0	13	0	13	0	0	0	0	0	19	0	19	34
04:30 PM	0	0	0	0	1	15	0	16	0	0	1	1	0	49	0	49	66
04:45 PM	7	0	2	9	0	17	1	18	0	0	0	0	0	14	0	14	41
Total	10	0	2	12	1	59	1	61	0	0	1	1	0	134	0	134	208
05:00 PM	43	0	1	44	0	24	0	24	0	0	0	0	0	40	0	40	108
05:15 PM	0	0	0	0	0	37	0	37	0	0	0	0	0	26	0	26	63
05:30 PM	0	0	0	0	0	60	0	60	0	0	0	0	0	23	0	23	83
05:45 PM	0	0	0	0	0	33	0	33	0	0	0	0	0	11	0	11	44
Total	43	0	1	44	0	154	0	154	0	0	0	0	0	100	0	100	298
Grand Total	53	0	3	56	1	213	1	215	0	0	1	1	0	234	0	234	506
Apprch %	94.6	0	5.4		0.5	99.1	0.5		0	0	100		0	100	0		
Total %	10.5	0	0.6	11.1	0.2	42.1	0.2	42.5	0	0	0.2	0.2	0	46.2	0	46.2	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**43**	0	**1**	**44**	0	24	0	24	0	0	0	0	0	**40**	0	**40**	**108**
05:15 PM	0	0	0	0	0	37	0	37	0	0	0	0	0	26	0	26	63
05:30 PM	0	0	0	0	0	**60**	0	**60**	0	0	0	0	0	23	0	23	83
05:45 PM	0	0	0	0	0	33	0	33	0	0	0	0	0	11	0	11	44
Total Volume	43	0	1	44	0	154	0	154	0	0	0	0	0	100	0	100	298
% App. Total	97.7	0	2.3		0	100	0		0	0	0		0	100	0		
PHF	.250	.000	.250	.250	.000	.642	.000	.642	.000	.000	.000	.000	.000	.625	.000	.625	.690

Counts Unlimited
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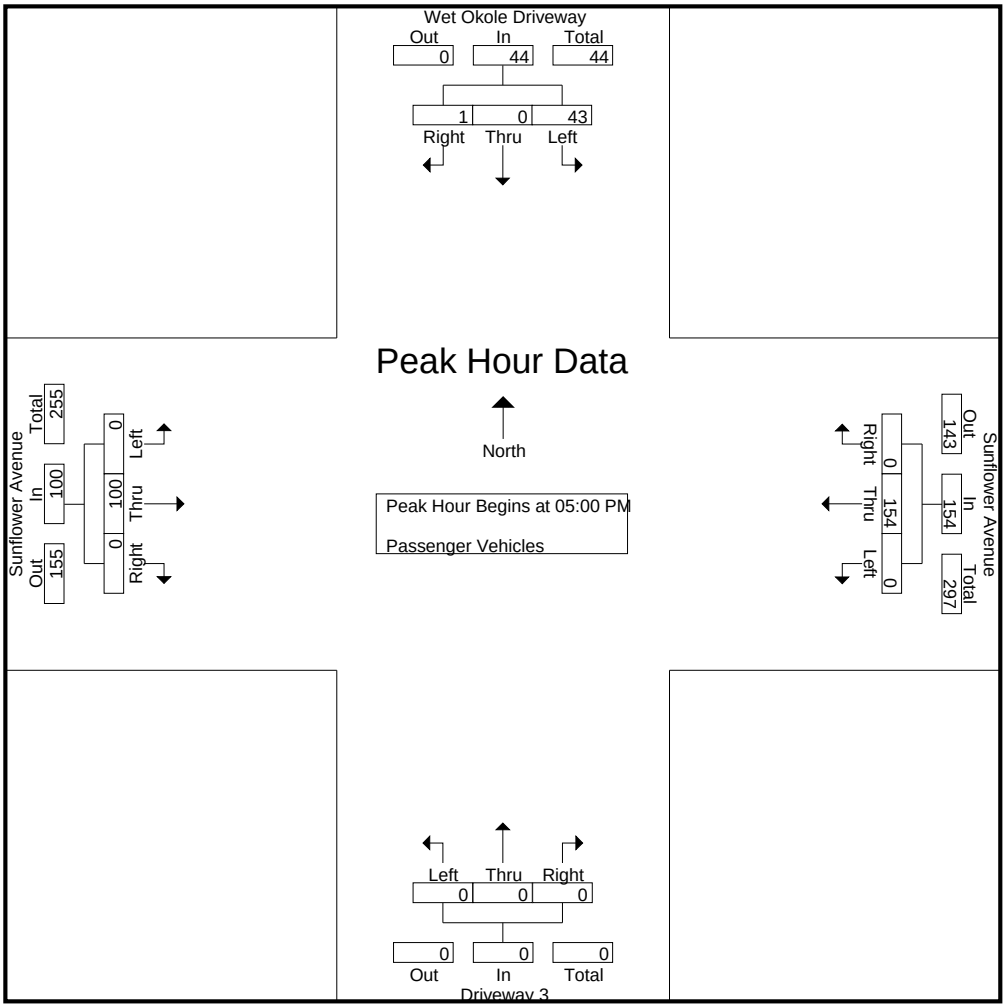
City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	**43**	0	**1**	**44**	0	24	0	24	0	0	0	0	0	**40**	0	**40**
+15 mins.	0	0	0	0	0	37	0	37	0	0	0	0	0	26	0	26
+30 mins.	0	0	0	0	0	**60**	0	**60**	0	0	0	0	0	23	0	23
+45 mins.	0	0	0	0	0	33	0	33	0	0	0	0	0	11	0	11
Total Volume	43	0	1	44	0	154	0	154	0	0	0	0	0	100	0	100
% App. Total	97.7	0	2.3		0	100	0		0	0	0		0	100	0	
PHF	.250	.000	.250	.250	.000	.642	.000	.642	.000	.000	.000	.000	.000	.625	.000	.625

Counts Unlimited
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City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
04:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	0	0	0	0	0	1	0	1	6
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
Grand Total	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4	10
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	60	0	60	0	0	0	0	0	40	0	40	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	1	**2**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375	.500

Counts Unlimited
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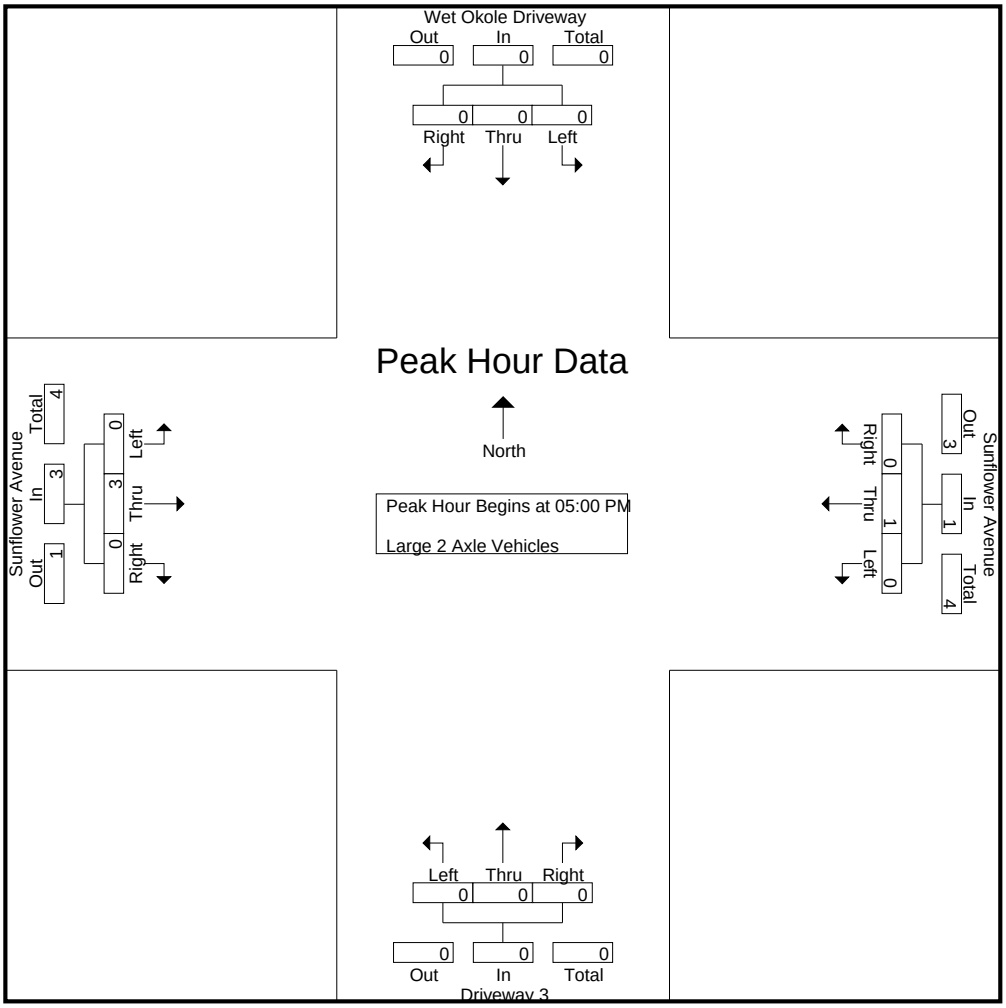
City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375

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City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 1

Groups Printed- 3 Axle Vehicles

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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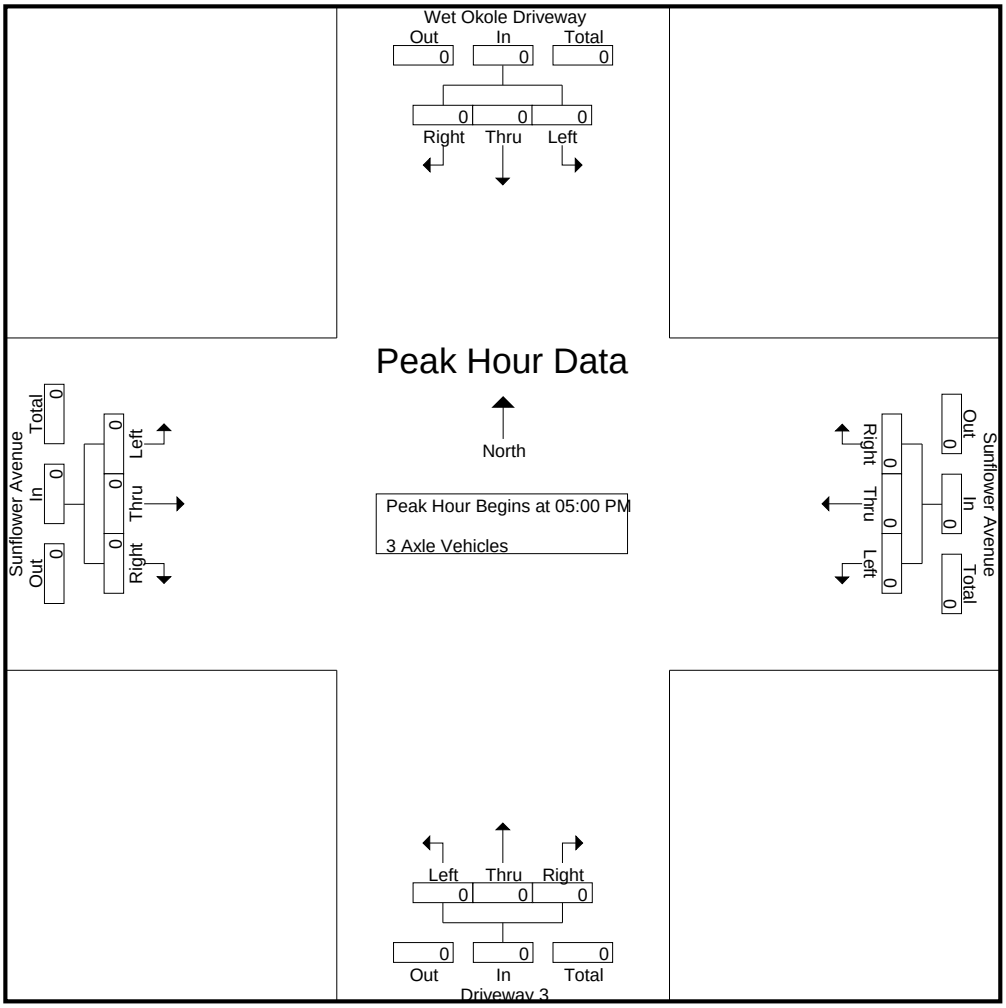
(951) 268-6268

City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 1

Groups Printed- 4+ Axle Trucks

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	50	0	50	0	0	0	0	0	50	0	50	

	Wet Okole Driveway Southbound				Sunflower Avenue Westbound				Driveway 3 Northbound				Sunflower Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

Counts Unlimited
PO Box 1178
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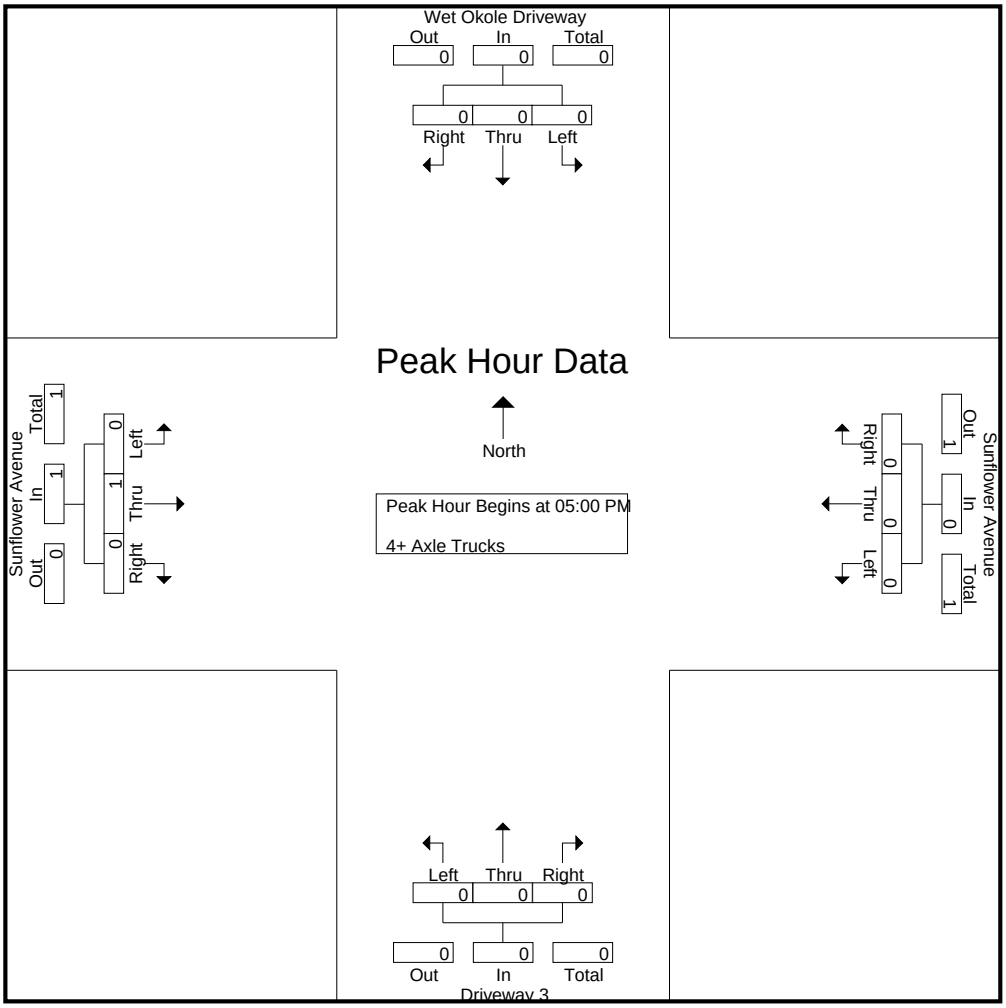
City of Costa Mesa
N/S: Driveway 3
E/W: Sunflower Avenue
Weather: Clear

File Name : 03_CSM_DW3_Sunflower PM
Site Code : 99919000
Start Date : 9/11/2019
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

Counts Unlimited
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City of Fountain Valley
N/S: Mt Washington Street
E/W: Talbert Avenue
Weather: Clear

File Name : FTV_Mt Washington_Talbert_AM
Site Code : 00319493
Start Date : 7/11/2019
Page No : 1

Groups Printed- Total Volume

	Driveway Southbound				Talbert Avenue Westbound				Mt Washington Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	0	39	44	2	62	28	92	0	1	31	32	26	317	1	344	512
07:15 AM	3	0	30	33	2	55	26	83	0	1	28	29	23	423	3	449	594
07:30 AM	3	0	31	34	6	85	25	116	0	0	43	43	21	507	3	531	724
07:45 AM	6	0	35	41	8	124	20	152	1	0	57	58	24	529	3	556	807
Total	17	0	135	152	18	326	99	443	1	2	159	162	94	1776	10	1880	2637
08:00 AM	9	0	39	48	6	101	31	138	0	0	55	55	27	466	4	497	738
08:15 AM	2	0	33	35	7	92	32	131	0	1	59	60	20	440	3	463	689
08:30 AM	2	0	37	39	5	92	36	133	0	0	41	41	26	433	3	462	675
08:45 AM	5	0	46	51	3	126	33	162	0	0	38	38	34	369	2	405	656
Total	18	0	155	173	21	411	132	564	0	1	193	194	107	1708	12	1827	2758
Grand Total	35	0	290	325	39	737	231	1007	1	3	352	356	201	3484	22	3707	5395
Apprch %	10.8	0	89.2		3.9	73.2	22.9		0.3	0.8	98.9		5.4	94	0.6		
Total %	0.6	0	5.4	6	0.7	13.7	4.3	18.7	0	0.1	6.5	6.6	3.7	64.6	0.4	68.7	

	Driveway Southbound				Talbert Avenue Westbound				Mt Washington Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	3	0	31	34	6	85	25	116	0	0	43	43	21	507	3	531	724
07:45 AM	6	0	35	41	**8**	**124**	20	**152**	**1**	0	57	58	24	**529**	3	**556**	**807**
08:00 AM	**9**	0	**39**	**48**	6	101	31	138	0	0	55	55	**27**	466	**4**	497	738
08:15 AM	2	0	33	35	7	92	**32**	131	0	**1**	**59**	**60**	20	440	3	463	689
Total Volume	20	0	138	158	27	402	108	537	1	1	214	216	92	1942	13	2047	2958
% App. Total	12.7	0	87.3		5	74.9	20.1		0.5	0.5	99.1		4.5	94.9	0.6		
PHF	.556	.000	.885	.823	.844	.810	.844	.883	.250	.250	.907	.900	.852	.918	.813	.920	.916

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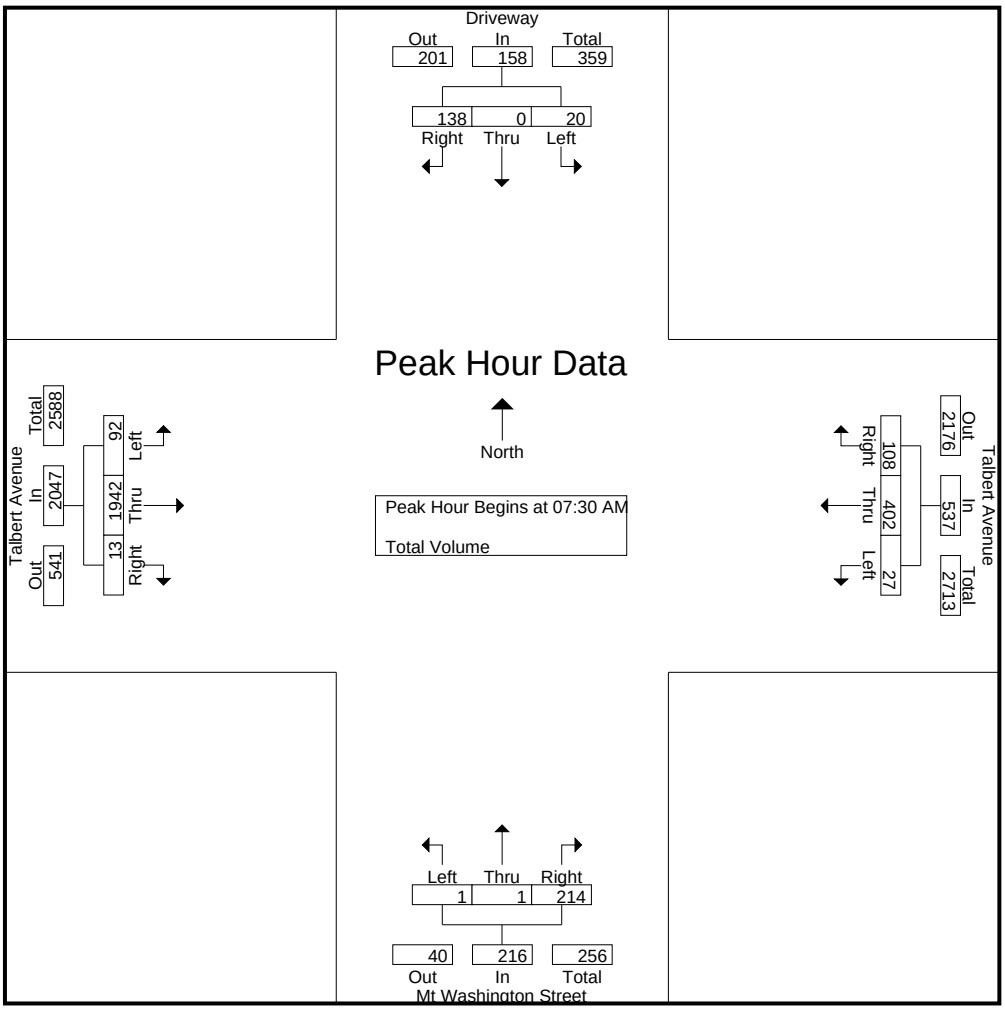
City of Fountain Valley
N/S: Mt Washington Street
E/W: Talbert Avenue
Weather: Clear

File Name : FTV_Mt Washington_Talbert_AM
Site Code : 00319493
Start Date : 7/11/2019
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:30 AM				07:30 AM			
+0 mins.	**9**	0	39	48	6	101	31	138	0	0	43	43	21	507	3	531
+15 mins.	2	0	33	35	**7**	92	32	131	**1**	0	57	58	24	**529**	3	**556**
+30 mins.	2	0	37	39	5	92	**36**	133	0	0	55	55	**27**	466	**4**	497
+45 mins.	5	0	**46**	**51**	3	**126**	33	**162**	0	**1**	**59**	**60**	20	440	3	463
Total Volume	18	0	155	173	21	411	132	564	1	1	214	216	92	1942	13	2047
% App. Total	10.4	0	89.6		3.7	72.9	23.4		0.5	0.5	99.1		4.5	94.9	0.6	
PHF	.500	.000	.842	.848	.750	.815	.917	.870	.250	.250	.907	.900	.852	.918	.813	.920

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City of Fountain Valley
N/S: Mt Washington Street
E/W: Talbert Avenue
Weather: Clear

File Name : FTV_Mt Washington_Talbert_PM
Site Code : 00319493
Start Date : 7/11/2019
Page No : 1

Groups Printed- Total Volume

	Driveway Southbound				Talbert Avenue Westbound				Mt Washington Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	1	37	40	84	620	126	830	0	2	25	27	7	154	0	161	1058
04:15 PM	1	0	30	31	77	709	105	891	0	0	29	29	14	151	4	169	1120
04:30 PM	0	0	32	32	74	696	92	862	0	1	37	38	11	164	3	178	1110
04:45 PM	0	1	43	44	108	711	91	910	0	2	30	32	14	155	3	172	1158
Total	3	2	142	147	343	2736	414	3493	0	5	121	126	46	624	10	680	4446
05:00 PM	0	0	44	44	112	696	107	915	0	1	30	31	9	141	0	150	1140
05:15 PM	0	0	25	25	108	721	106	935	0	1	25	26	15	173	2	190	1176
05:30 PM	0	0	37	37	120	680	119	919	0	3	33	36	10	174	2	186	1178
05:45 PM	0	0	40	40	101	687	105	893	1	1	21	23	14	172	1	187	1143
Total	0	0	146	146	441	2784	437	3662	1	6	109	116	48	660	5	713	4637
Grand Total	3	2	288	293	784	5520	851	7155	1	11	230	242	94	1284	15	1393	9083
Apprch %	1	0.7	98.3		11	77.1	11.9		0.4	4.5	95		6.7	92.2	1.1		
Total %	0	0	3.2	3.2	8.6	60.8	9.4	78.8	0	0.1	2.5	2.7	1	14.1	0.2	15.3	

	Driveway Southbound				Talbert Avenue Westbound				Mt Washington Street Northbound				Talbert Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**1**	43	**44**	108	711	91	910	0	2	30	32	14	155	**3**	172	1158
05:00 PM	0	0	**44**	44	112	696	107	915	0	1	30	31	9	141	0	150	1140
05:15 PM	0	0	25	25	108	**721**	106	**935**	0	1	25	26	**15**	173	2	**190**	1176
05:30 PM	0	0	37	37	**120**	680	**119**	919	0	**3**	**33**	**36**	10	**174**	2	186	**1178**
Total Volume	0	1	149	150	448	2808	423	3679	0	7	118	125	48	643	7	698	4652
% App. Total	0	0.7	99.3		12.2	76.3	11.5		0	5.6	94.4		6.9	92.1	1		
PHF	.000	.250	.847	.852	.933	.974	.889	.984	.000	.583	.894	.868	.800	.924	.583	.918	.987

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City of Fountain Valley
N/S: Mt Washington Street
E/W: Talbert Avenue
Weather: Clear

File Name : FTV_Mt Washington_Talbert_PM
Site Code : 00319493
Start Date : 7/11/2019
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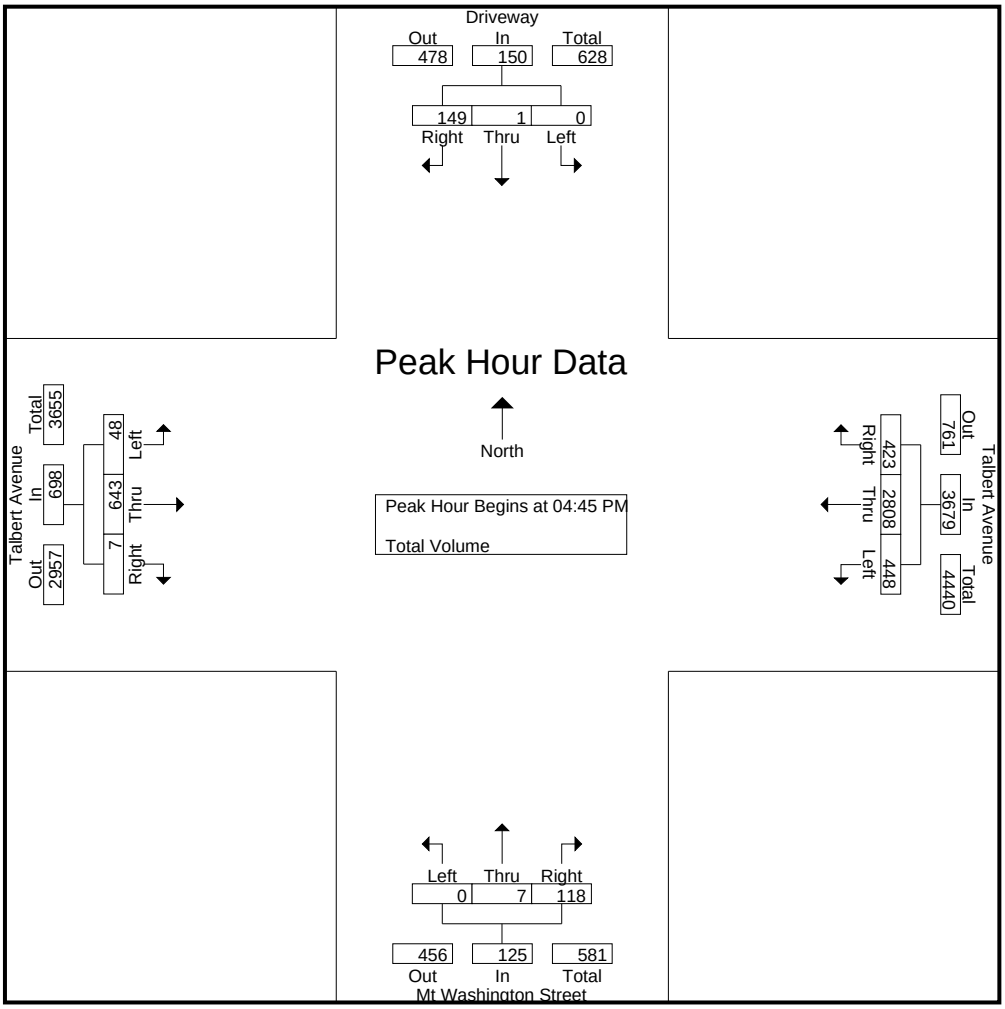

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:15 PM				05:00 PM			
+0 mins.	**1**	0	30	31	108	711	91	910	0	0	29	29	9	141	0	150
+15 mins.	0	0	32	32	112	696	107	915	0	1	**37**	**38**	**15**	173	**2**	**190**
+30 mins.	0	**1**	43	**44**	108	**721**	106	**935**	0	**2**	30	32	10	**174**	2	186
+45 mins.	0	0	**44**	44	**120**	680	**119**	919	0	1	30	31	14	172	1	187
Total Volume	1	1	149	151	448	2808	423	3679	0	4	126	130	48	660	5	713
% App. Total	0.7	0.7	98.7		12.2	76.3	11.5		0	3.1	96.9		6.7	92.6	0.7	
PHF	.250	.250	.847	.858	.933	.974	.889	.984	.000	.500	.851	.855	.800	.948	.625	.938

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City of Santa Ana
N/S: Fairview Street
E/W: Segerstrom Avenue
Weather: Clear

File Name : 15_SNA_Fairview_Segerstrom AM
Site Code : 14118619
Start Date : 9/13/2018
Page No : 1

Groups Printed- Total Volume

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45 AM	21	406	46	473	36	80	23	139	27	117	25	169	12	57	20	89	870
Total	21	406	46	473	36	80	23	139	27	117	25	169	12	57	20	89	870
07:00 AM	29	397	23	449	33	61	26	120	34	140	22	196	10	91	27	128	893
07:15 AM	33	486	19	538	44	95	30	169	20	196	28	244	19	113	27	159	1110
07:30 AM	42	538	21	601	54	98	47	199	28	244	37	309	15	117	40	172	1281
07:45 AM	36	470	26	532	41	129	52	222	35	224	39	298	11	114	32	157	1209
Total	140	1891	89	2120	172	383	155	710	117	804	126	1047	55	435	126	616	4493
08:00 AM	36	464	33	533	43	105	41	189	27	228	24	279	15	109	30	154	1155
08:15 AM	35	390	27	452	32	65	27	124	31	160	24	215	19	97	34	150	941
08:30 AM	32	449	16	497	32	77	32	141	17	153	16	186	9	100	27	136	960
Grand Total	264	3600	211	4075	315	710	278	1303	219	1462	215	1896	110	798	237	1145	8419
Apprch %	6.5	88.3	5.2		24.2	54.5	21.3		11.6	77.1	11.3		9.6	69.7	20.7		
Total %	3.1	42.8	2.5	48.4	3.7	8.4	3.3	15.5	2.6	17.4	2.6	22.5	1.3	9.5	2.8	13.6	

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	33	486	19	538	44	95	30	169	20	196	28	244	**19**	113	27	159	1110
07:30 AM	**42**	**538**	21	**601**	**54**	98	47	199	28	**244**	37	**309**	15	**117**	**40**	**172**	**1281**
07:45 AM	36	470	26	532	41	**129**	**52**	**222**	**35**	224	**39**	298	11	114	32	157	1209
08:00 AM	36	464	**33**	533	43	105	41	189	27	228	24	279	15	109	30	154	1155
Total Volume	147	1958	99	2204	182	427	170	779	110	892	128	1130	60	453	129	642	4755
% App. Total	6.7	88.8	4.5		23.4	54.8	21.8		9.7	78.9	11.3		9.3	70.6	20.1		
PHF	.875	.910	.750	.917	.843	.828	.817	.877	.786	.914	.821	.914	.789	.968	.806	.933	.928

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City of Santa Ana
N/S: Fairview Street
E/W: Segerstrom Avenue
Weather: Clear

File Name : 15_SNA_Fairview_Segerstrom AM
Site Code : 14118619
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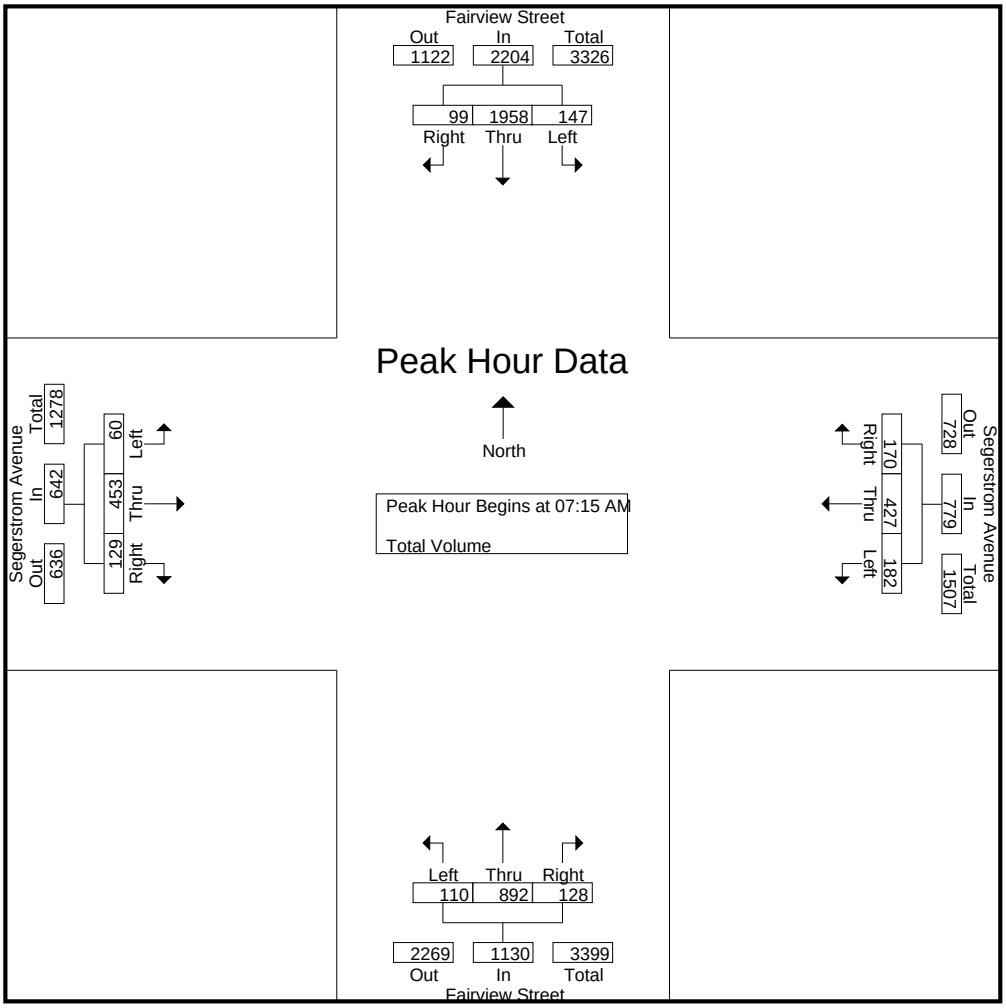

Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	33	486	19	538	44	95	30	169	20	196	28	244	**19**	113	27	159
+15 mins.	**42**	**538**	21	**601**	**54**	98	47	199	28	**244**	37	**309**	15	**117**	**40**	**172**
+30 mins.	36	470	26	532	41	**129**	**52**	**222**	**35**	224	**39**	298	11	114	32	157
+45 mins.	36	464	**33**	533	43	105	41	189	27	228	24	279	15	109	30	154
Total Volume	147	1958	99	2204	182	427	170	779	110	892	128	1130	60	453	129	642
% App. Total	6.7	88.8	4.5		23.4	54.8	21.8		9.7	78.9	11.3		9.3	70.6	20.1	
PHF	.875	.910	.750	.917	.843	.828	.817	.877	.786	.914	.821	.914	.789	.968	.806	.933

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City of Santa Ana
N/S: Fairview Street
E/W: Segerstrom Avenue
Weather: Clear

File Name : 15_SNA_Fairview_Segerstrom MD
Site Code : 14118619
Start Date : 9/13/2018
Page No : 1

Groups Printed- Total Volume

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	9	230	25	264	18	61	27	106	15	160	29	204	22	67	34	123	697
12:15 PM	16	255	20	291	26	63	24	113	28	204	24	256	17	58	22	97	757
12:30 PM	14	216	29	259	21	68	32	121	17	209	21	247	23	77	21	121	748
12:45 PM	20	218	19	257	23	47	27	97	31	227	22	280	19	62	17	98	732
Total	59	919	93	1071	88	239	110	437	91	800	96	987	81	264	94	439	2934
01:00 PM	13	197	19	229	37	70	25	132	25	218	18	261	22	87	25	134	756
01:15 PM	22	220	25	267	26	50	24	100	22	215	23	260	24	70	28	122	749
01:30 PM	12	200	21	233	17	75	35	127	20	264	29	313	53	124	31	208	881
01:45 PM	21	238	17	276	19	84	40	143	18	269	23	310	20	77	25	122	851
Total	68	855	82	1005	99	279	124	502	85	966	93	1144	119	358	109	586	3237
Grand Total	127	1774	175	2076	187	518	234	939	176	1766	189	2131	200	622	203	1025	6171
Apprch %	6.1	85.5	8.4		19.9	55.2	24.9		8.3	82.9	8.9		19.5	60.7	19.8		
Total %	2.1	28.7	2.8	33.6	3	8.4	3.8	15.2	2.9	28.6	3.1	34.5	3.2	10.1	3.3	16.6	

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	13	197	19	229	**37**	70	25	132	**25**	218	18	261	22	87	25	134	756
01:15 PM	**22**	220	**25**	267	26	50	24	100	22	215	23	260	24	70	28	122	749
01:30 PM	12	200	21	233	17	75	35	127	20	264	**29**	**313**	**53**	**124**	**31**	**208**	**881**
01:45 PM	21	**238**	17	**276**	19	**84**	**40**	**143**	18	**269**	23	310	20	77	25	122	851
Total Volume	68	855	82	1005	99	279	124	502	85	966	93	1144	119	358	109	586	3237
% App. Total	6.8	85.1	8.2		19.7	55.6	24.7		7.4	84.4	8.1		20.3	61.1	18.6		
PHF	.773	.898	.820	.910	.669	.830	.775	.878	.850	.898	.802	.914	.561	.722	.879	.704	.919

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City of Santa Ana
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Weather: Clear

File Name : 15_SNA_Fairview_Segerstrom MD
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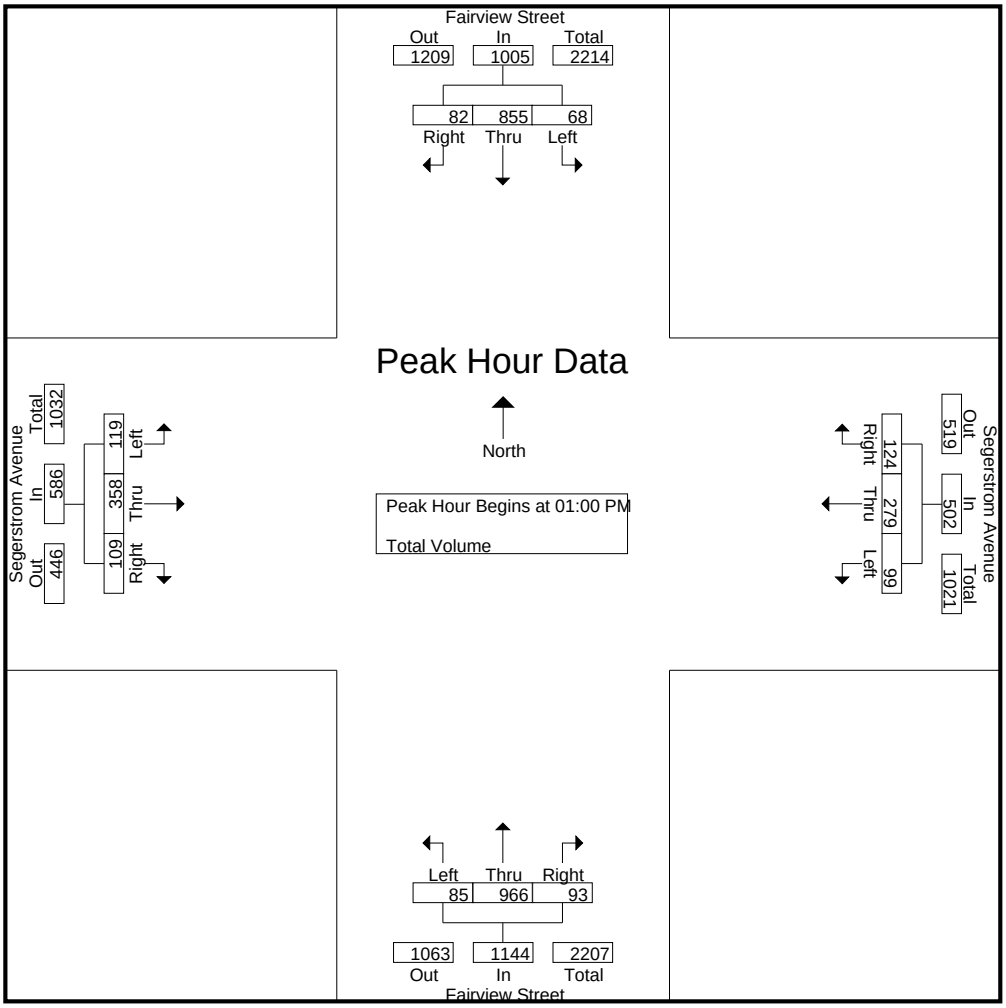

Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				01:00 PM				01:00 PM				01:00 PM			
+0 mins.	9	230	25	264	**37**	70	25	132	**25**	218	18	261	22	87	25	134
+15 mins.	16	**255**	20	**291**	26	50	24	100	22	215	23	260	24	70	28	122
+30 mins.	14	216	**29**	259	17	75	35	127	20	264	**29**	**313**	**53**	**124**	**31**	**208**
+45 mins.	**20**	218	19	257	19	**84**	**40**	**143**	18	**269**	23	310	20	77	25	122
Total Volume	59	919	93	1071	99	279	124	502	85	966	93	1144	119	358	109	586
% App. Total	5.5	85.8	8.7		19.7	55.6	24.7		7.4	84.4	8.1		20.3	61.1	18.6	
PHF	.738	.901	.802	.920	.669	.830	.775	.878	.850	.898	.802	.914	.561	.722	.879	.704

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City of Santa Ana
N/S: Fairview Street
E/W: Segerstrom Avenue
Weather: Clear

File Name : 15_SNA_Fairview_Segerstrom PM
Site Code : 14118619
Start Date : 9/13/2018
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Groups Printed- Total Volume

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	25	220	63	308	13	173	49	235	45	406	41	492	39	165	32	236	1271
04:15 PM	30	200	31	261	28	228	43	299	78	421	39	538	35	129	35	199	1297
04:30 PM	23	228	25	276	20	201	43	264	67	437	43	547	34	138	36	208	1295
04:45 PM	24	237	14	275	20	227	50	297	66	432	42	540	35	154	25	214	1326
Total	102	885	133	1120	81	829	185	1095	256	1696	165	2117	143	586	128	857	5189
05:00 PM	22	250	24	296	20	212	45	277	70	449	32	551	39	155	37	231	1355
05:15 PM	23	254	24	301	19	214	41	274	72	444	49	565	32	159	38	229	1369
05:30 PM	36	244	22	302	22	218	55	295	88	404	38	530	40	151	26	217	1344
05:45 PM	18	252	25	295	24	201	42	267	79	431	33	543	26	125	26	177	1282
Total	99	1000	95	1194	85	845	183	1113	309	1728	152	2189	137	590	127	854	5350
Grand Total	201	1885	228	2314	166	1674	368	2208	565	3424	317	4306	280	1176	255	1711	10539
Apprch %	8.7	81.5	9.9		7.5	75.8	16.7		13.1	79.5	7.4		16.4	68.7	14.9		
Total %	1.9	17.9	2.2	22	1.6	15.9	3.5	21	5.4	32.5	3	40.9	2.7	11.2	2.4	16.2	

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	24	237	14	275	20	**227**	50	**297**	66	432	42	540	35	154	25	214	1326
05:00 PM	22	250	**24**	296	20	212	45	277	70	**449**	32	551	39	155	37	**231**	1355
05:15 PM	23	**254**	24	301	19	214	41	274	72	444	**49**	**565**	32	**159**	**38**	229	**1369**
05:30 PM	**36**	244	22	**302**	**22**	218	**55**	295	**88**	404	38	530	**40**	151	26	217	1344
Total Volume	105	985	84	1174	81	871	191	1143	296	1729	161	2186	146	619	126	891	5394
% App. Total	8.9	83.9	7.2		7.1	76.2	16.7		13.5	79.1	7.4		16.4	69.5	14.1		
PHF	.729	.969	.875	.972	.920	.959	.868	.962	.841	.963	.821	.967	.913	.973	.829	.964	.985

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City of Santa Ana
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File Name : 15_SNA_Fairview_Segerstrom PM
Site Code : 14118619
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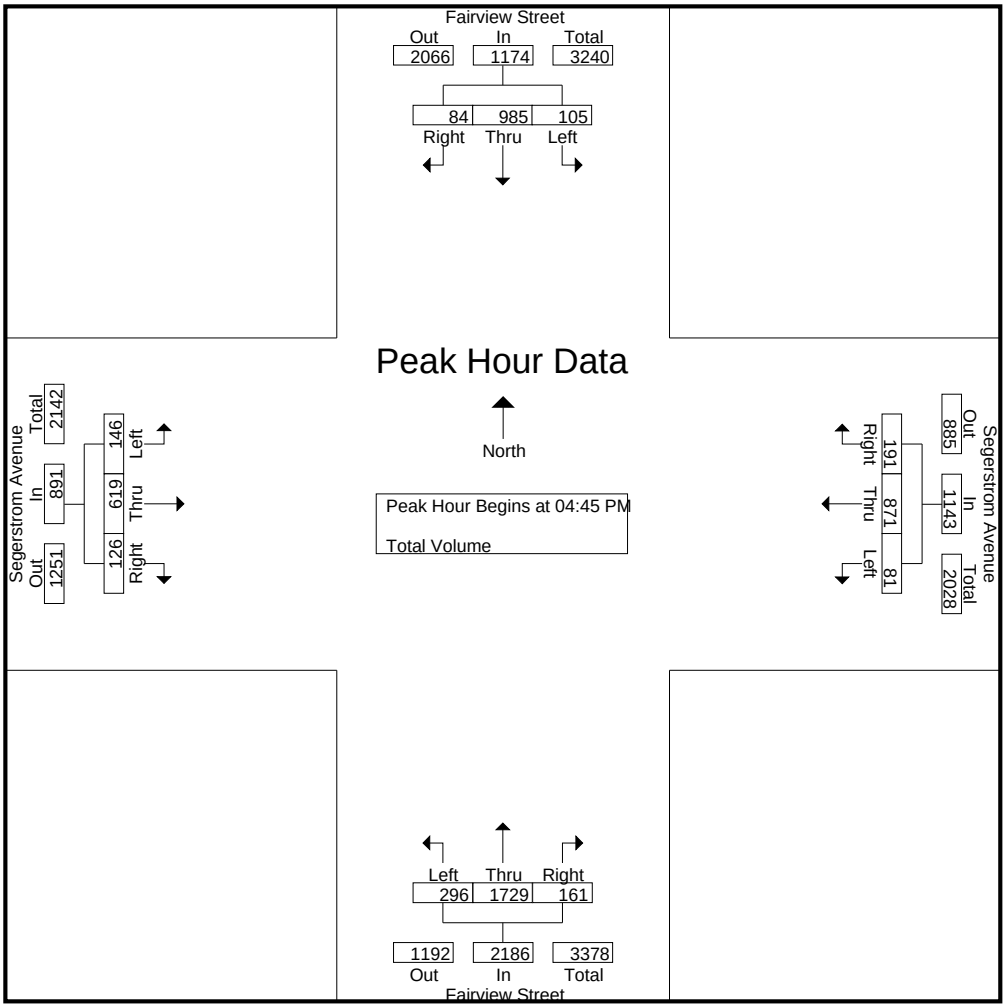

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:30 PM				04:45 PM			
+0 mins.	22	250	24	296	20	**227**	50	**297**	67	437	43	547	35	154	25	214
+15 mins.	23	**254**	24	301	20	212	45	277	66	432	42	540	39	155	37	**231**
+30 mins.	**36**	244	22	**302**	19	214	41	274	70	**449**	32	551	32	**159**	**38**	229
+45 mins.	18	252	**25**	295	**22**	218	**55**	295	**72**	444	**49**	**565**	**40**	151	26	217
Total Volume	99	1000	95	1194	81	871	191	1143	275	1762	166	2203	146	619	126	891
% App. Total	8.3	83.8	8		7.1	76.2	16.7		12.5	80	7.5		16.4	69.5	14.1	
PHF	.688	.984	.950	.988	.920	.959	.868	.962	.955	.981	.847	.975	.913	.973	.829	.964

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Santa Ana
N/S: Fairview Street
E/W: Segerstrom Avenue
Weather: Clear

File Name : 15_SNA_Fairview_Segerstrom SAT
Site Code : 14118619
Start Date : 9/15/2018
Page No : 1

Groups Printed- Total Volume

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
11:30 AM	25	256	8	289	22	72	29	123	12	239	20	271	13	60	13	86	769
11:45 AM	14	261	14	289	25	50	27	102	5	223	28	256	5	62	24	91	738
Total	39	517	22	578	47	122	56	225	17	462	48	527	18	122	37	177	1507
12:00 PM	15	243	11	269	36	55	26	117	12	229	40	281	22	67	14	103	770
12:15 PM	15	254	9	278	27	64	31	122	13	284	34	331	21	76	12	109	840
12:30 PM	13	223	3	239	41	69	28	138	14	224	27	265	12	69	12	93	735
12:45 PM	14	259	14	287	29	66	32	127	12	267	32	311	12	64	22	98	823
Total	57	979	37	1073	133	254	117	504	51	1004	133	1188	67	276	60	403	3168
01:00 PM	25	240	15	280	20	77	28	125	8	237	22	267	13	56	19	88	760
01:15 PM	20	219	11	250	24	70	26	120	11	271	22	304	10	58	18	86	760
Grand Total	141	1955	85	2181	224	523	227	974	87	1974	225	2286	108	512	134	754	6195
Apprch %	6.5	89.6	3.9		23	53.7	23.3		3.8	86.4	9.8		14.3	67.9	17.8		
Total %	2.3	31.6	1.4	35.2	3.6	8.4	3.7	15.7	1.4	31.9	3.6	36.9	1.7	8.3	2.2	12.2	

	Fairview Street Southbound				Segerstrom Avenue Westbound				Fairview Street Northbound				Segerstrom Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	**15**	243	11	269	36	55	26	117	12	229	**40**	281	**22**	67	14	103	770
12:15 PM	15	254	9	278	27	64	31	122	13	**284**	34	**331**	21	**76**	12	**109**	**840**
12:30 PM	13	223	3	239	**41**	**69**	28	**138**	**14**	224	27	265	12	69	12	93	735
12:45 PM	14	**259**	**14**	**287**	29	66	**32**	127	12	267	32	311	12	64	**22**	98	823
Total Volume	57	979	37	1073	133	254	117	504	51	1004	133	1188	67	276	60	403	3168
% App. Total	5.3	91.2	3.4		26.4	50.4	23.2		4.3	84.5	11.2		16.6	68.5	14.9		
PHF	.950	.945	.661	.935	.811	.920	.914	.913	.911	.884	.831	.897	.761	.908	.682	.924	.943

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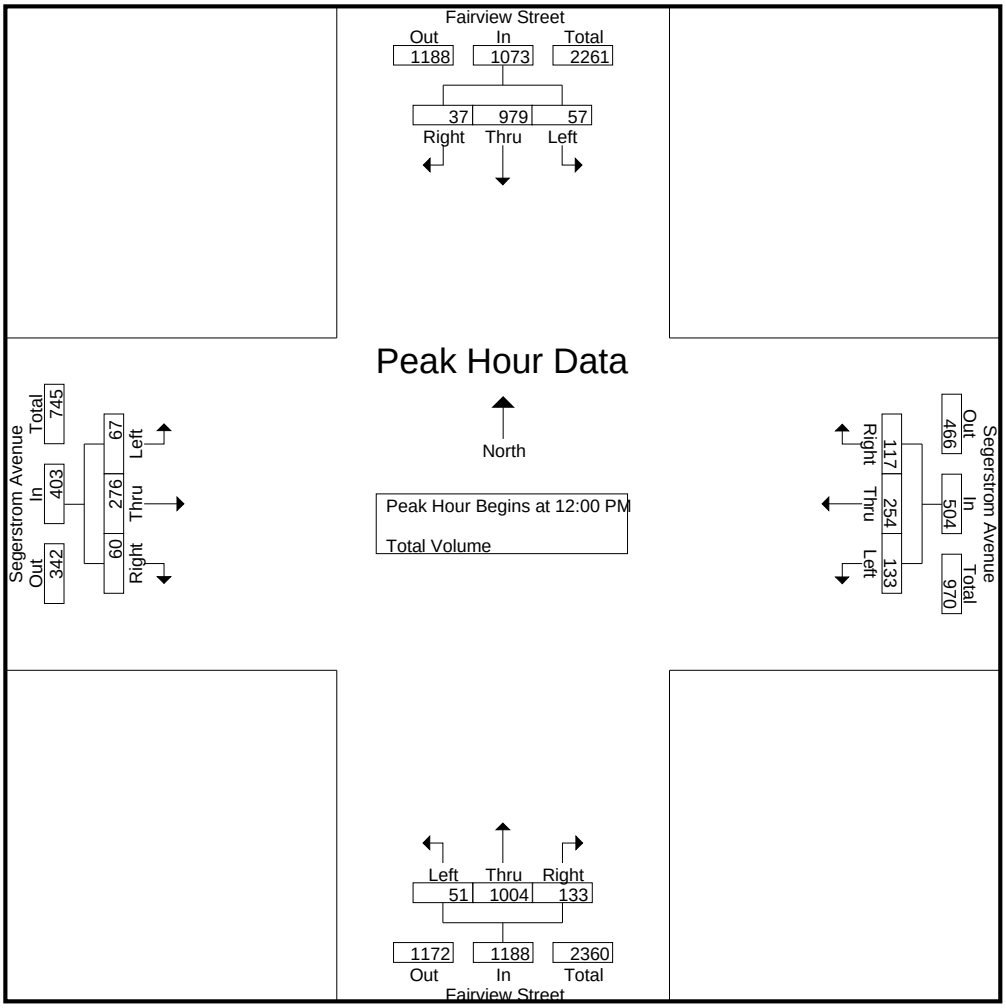

Peak Hour Analysis From 11:30 AM to 01:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:30 AM				12:15 PM				12:00 PM				12:00 PM			
+0 mins.	**25**	256	8	**289**	27	64	31	122	12	229	**40**	281	**22**	67	14	103
+15 mins.	14	**261**	**14**	289	**41**	69	28	**138**	13	**284**	34	**331**	21	**76**	12	**109**
+30 mins.	15	243	11	269	29	66	**32**	127	**14**	224	27	265	12	69	12	93
+45 mins.	15	254	9	278	20	**77**	28	125	12	267	32	311	12	64	**22**	98
Total Volume	69	1014	42	1125	117	276	119	512	51	1004	133	1188	67	276	60	403
% App. Total	6.1	90.1	3.7		22.9	53.9	23.2		4.3	84.5	11.2		16.6	68.5	14.9	
PHF	.690	.971	.750	.973	.713	.896	.930	.928	.911	.884	.831	.897	.761	.908	.682	.924

APPENDIX B:

FREEWAY LOS USING CALTRANS 2017 AADT

LSA

Appendix B - Existing Freeway Segment and Ramp Levels of Service Using Caltrans AADT[1]

				Without Project						With Project					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	I-405 Freeway	Type	Mainline Lanes	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS	Speed (mi/hr)	Density (pc/mi/ln)	LOS
	Northbound														
1 .	South of Fairview Road On-Ramp	Basic	6	59.2	26.8	D	59.2	25.8	C	59.2	26.8	D	59.2	25.8	C
2 .	Fairview Road On-Ramp	Ramp (Merge)	6	55.9	27.7	C	56.3	26.8	C	55.9	27.7	C	56.3	26.8	C
3 .	Fairview Road On-Ramp and Harbor Boulevard On-Ramp	Basic	6	59.2	28.4	D	59.2	27.4	D	59.2	28.4	D	59.2	27.4	D
4 .	Harbor Boulevard On-Ramp	Ramp (Merge)	6	55.1	30.0	D	55.3	29.6	D	55.1	30.0	D	55.3	29.6	D
5 .	Harbor Boulevard On-Ramp and Hyland Avenue On-Ramp	Basic	6	58.1	30.8	D	58.3	29.8	D	58.1	30.8	D	58.3	29.8	D
6 .	Hyland Avenue On-Ramp	Ramp (Merge)	6	56.0	27.9	C	53.9	31.9	D	55.8	28.2	D	53.8	32.1	D
	Southbound														
7 .	Harbor Boulevard Off-Ramp	Ramp (Diverge)	6	53.4	8.3	A	53.1	17.2	B	53.3	8.4	A	53.0	17.3	B
8 .	Harbor Boulevard Off-Ramp and Harbor Boulevard Loop On-Ramp	Basic	6	58.4	17.0	B	58.4	26.4	D	58.4	17.0	B	58.4	26.4	D
9 .	Harbor Boulevard Loop On-Ramp	Ramp (Merge)	6	58.3	18.5	B	55.4	27.5	C	58.1	19.0	B	55.2	27.9	C
10 .	Harbor Boulevard Loop On-Ramp and Harbor Boulevard Slip-On Ramp	Basic	7	57.7	16.9	B	57.7	25.6	C	57.7	17.1	B	57.7	25.7	C
11 .	Harbor Boulevard Slip-On Ramp	Ramp (Merge)	7	57.1	23.3	C	55.3	27.8	C	57.0	23.5	C	55.2	27.9	C
12 .	Harbor Boulevard Slip-On Ramp and Fairview Road Off-Ramp	Basic (Weave)	7	51.1	19.8	B	52.7	26.3	C	51.1	20.0	B	52.7	26.4	C

Notes:
I-405 = Interstate 405
mi/hr : miles per hour
pc/mi/ln: passanger cars per mile per lane
[1] Caltrans 2017 AADT volumes were updated to 2019 using the growth per annum from the Orange County Transportation Analysis Model (OCTAM) base year (2012) and future year (2040).

APPENDIX C:

VOLUME DEVELOPMENT WORKSHEETS

LSA

Table C-A - I-405 Traffic Volumes from I-405 Improvement Project EIR

Revised Fwy Volumes using 405 EIR Volumes (from comments) - 5/31/19

	Mainline	2009	2020	Diff '09-'20	Growth	2019 Vol	2019 PV	2019 Tr	2019 PCE	Mainline	
405 NB	AM	8360	10386	2026	1842	10202	9846	356	**10558**	AM	405 NB
	PM	8110	11547	3437	3125	11235	10843	392	**11627**	PM	
405 SB	AM	12490	16086	3596	3269	15759	15209	550	**16309**	AM	405 SB
	PM	9730	12692	2962	2693	12423	11989	434	**12857**	PM	
	Growth (yrs)	11									
	Existing Yr	2019									
	TR % from Caltrans	3.49									
	Caltrans TR PCE Factor	2.0									
	HOV	2009	2020	Diff '09-'20	Growth	2019 Vol	2019 PV	2019 Tr	2019 PCE	HOV	
405 NB	AM	720	1731	1011	919	**1639**	1582	57	1696	AM	405 NB
	PM	1270	1925	655	595	**1865**	1800	65	1930	PM	
405 SB	AM	1080	2298	1218	1107	**2187**	2111	76	2263	AM	405 SB
	PM	1240	1813	573	521	**1761**	1700	61	1822	PM	

****Bold = numbers used for volumes**

LSA

Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
1 Euclid Street/Talbert Avenue								
NBL	216	0	216	216	0	216	0	216
NBT	471	0	471	471	0	471	0	471
NBR	46	0	46	46	0	46	1	47
SBL	615	0	615	615	-3	612	8	620
SBT	811	0	811	811	0	811	0	811
SBR	282	0	282	282	0	282	0	282
EBL	140	0	140	140	0	140	0	140
EBT	1,206	0	1,206	1,206	-2	1,204	8	1,212
EBR	55	0	55	55	0	55	0	55
WBL	29	0	29	29	0	29	4	33
WBT	407	0	407	407	0	407	17	424
WBR	66	0	66	66	0	66	17	83
North Leg								
Approach	1,708	0	1,708	1,708	-3	1,705	8	1,713
Departure	677	0	677	677	0	677	17	694
Total	2,385	0	2,385	2,385	-3	2,382	25	2,407
South Leg								
Approach	733	0	733	733	0	733	1	734
Departure	895	0	895	895	0	895	4	899
Total	1,628	0	1,628	1,628	0	1,628	5	1,633
East Leg								
Approach	502	0	502	502	0	502	38	540
Departure	1,867	0	1,867	1,867	-5	1,862	17	1,879
Total	2,369	0	2,369	2,369	-5	2,364	55	2,419
West Leg								
Approach	1,401	0	1,401	1,401	-2	1,399	8	1,407
Departure	905	0	905	905	0	905	17	922
Total	2,306	0	2,306	2,306	-2	2,304	25	2,329
Total Approaches								
Approach	4,344	0	4,344	4,344	-5	4,339	55	4,394
Departure	4,344	0	4,344	4,344	-5	4,339	55	4,394
Total	8,688	0	8,688	8,688	-10	8,678	110	8,788

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
1 Euclid Street/Talbert Avenue								
NBL	134	0	134	134	0	134	0	134
NBT	488	0	488	488	0	488	0	488
NBR	29	0	29	29	0	29	4	33
SBL	141	0	141	141	0	141	18	159
SBT	476	0	476	476	0	476	0	476
SBR	220	0	220	220	0	220	0	220
EBL	227	0	227	227	0	227	0	227
EBT	520	0	520	520	0	520	18	538
EBR	259	0	259	259	0	259	0	259
WBL	115	0	115	115	0	115	2	117
WBT	1,902	0	1,902	1,902	0	1,902	13	1,915
WBR	689	0	689	689	-1	688	13	701
North Leg								
Approach	837	0	837	837	0	837	18	855
Departure	1,404	0	1,404	1,404	-1	1,403	13	1,416
Total	2,241	0	2,241	2,241	-1	2,240	31	2,271
South Leg								
Approach	651	0	651	651	0	651	4	655
Departure	850	0	850	850	0	850	2	852
Total	1,501	0	1,501	1,501	0	1,501	6	1,507
East Leg								
Approach	2,706	0	2,706	2,706	-1	2,705	28	2,733
Departure	690	0	690	690	0	690	40	730
Total	3,396	0	3,396	3,396	-1	3,395	68	3,463
West Leg								
Approach	1,006	0	1,006	1,006	0	1,006	18	1,024
Departure	2,256	0	2,256	2,256	0	2,256	13	2,269
Total	3,262	0	3,262	3,262	0	3,262	31	3,293
Total Approaches								
Approach	5,200	0	5,200	5,200	-1	5,199	68	5,267
Departure	5,200	0	5,200	5,200	-1	5,199	68	5,267
Total	10,400	0	10,400	10,400	-2	10,398	136	10,534

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
2 Euclid Street/I-405 Northbound Ramps - Newhope Street								
NBL	22	0	22	22	0	22	0	22
NBT	273	0	273	273	0	273	0	273
NBR	471	0	471	471	-1	470	2	472
SBL	0	0	0	0	0	0	0	0
SBT	788	0	788	788	0	788	0	788
SBR	48	0	48	48	0	48	0	48
EBL	553	0	553	553	0	553	0	553
EBT	338	0	338	338	0	338	0	338
EBR	522	0	522	522	0	522	0	522
WBL	168	0	168	168	0	168	4	172
WBT	56	0	56	56	0	56	0	56
WBR	10	0	10	10	0	10	0	10
North Leg								
Approach	836	0	836	836	0	836	0	836
Departure	836	0	836	836	0	836	0	836
Total	1,672	0	1,672	1,672	0	1,672	0	1,672
South Leg								
Approach	766	0	766	766	-1	765	2	767
Departure	1,478	0	1,478	1,478	0	1,478	4	1,482
Total	2,244	0	2,244	2,244	-1	2,243	6	2,249
East Leg								
Approach	234	0	234	234	0	234	4	238
Departure	809	0	809	809	-1	808	2	810
Total	1,043	0	1,043	1,043	-1	1,042	6	1,048
West Leg								
Approach	1,413	0	1,413	1,413	0	1,413	0	1,413
Departure	126	0	126	126	0	126	0	126
Total	1,539	0	1,539	1,539	0	1,539	0	1,539
Total Approaches								
Approach	3,249	0	3,249	3,249	-1	3,248	6	3,254
Departure	3,249	0	3,249	3,249	-1	3,248	6	3,254
Total	6,498	0	6,498	6,498	-2	6,496	12	6,508

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
2 Euclid Street/I-405 Northbound Ramps - Newhope Street								
NBL	203	0	203	203	0	203	0	203
NBT	332	0	332	332	0	332	0	332
NBR	267	0	267	267	0	267	5	272
SBL	0	0	0	0	0	0	0	0
SBT	721	0	721	721	0	721	0	721
SBR	228	0	228	228	0	228	0	228
EBL	413	0	413	413	0	413	0	413
EBT	79	0	79	79	0	79	0	79
EBR	403	0	403	403	0	403	0	403
WBL	456	0	456	456	0	456	3	459
WBT	475	0	475	475	0	475	0	475
WBR	18	0	18	18	0	18	0	18
North Leg								
Approach	949	0	949	949	0	949	0	949
Departure	763	0	763	763	0	763	0	763
Total	1,712	0	1,712	1,712	0	1,712	0	1,712
South Leg								
Approach	802	0	802	802	0	802	5	807
Departure	1,580	0	1,580	1,580	0	1,580	3	1,583
Total	2,382	0	2,382	2,382	0	2,382	8	2,390
East Leg								
Approach	949	0	949	949	0	949	3	952
Departure	346	0	346	346	0	346	5	351
Total	1,295	0	1,295	1,295	0	1,295	8	1,303
West Leg								
Approach	895	0	895	895	0	895	0	895
Departure	906	0	906	906	0	906	0	906
Total	1,801	0	1,801	1,801	0	1,801	0	1,801
Total Approaches								
Approach	3,595	0	3,595	3,595	0	3,595	8	3,603
Departure	3,595	0	3,595	3,595	0	3,595	8	3,603
Total	7,190	0	7,190	7,190	0	7,190	16	7,206

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
3 I-405 Southbound Ramps - OCSD Driveway/Ellis Avenue - Euclid Street								
NBL	5	0	5	5	0	5	0	5
NBT	15	0	15	15	0	15	0	15
NBR	2	0	2	2	0	2	0	2
SBL	75	0	75	75	0	75	0	75
SBT	1	0	1	1	0	1	0	1
SBR	28	0	28	28	0	28	0	28
EBL	636	0	636	636	0	636	0	636
EBT	969	0	969	969	-1	968	2	970
EBR	24	0	24	24	0	24	0	24
WBL	30	0	30	30	0	30	0	30
WBT	672	0	672	672	0	672	4	676
WBR	746	0	746	746	0	746	0	746
North Leg								
Approach	104	0	104	104	0	104	0	104
Departure	1,397	0	1,397	1,397	0	1,397	0	1,397
Total	1,501	0	1,501	1,501	0	1,501	0	1,501
South Leg								
Approach	22	0	22	22	0	22	0	22
Departure	55	0	55	55	0	55	0	55
Total	77	0	77	77	0	77	0	77
East Leg								
Approach	1,448	0	1,448	1,448	0	1,448	4	1,452
Departure	1,046	0	1,046	1,046	-1	1,045	2	1,047
Total	2,494	0	2,494	2,494	-1	2,493	6	2,499
West Leg								
Approach	1,629	0	1,629	1,629	-1	1,628	2	1,630
Departure	705	0	705	705	0	705	4	709
Total	2,334	0	2,334	2,334	-1	2,333	6	2,339
Total Approaches								
Approach	3,203	0	3,203	3,203	-1	3,202	6	3,208
Departure	3,203	0	3,203	3,203	-1	3,202	6	3,208
Total	6,406	0	6,406	6,406	-2	6,404	12	6,416

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
3 I-405 Southbound Ramps - OCSD Driveway/Ellis Avenue - Euclid Street								
NBL	20	0	20	20	0	20	0	20
NBT	44	0	44	44	0	44	0	44
NBR	61	0	61	61	0	61	0	61
SBL	142	0	142	142	0	142	0	142
SBT	0	0	0	0	0	0	0	0
SBR	54	0	54	54	0	54	0	54
EBL	588	0	588	588	0	588	0	588
EBT	485	0	485	485	0	485	5	490
EBR	2	0	2	2	0	2	0	2
WBL	12	0	12	12	0	12	0	12
WBT	1,186	0	1,186	1,186	0	1,186	3	1,189
WBR	691	0	691	691	0	691	0	691
North Leg								
Approach	196	0	196	196	0	196	0	196
Departure	1,323	0	1,323	1,323	0	1,323	0	1,323
Total	1,519	0	1,519	1,519	0	1,519	0	1,519
South Leg								
Approach	125	0	125	125	0	125	0	125
Departure	14	0	14	14	0	14	0	14
Total	139	0	139	139	0	139	0	139
East Leg								
Approach	1,889	0	1,889	1,889	0	1,889	3	1,892
Departure	688	0	688	688	0	688	5	693
Total	2,577	0	2,577	2,577	0	2,577	8	2,585
West Leg								
Approach	1,075	0	1,075	1,075	0	1,075	5	1,080
Departure	1,260	0	1,260	1,260	0	1,260	3	1,263
Total	2,335	0	2,335	2,335	0	2,335	8	2,343
Total Approaches								
Approach	3,285	0	3,285	3,285	0	3,285	8	3,293
Departure	3,285	0	3,285	3,285	0	3,285	8	3,293
Total	6,570	0	6,570	6,570	0	6,570	16	6,586

LSA

Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
4 Newhope Street/Talbert Avenue								
NBL	1	0	1	1	0	1	0	1
NBT	409	0	409	409	0	409	0	409
NBR	385	0	385	385	-1	384	2	386
SBL	314	0	314	314	0	314	0	314
SBT	134	0	134	134	0	134	0	134
SBR	72	0	72	72	0	72	0	72
EBL	67	0	67	67	0	67	0	67
EBT	1,787	0	1,787	1,787	-5	1,782	16	1,798
EBR	10	0	10	10	0	10	0	10
WBL	93	0	93	93	0	93	4	97
WBT	423	0	423	423	0	423	38	461
WBR	53	0	53	53	0	53	0	53
North Leg								
Approach	520	0	520	520	0	520	0	520
Departure	529	0	529	529	0	529	0	529
Total	1,049	0	1,049	1,049	0	1,049	0	1,049
South Leg								
Approach	795	0	795	795	-1	794	2	796
Departure	237	0	237	237	0	237	4	241
Total	1,032	0	1,032	1,032	-1	1,031	6	1,037
East Leg								
Approach	569	0	569	569	0	569	42	611
Departure	2,486	0	2,486	2,486	-6	2,480	18	2,498
Total	3,055	0	3,055	3,055	-6	3,049	60	3,109
West Leg								
Approach	1,864	0	1,864	1,864	-5	1,859	16	1,875
Departure	496	0	496	496	0	496	38	534
Total	2,360	0	2,360	2,360	-5	2,355	54	2,409
Total Approaches								
Approach	3,748	0	3,748	3,748	-6	3,742	60	3,802
Departure	3,748	0	3,748	3,748	-6	3,742	60	3,802
Total	7,496	0	7,496	7,496	-12	7,484	120	7,604

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
4 Newhope Street/Talbert Avenue								
NBL	15	0	15	15	0	15	0	15
NBT	237	0	237	237	0	237	0	237
NBR	95	0	95	95	0	95	5	100
SBL	213	0	213	213	0	213	0	213
SBT	486	0	486	486	0	486	0	486
SBR	161	0	161	161	0	161	0	161
EBL	173	0	173	173	0	173	0	173
EBT	513	0	513	513	0	513	40	553
EBR	11	0	11	11	0	11	0	11
WBL	462	0	462	462	0	462	3	465
WBT	2,523	0	2,523	2,523	-1	2,522	29	2,551
WBR	177	0	177	177	0	177	0	177
North Leg								
Approach	860	0	860	860	0	860	0	860
Departure	587	0	587	587	0	587	0	587
Total	1,447	0	1,447	1,447	0	1,447	0	1,447
South Leg								
Approach	347	0	347	347	0	347	5	352
Departure	959	0	959	959	0	959	3	962
Total	1,306	0	1,306	1,306	0	1,306	8	1,314
East Leg								
Approach	3,162	0	3,162	3,162	-1	3,161	32	3,193
Departure	821	0	821	821	0	821	45	866
Total	3,983	0	3,983	3,983	-1	3,982	77	4,059
West Leg								
Approach	697	0	697	697	0	697	40	737
Departure	2,699	0	2,699	2,699	-1	2,698	29	2,727
Total	3,396	0	3,396	3,396	-1	3,395	69	3,464
Total Approaches								
Approach	5,066	0	5,066	5,066	-1	5,065	77	5,142
Departure	5,066	0	5,066	5,066	-1	5,065	77	5,142
Total	10,132	0	10,132	10,132	-2	10,130	154	10,284

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
5 OCTA Bus Base - Hyland Avenue/MacArthur Boulevard								
NBL	64	0	64	64	-1	63	42	105
NBT	6	0	6	6	0	6	0	6
NBR	16	0	16	16	0	16	0	16
SBL	9	0	9	9	0	9	0	9
SBT	2	0	2	2	0	2	0	2
SBR	7	0	7	7	0	7	0	7
EBL	13	0	13	13	0	13	0	13
EBT	1,875	0	1,875	1,875	0	1,875	0	1,875
EBR	790	0	790	790	-6	784	19	803
WBL	60	0	60	60	0	60	0	60
WBT	499	0	499	499	0	499	0	499
WBR	11	0	11	11	0	11	0	11
North Leg								
Approach	18	0	18	18	0	18	0	18
Departure	30	0	30	30	0	30	0	30
Total	48	0	48	48	0	48	0	48
South Leg								
Approach	86	0	86	86	-1	85	42	127
Departure	852	0	852	852	-6	846	19	865
Total	938	0	938	938	-7	931	61	992
East Leg								
Approach	570	0	570	570	0	570	0	570
Departure	1,900	0	1,900	1,900	0	1,900	0	1,900
Total	2,470	0	2,470	2,470	0	2,470	0	2,470
West Leg								
Approach	2,678	0	2,678	2,678	-6	2,672	19	2,691
Departure	570	0	570	570	-1	569	42	611
Total	3,248	0	3,248	3,248	-7	3,241	61	3,302
Total Approaches								
Approach	3,352	0	3,352	3,352	-7	3,345	61	3,406
Departure	3,352	0	3,352	3,352	-7	3,345	61	3,406
Total	6,704	0	6,704	6,704	-14	6,690	122	6,812

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
5 OCTA Bus Base - Hyland Avenue/MacArthur Boulevard								
NBL	1,360	0	1,360	1,360	-1	1,359	32	1,391
NBT	6	0	6	6	0	6	0	6
NBR	61	0	61	61	0	61	0	61
SBL	5	0	5	5	0	5	0	5
SBT	1	0	1	1	0	1	0	1
SBR	22	0	22	22	0	22	0	22
EBL	17	0	17	17	0	17	0	17
EBT	772	0	772	772	0	772	0	772
EBR	145	0	145	145	0	145	46	191
WBL	8	0	8	8	0	8	0	8
WBT	2,381	0	2,381	2,381	0	2,381	0	2,381
WBR	12	0	12	12	0	12	0	12
North Leg								
Approach	28	0	28	28	0	28	0	28
Departure	35	0	35	35	0	35	0	35
Total	63	0	63	63	0	63	0	63
South Leg								
Approach	1,427	0	1,427	1,427	-1	1,426	32	1,458
Departure	154	0	154	154	0	154	46	200
Total	1,581	0	1,581	1,581	-1	1,580	78	1,658
East Leg								
Approach	2,401	0	2,401	2,401	0	2,401	0	2,401
Departure	838	0	838	838	0	838	0	838
Total	3,239	0	3,239	3,239	0	3,239	0	3,239
West Leg								
Approach	934	0	934	934	0	934	46	980
Departure	3,763	0	3,763	3,763	-1	3,762	32	3,794
Total	4,697	0	4,697	4,697	-1	4,696	78	4,774
Total Approaches								
Approach	4,790	0	4,790	4,790	-1	4,789	78	4,867
Departure	4,790	0	4,790	4,790	-1	4,789	78	4,867
Total	9,580	0	9,580	9,580	-2	9,578	156	9,734

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
6 Hyland Avenue/Sunflower Avenue								
NBL	74	0	74	74	-1	73	17	90
NBT	122	0	122	122	0	122	0	122
NBR	11	0	11	11	0	11	0	11
SBL	129	0	129	129	0	129	0	129
SBT	316	0	316	316	0	316	0	316
SBR	78	0	78	78	0	78	22	100
EBL	10	0	10	10	0	10	54	64
EBT	31	0	31	31	-1	30	245	275
EBR	18	0	18	18	-1	17	103	120
WBL	34	0	34	34	0	34	0	34
WBT	146	0	146	146	-16	130	93	223
WBR	67	0	67	67	0	67	0	67
North Leg								
Approach	523	0	523	523	0	523	22	545
Departure	199	0	199	199	0	199	54	253
Total	722	0	722	722	0	722	76	798
South Leg								
Approach	207	0	207	207	-1	206	17	223
Departure	368	0	368	368	-1	367	103	470
Total	575	0	575	575	-2	573	120	693
East Leg								
Approach	247	0	247	247	-16	231	93	324
Departure	171	0	171	171	-1	170	245	415
Total	418	0	418	418	-17	401	338	739
West Leg								
Approach	59	0	59	59	-2	57	402	459
Departure	298	0	298	298	-17	281	132	413
Total	357	0	357	357	-19	338	534	872
Total Approaches								
Approach	1,036	0	1,036	1,036	-19	1,017	534	1,551
Departure	1,036	0	1,036	1,036	-19	1,017	534	1,551
Total	2,072	0	2,072	2,072	-38	2,034	1,068	3,102

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
6 Hyland Avenue/Sunflower Avenue								
NBL	69	0	69	69	0	69	63	132
NBT	548	0	548	548	0	548	0	548
NBR	61	0	61	61	0	61	0	61
SBL	45	0	45	45	0	45	0	45
SBT	225	0	225	225	0	225	0	225
SBR	72	0	72	72	0	72	57	129
EBL	53	0	53	53	0	53	40	93
EBT	195	0	195	195	-2	193	156	349
EBR	114	0	114	114	-1	113	62	175
WBL	183	0	183	183	0	183	0	183
WBT	161	0	161	161	-1	160	291	451
WBR	188	0	188	188	0	188	0	188
North Leg								
Approach	342	0	342	342	0	342	57	399
Departure	789	0	789	789	0	789	40	829
Total	1,131	0	1,131	1,131	0	1,131	97	1,228
South Leg								
Approach	678	0	678	678	0	678	63	741
Departure	522	0	522	522	-1	521	62	583
Total	1,200	0	1,200	1,200	-1	1,199	125	1,324
East Leg								
Approach	532	0	532	532	-1	531	291	822
Departure	301	0	301	301	-2	299	156	455
Total	833	0	833	833	-3	830	447	1,277
West Leg								
Approach	362	0	362	362	-3	359	258	617
Departure	302	0	302	302	-1	301	411	712
Total	664	0	664	664	-4	660	669	1,329
Total Approaches								
Approach	1,914	0	1,914	1,914	-4	1,910	669	2,579
Departure	1,914	0	1,914	1,914	-4	1,910	669	2,579
Total	3,828	0	3,828	3,828	-8	3,820	1,338	5,158

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
7 Hyland Avenue/I-405 Northbound Ramps - South Coast Drive								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	268	0	268	268	0	268	63	331
SBT	0	0	0	0	0	0	0	0
SBR	55	0	55	55	-1	54	40	94
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	144	0	144	144	0	144	0	144
WBR	283	0	283	283	-1	282	17	299
North Leg								
Approach	323	0	323	323	-1	322	103	425
Departure	283	0	283	283	-1	282	17	299
Total	606	0	606	606	-2	604	120	724
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	427	0	427	427	-1	426	17	443
Departure	268	0	268	268	0	268	63	331
Total	695	0	695	695	-1	694	80	774
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	199	0	199	199	-1	198	40	238
Total	199	0	199	199	-1	198	40	238
Total Approaches								
Approach	750	0	750	750	-2	748	120	868
Departure	750	0	750	750	-2	748	120	868
Total	1,500	0	1,500	1,500	-4	1,496	240	1,736

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
7 Hyland Avenue/I-405 Northbound Ramps - South Coast Drive								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	347	0	347	347	0	347	36	383
SBT	0	0	0	0	0	0	0	0
SBR	348	0	348	348	-1	347	25	372
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	437	0	437	437	0	437	0	437
WBR	775	0	775	775	0	775	63	838
North Leg								
Approach	695	0	695	695	-1	694	61	755
Departure	775	0	775	775	0	775	63	838
Total	1,470	0	1,470	1,470	-1	1,469	124	1,593
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	1,212	0	1,212	1,212	0	1,212	63	1,275
Departure	347	0	347	347	0	347	36	383
Total	1,559	0	1,559	1,559	0	1,559	99	1,658
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	785	0	785	785	-1	784	25	809
Total	785	0	785	785	-1	784	25	809
Total Approaches								
Approach	1,907	0	1,907	1,907	-1	1,906	124	2,030
Departure	1,907	0	1,907	1,907	-1	1,906	124	2,030
Total	3,814	0	3,814	3,814	-2	3,812	248	4,060

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
8 Harbor Boulevard/MacArthur Boulevard								
NBL	119	0	119	119	0	119	0	119
NBT	901	0	901	901	0	901	23	924
NBR	88	0	88	88	0	88	0	88
SBL	346	0	346	346	0	346	0	346
SBT	1,889	0	1,889	1,889	-4	1,885	6	1,891
SBR	123	0	123	123	0	123	0	123
EBL	145	0	145	145	0	145	0	145
EBT	1,252	0	1,252	1,252	0	1,252	0	1,252
EBR	377	0	377	377	0	377	0	377
WBL	93	0	93	93	0	93	0	93
WBT	397	0	397	397	0	397	0	397
WBR	106	0	106	106	0	106	0	106
North Leg								
Approach	2,358	0	2,358	2,358	-4	2,354	6	2,360
Departure	1,152	0	1,152	1,152	0	1,152	23	1,175
Total	3,510	0	3,510	3,510	-4	3,506	29	3,535
South Leg								
Approach	1,108	0	1,108	1,108	0	1,108	23	1,131
Departure	2,359	0	2,359	2,359	-4	2,355	6	2,361
Total	3,467	0	3,467	3,467	-4	3,463	29	3,492
East Leg								
Approach	596	0	596	596	0	596	0	596
Departure	1,686	0	1,686	1,686	0	1,686	0	1,686
Total	2,282	0	2,282	2,282	0	2,282	0	2,282
West Leg								
Approach	1,774	0	1,774	1,774	0	1,774	0	1,774
Departure	639	0	639	639	0	639	0	639
Total	2,413	0	2,413	2,413	0	2,413	0	2,413
Total Approaches								
Approach	5,836	0	5,836	5,836	-4	5,832	29	5,861
Departure	5,836	0	5,836	5,836	-4	5,832	29	5,861
Total	11,672	0	11,672	11,672	-8	11,664	58	11,722

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
8 Harbor Boulevard/MacArthur Boulevard								
NBL	565	0	565	565	0	565	0	565
NBT	1,547	0	1,547	1,547	-1	1,546	13	1,559
NBR	84	0	84	84	0	84	0	84
SBL	220	0	220	220	0	220	0	220
SBT	1,000	0	1,000	1,000	0	1,000	23	1,023
SBR	160	0	160	160	0	160	0	160
EBL	130	0	130	130	0	130	0	130
EBT	580	0	580	580	0	580	0	580
EBR	177	0	177	177	0	177	0	177
WBL	52	0	52	52	0	52	0	52
WBT	1,387	0	1,387	1,387	0	1,387	0	1,387
WBR	233	0	233	233	0	233	0	233
North Leg								
Approach	1,380	0	1,380	1,380	0	1,380	23	1,403
Departure	1,910	0	1,910	1,910	-1	1,909	13	1,922
Total	3,290	0	3,290	3,290	-1	3,289	36	3,325
South Leg								
Approach	2,196	0	2,196	2,196	-1	2,195	13	2,208
Departure	1,229	0	1,229	1,229	0	1,229	23	1,252
Total	3,425	0	3,425	3,425	-1	3,424	36	3,460
East Leg								
Approach	1,672	0	1,672	1,672	0	1,672	0	1,672
Departure	884	0	884	884	0	884	0	884
Total	2,556	0	2,556	2,556	0	2,556	0	2,556
West Leg								
Approach	887	0	887	887	0	887	0	887
Departure	2,112	0	2,112	2,112	0	2,112	0	2,112
Total	2,999	0	2,999	2,999	0	2,999	0	2,999
Total Approaches								
Approach	6,135	0	6,135	6,135	-1	6,134	36	6,170
Departure	6,135	0	6,135	6,135	-1	6,134	36	6,170
Total	12,270	0	12,270	12,270	-2	12,268	72	12,340

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
9 Harbor Boulevard/Scenic Avenue - West Lake Center Drive								
NBL	79	0	79	79	-7	72	0	72
NBT	1,126	0	1,126	1,126	0	1,126	24	1,150
NBR	62	0	62	62	0	62	0	62
SBL	68	0	68	68	0	68	0	68
SBT	2,187	0	2,187	2,187	0	2,187	9	2,196
SBR	70	0	70	70	-4	66	0	66
EBL	14	0	14	14	0	14	0	14
EBT	28	0	28	28	0	28	0	28
EBR	31	0	31	31	0	31	0	31
WBL	25	0	25	25	0	25	0	25
WBT	17	0	17	17	0	17	0	17
WBR	27	0	27	27	0	27	0	27
North Leg								
Approach	2,325	0	2,325	2,325	-4	2,321	9	2,330
Departure	1,167	0	1,167	1,167	0	1,167	24	1,191
Total	3,492	0	3,492	3,492	-4	3,488	33	3,521
South Leg								
Approach	1,267	0	1,267	1,267	-7	1,260	24	1,284
Departure	2,243	0	2,243	2,243	0	2,243	9	2,252
Total	3,510	0	3,510	3,510	-7	3,503	33	3,536
East Leg								
Approach	69	0	69	69	0	69	0	69
Departure	158	0	158	158	0	158	0	158
Total	227	0	227	227	0	227	0	227
West Leg								
Approach	73	0	73	73	0	73	0	73
Departure	166	0	166	166	-11	155	0	155
Total	239	0	239	239	-11	228	0	228
Total Approaches								
Approach	3,734	0	3,734	3,734	-11	3,723	33	3,756
Departure	3,734	0	3,734	3,734	-11	3,723	33	3,756
Total	7,468	0	7,468	7,468	-22	7,446	66	7,512

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
9 Harbor Boulevard/Scenic Avenue - West Lake Center Drive								
NBL	43	0	43	43	0	43	0	43
NBT	1,947	0	1,947	1,947	0	1,947	17	1,964
NBR	27	0	27	27	0	27	0	27
SBL	13	0	13	13	0	13	0	13
SBT	1,243	0	1,243	1,243	0	1,243	26	1,269
SBR	12	0	12	12	0	12	0	12
EBL	37	0	37	37	-1	36	0	36
EBT	53	0	53	53	0	53	0	53
EBR	93	0	93	93	-2	91	0	91
WBL	82	0	82	82	0	82	0	82
WBT	236	0	236	236	0	236	0	236
WBR	174	0	174	174	0	174	0	174
North Leg								
Approach	1,268	0	1,268	1,268	0	1,268	26	1,294
Departure	2,158	0	2,158	2,158	-1	2,157	17	2,174
Total	3,426	0	3,426	3,426	-1	3,425	43	3,468
South Leg								
Approach	2,017	0	2,017	2,017	0	2,017	17	2,034
Departure	1,418	0	1,418	1,418	-2	1,416	26	1,442
Total	3,435	0	3,435	3,435	-2	3,433	43	3,476
East Leg								
Approach	492	0	492	492	0	492	0	492
Departure	93	0	93	93	0	93	0	93
Total	585	0	585	585	0	585	0	585
West Leg								
Approach	183	0	183	183	-3	180	0	180
Departure	291	0	291	291	0	291	0	291
Total	474	0	474	474	-3	471	0	471
Total Approaches								
Approach	3,960	0	3,960	3,960	-3	3,957	43	4,000
Departure	3,960	0	3,960	3,960	-3	3,957	43	4,000
Total	7,920	0	7,920	7,920	-6	7,914	86	8,000

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
10 Harbor Boulevard/Sunflower Avenue								
NBL	209	0	209	209	-12	197	51	248
NBT	1,237	0	1,237	1,237	-7	1,230	0	1,230
NBR	209	0	209	209	0	209	0	209
SBL	179	0	179	179	0	179	0	179
SBT	1,859	0	1,859	1,859	0	1,859	0	1,859
SBR	37	0	37	37	0	37	10	47
EBL	10	0	10	10	0	10	24	34
EBT	133	0	133	133	0	133	64	197
EBR	36	0	36	36	-1	35	113	148
WBL	103	0	103	103	0	103	0	103
WBT	113	0	113	113	-4	109	21	130
WBR	71	0	71	71	0	71	0	71
North Leg								
Approach	2,075	0	2,075	2,075	0	2,075	10	2,085
Departure	1,318	0	1,318	1,318	-7	1,311	24	1,335
Total	3,393	0	3,393	3,393	-7	3,386	34	3,420
South Leg								
Approach	1,655	0	1,655	1,655	-19	1,636	51	1,687
Departure	1,998	0	1,998	1,998	-1	1,997	113	2,110
Total	3,653	0	3,653	3,653	-20	3,633	164	3,797
East Leg								
Approach	287	0	287	287	-4	283	21	304
Departure	521	0	521	521	0	521	64	585
Total	808	0	808	808	-4	804	85	889
West Leg								
Approach	179	0	179	179	-1	178	201	379
Departure	359	0	359	359	-16	343	82	425
Total	538	0	538	538	-17	521	283	804
Total Approaches								
Approach	4,196	0	4,196	4,196	-24	4,172	283	4,455
Departure	4,196	0	4,196	4,196	-24	4,172	283	4,455
Total	8,392	0	8,392	8,392	-48	8,344	566	8,910

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
10 Harbor Boulevard/Sunflower Avenue								
NBL	149	0	149	149	-1	148	158	306
NBT	1,787	0	1,787	1,787	0	1,787	0	1,787
NBR	309	0	309	309	0	309	0	309
SBL	86	0	86	86	0	86	0	86
SBT	1,292	0	1,292	1,292	-2	1,290	0	1,290
SBR	53	0	53	53	0	53	26	79
EBL	51	0	51	51	0	51	18	69
EBT	145	0	145	145	-1	144	42	186
EBR	200	0	200	200	-1	199	74	273
WBL	238	0	238	238	0	238	0	238
WBT	665	0	665	665	0	665	66	731
WBR	186	0	186	186	0	186	0	186
North Leg								
Approach	1,431	0	1,431	1,431	-2	1,429	26	1,455
Departure	2,024	0	2,024	2,024	0	2,024	18	2,042
Total	3,455	0	3,455	3,455	-2	3,453	44	3,497
South Leg								
Approach	2,245	0	2,245	2,245	-1	2,244	158	2,402
Departure	1,730	0	1,730	1,730	-3	1,727	74	1,801
Total	3,975	0	3,975	3,975	-4	3,971	232	4,203
East Leg								
Approach	1,089	0	1,089	1,089	0	1,089	66	1,155
Departure	540	0	540	540	-1	539	42	581
Total	1,629	0	1,629	1,629	-1	1,628	108	1,736
West Leg								
Approach	396	0	396	396	-2	394	134	528
Departure	867	0	867	867	-1	866	250	1,116
Total	1,263	0	1,263	1,263	-3	1,260	384	1,644
Total Approaches								
Approach	5,161	0	5,161	5,161	-5	5,156	384	5,540
Departure	5,161	0	5,161	5,161	-5	5,156	384	5,540
Total	10,322	0	10,322	10,322	-10	10,312	768	11,080

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
11 Harbor Boulevard/South Coast Drive								
NBL	311	0	311	311	0	311	0	311
NBT	1,684	0	1,684	1,684	-19	1,665	51	1,716
NBR	259	0	259	259	0	259	0	259
SBL	72	0	72	72	0	72	0	72
SBT	1,835	0	1,835	1,835	-1	1,834	113	1,947
SBR	52	0	52	52	0	52	0	52
EBL	15	0	15	15	0	15	0	15
EBT	54	0	54	54	0	54	63	117
EBR	227	0	227	227	0	227	0	227
WBL	86	0	86	86	0	86	0	86
WBT	202	0	202	202	-1	201	17	218
WBR	53	0	53	53	0	53	0	53
North Leg								
Approach	1,959	0	1,959	1,959	-1	1,958	113	2,071
Departure	1,752	0	1,752	1,752	-19	1,733	51	1,784
Total	3,711	0	3,711	3,711	-20	3,691	164	3,855
South Leg								
Approach	2,254	0	2,254	2,254	-19	2,235	51	2,286
Departure	2,148	0	2,148	2,148	-1	2,147	113	2,260
Total	4,402	0	4,402	4,402	-20	4,382	164	4,546
East Leg								
Approach	341	0	341	341	-1	340	17	357
Departure	385	0	385	385	0	385	63	448
Total	726	0	726	726	-1	725	80	805
West Leg								
Approach	296	0	296	296	0	296	63	359
Departure	565	0	565	565	-1	564	17	581
Total	861	0	861	861	-1	860	80	940
Total Approaches								
Approach	4,850	0	4,850	4,850	-21	4,829	244	5,073
Departure	4,850	0	4,850	4,850	-21	4,829	244	5,073
Total	9,700	0	9,700	9,700	-42	9,658	488	10,146

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
11 Harbor Boulevard/South Coast Drive								
NBL	373	0	373	373	0	373	0	373
NBT	1,958	0	1,958	1,958	-1	1,957	158	2,115
NBR	212	0	212	212	0	212	0	212
SBL	73	0	73	73	0	73	0	73
SBT	1,645	0	1,645	1,645	-3	1,642	74	1,716
SBR	62	0	62	62	0	62	0	62
EBL	26	0	26	26	0	26	0	26
EBT	35	0	35	35	0	35	36	71
EBR	382	0	382	382	0	382	0	382
WBL	401	0	401	401	0	401	0	401
WBT	794	0	794	794	0	794	63	857
WBR	231	0	231	231	0	231	0	231
North Leg								
Approach	1,780	0	1,780	1,780	-3	1,777	74	1,851
Departure	2,215	0	2,215	2,215	-1	2,214	158	2,372
Total	3,995	0	3,995	3,995	-4	3,991	232	4,223
South Leg								
Approach	2,543	0	2,543	2,543	-1	2,542	158	2,700
Departure	2,428	0	2,428	2,428	-3	2,425	74	2,499
Total	4,971	0	4,971	4,971	-4	4,967	232	5,199
East Leg								
Approach	1,426	0	1,426	1,426	0	1,426	63	1,489
Departure	320	0	320	320	0	320	36	356
Total	1,746	0	1,746	1,746	0	1,746	99	1,845
West Leg								
Approach	443	0	443	443	0	443	36	479
Departure	1,229	0	1,229	1,229	0	1,229	63	1,292
Total	1,672	0	1,672	1,672	0	1,672	99	1,771
Total Approaches								
Approach	6,192	0	6,192	6,192	-4	6,188	331	6,519
Departure	6,192	0	6,192	6,192	-4	6,188	331	6,519
Total	12,384	0	12,384	12,384	-8	12,376	662	13,038

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
12 Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,480	0	1,480	1,480	-11	1,469	30	1,499
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,341	0	1,341	1,341	0	1,341	45	1,386
SBR	810	0	810	810	-1	809	68	877
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	531	0	531	531	0	531	0	531
WBT	0	0	0	0	0	0	0	0
WBR	854	0	854	854	-8	846	22	868
North Leg								
Approach	2,151	0	2,151	2,151	-1	2,150	113	2,263
Departure	2,334	0	2,334	2,334	-19	2,315	52	2,367
Total	4,485	0	4,485	4,485	-20	4,465	165	4,630
South Leg								
Approach	1,480	0	1,480	1,480	-11	1,469	30	1,499
Departure	1,872	0	1,872	1,872	0	1,872	45	1,917
Total	3,352	0	3,352	3,352	-11	3,341	75	3,416
East Leg								
Approach	1,385	0	1,385	1,385	-8	1,377	22	1,399
Departure	0	0	0	0	0	0	0	0
Total	1,385	0	1,385	1,385	-8	1,377	22	1,399
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	810	0	810	810	-1	809	68	877
Total	810	0	810	810	-1	809	68	877
Total Approaches								
Approach	5,016	0	5,016	5,016	-20	4,996	165	5,161
Departure	5,016	0	5,016	5,016	-20	4,996	165	5,161
Total	10,032	0	10,032	10,032	-40	9,992	330	10,322

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
12 Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,528	0	1,528	1,528	0	1,528	88	1,616
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,399	0	1,399	1,399	-1	1,398	31	1,429
SBR	969	0	969	969	-2	967	43	1,010
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	690	0	690	690	0	690	0	690
WBT	0	0	0	0	0	0	0	0
WBR	1,066	0	1,066	1,066	0	1,066	70	1,136
North Leg								
Approach	2,368	0	2,368	2,368	-3	2,365	74	2,439
Departure	2,594	0	2,594	2,594	0	2,594	158	2,752
Total	4,962	0	4,962	4,962	-3	4,959	232	5,191
South Leg								
Approach	1,528	0	1,528	1,528	0	1,528	88	1,616
Departure	2,089	0	2,089	2,089	-1	2,088	31	2,119
Total	3,617	0	3,617	3,617	-1	3,616	119	3,735
East Leg								
Approach	1,756	0	1,756	1,756	0	1,756	70	1,826
Departure	0	0	0	0	0	0	0	0
Total	1,756	0	1,756	1,756	0	1,756	70	1,826
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	969	0	969	969	-2	967	43	1,010
Total	969	0	969	969	-2	967	43	1,010
Total Approaches								
Approach	5,652	0	5,652	5,652	-3	5,649	232	5,881
Departure	5,652	0	5,652	5,652	-3	5,649	232	5,881
Total	11,304	0	11,304	11,304	-6	11,298	464	11,762

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
13 Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,120	0	1,120	1,139	-5	1,134	16	1,150
NBR	570	0	570	570	0	570	0	570
SBL	0	0	0	0	0	0	0	0
SBT	1,720	0	1,720	1,872	0	1,872	45	1,917
SBR	0	0	0	0	0	0	0	0
EBL	335	0	335	341	-6	335	13	348
EBT	0	0	0	0	0	0	0	0
EBR	450	0	450	450	0	450	0	450
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	1,720	0	1,720	1,872	0	1,872	45	1,917
Departure	1,455	0	1,455	1,480	-11	1,469	29	1,498
Total	3,175	0	3,175	3,352	-11	3,341	74	3,415
South Leg								
Approach	1,690	0	1,690	1,709	-5	1,704	16	1,720
Departure	2,170	0	2,170	2,322	0	2,322	45	2,367
Total	3,860	0	3,860	4,031	-5	4,026	61	4,087
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	570	0	570	570	0	570	0	570
Total	570	0	570	570	0	570	0	570
West Leg								
Approach	785	0	785	791	-6	785	13	798
Departure	0	0	0	0	0	0	0	0
Total	785	0	785	791	-6	785	13	798
Total Approaches								
Approach	4,195	0	4,195	4,372	-11	4,361	74	4,435
Departure	4,195	0	4,195	4,372	-11	4,361	74	4,435
Total	8,390	0	8,390	8,744	-22	8,722	148	8,870

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
13 Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,323	0	1,323	1,351	0	1,351	47	1,398
NBR	627	0	627	627	0	627	0	627
SBL	0	0	0	0	0	0	0	0
SBT	1,993	0	1,993	2,089	-1	2,088	31	2,119
SBR	0	0	0	0	0	0	0	0
EBL	173	0	173	177	0	177	41	218
EBT	0	0	0	0	0	0	0	0
EBR	707	0	707	707	0	707	0	707
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	1,993	0	1,993	2,089	-1	2,088	31	2,119
Departure	1,496	0	1,496	1,528	0	1,528	88	1,616
Total	3,489	0	3,489	3,617	-1	3,616	119	3,735
South Leg								
Approach	1,950	0	1,950	1,978	0	1,978	47	2,025
Departure	2,700	0	2,700	2,796	-1	2,795	31	2,826
Total	4,650	0	4,650	4,774	-1	4,773	78	4,851
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	627	0	627	627	0	627	0	627
Total	627	0	627	627	0	627	0	627
West Leg								
Approach	880	0	880	884	0	884	41	925
Departure	0	0	0	0	0	0	0	0
Total	880	0	880	884	0	884	41	925
Total Approaches								
Approach	4,823	0	4,823	4,951	-1	4,950	119	5,069
Departure	4,823	0	4,823	4,951	-1	4,950	119	5,069
Total	9,646	0	9,646	9,902	-2	9,900	238	10,138

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
14 Harbor Boulevard/Gisler Avenue								
NBL	96	0	96	96	0	96	0	96
NBT	2,054	0	2,054	2,068	-3	2,065	16	2,081
NBR	9	0	9	9	0	9	0	9
SBL	74	0	74	74	0	74	0	74
SBT	1,803	0	1,803	1,803	0	1,803	41	1,844
SBR	218	0	218	218	0	218	4	222
EBL	625	0	625	629	-1	628	1	629
EBT	50	0	50	50	0	50	0	50
EBR	138	0	138	138	0	138	0	138
WBL	32	0	32	32	0	32	0	32
WBT	37	0	37	37	0	37	0	37
WBR	164	0	164	165	-1	164	0	164
North Leg								
Approach	2,095	0	2,095	2,095	0	2,095	45	2,140
Departure	2,843	0	2,843	2,862	-5	2,857	17	2,874
Total	4,938	0	4,938	4,957	-5	4,952	62	5,014
South Leg								
Approach	2,159	0	2,159	2,173	-3	2,170	16	2,186
Departure	1,973	0	1,973	1,973	0	1,973	41	2,014
Total	4,132	0	4,132	4,146	-3	4,143	57	4,200
East Leg								
Approach	233	0	233	234	-1	233	0	233
Departure	133	0	133	133	0	133	0	133
Total	366	0	366	367	-1	366	0	366
West Leg								
Approach	813	0	813	817	-1	816	1	817
Departure	351	0	351	351	0	351	4	355
Total	1,164	0	1,164	1,168	-1	1,167	5	1,172
Total Approaches								
Approach	5,300	0	5,300	5,319	-5	5,314	62	5,376
Departure	5,300	0	5,300	5,319	-5	5,314	62	5,376
Total	10,600	0	10,600	10,638	-10	10,628	124	10,752

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
14 Harbor Boulevard/Gisler Avenue								
NBL	139	0	139	139	0	139	0	139
NBT	1,932	0	1,932	1,952	0	1,952	43	1,995
NBR	20	0	20	20	0	20	0	20
SBL	135	0	135	135	0	135	0	135
SBT	2,090	0	2,090	2,090	-1	2,089	29	2,118
SBR	356	0	356	356	0	356	2	358
EBL	372	0	372	376	0	376	4	380
EBT	36	0	36	36	0	36	0	36
EBR	114	0	114	114	0	114	0	114
WBL	44	0	44	44	0	44	0	44
WBT	59	0	59	59	0	59	0	59
WBR	337	0	337	341	0	341	0	341
North Leg								
Approach	2,581	0	2,581	2,581	-1	2,580	31	2,611
Departure	2,641	0	2,641	2,669	0	2,669	47	2,716
Total	5,222	0	5,222	5,250	-1	5,249	78	5,327
South Leg								
Approach	2,091	0	2,091	2,111	0	2,111	43	2,154
Departure	2,248	0	2,248	2,248	-1	2,247	29	2,276
Total	4,339	0	4,339	4,359	-1	4,358	72	4,430
East Leg								
Approach	440	0	440	444	0	444	0	444
Departure	191	0	191	191	0	191	0	191
Total	631	0	631	635	0	635	0	635
West Leg								
Approach	522	0	522	526	0	526	4	530
Departure	554	0	554	554	0	554	2	556
Total	1,076	0	1,076	1,080	0	1,080	6	1,086
Total Approaches								
Approach	5,634	0	5,634	5,662	-1	5,661	78	5,739
Departure	5,634	0	5,634	5,662	-1	5,661	78	5,739
Total	11,268	0	11,268	11,324	-2	11,322	156	11,478

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
15 Harbor Boulevard/Nutmeg Place								
NBL	15	0	15	15	0	15	0	15
NBT	2,040	0	2,040	2,040	-3	2,037	13	2,050
NBR	121	0	121	121	0	121	0	121
SBL	127	0	127	127	0	127	4	131
SBT	1,817	0	1,817	1,817	0	1,817	36	1,853
SBR	50	0	50	50	0	50	0	50
EBL	42	0	42	42	0	42	0	42
EBT	4	0	4	4	0	4	0	4
EBR	33	0	33	33	0	33	0	33
WBL	27	0	27	27	0	27	0	27
WBT	6	0	6	6	0	6	0	6
WBR	107	0	107	107	0	107	1	108
North Leg								
Approach	1,994	0	1,994	1,994	0	1,994	40	2,034
Departure	2,189	0	2,189	2,189	-3	2,186	14	2,200
Total	4,183	0	4,183	4,183	-3	4,180	54	4,234
South Leg								
Approach	2,176	0	2,176	2,176	-3	2,173	13	2,186
Departure	1,877	0	1,877	1,877	0	1,877	36	1,913
Total	4,053	0	4,053	4,053	-3	4,050	49	4,099
East Leg								
Approach	140	0	140	140	0	140	1	141
Departure	252	0	252	252	0	252	4	256
Total	392	0	392	392	0	392	5	397
West Leg								
Approach	79	0	79	79	0	79	0	79
Departure	71	0	71	71	0	71	0	71
Total	150	0	150	150	0	150	0	150
Total Approaches								
Approach	4,389	0	4,389	4,389	-3	4,386	54	4,440
Departure	4,389	0	4,389	4,389	-3	4,386	54	4,440
Total	8,778	0	8,778	8,778	-6	8,772	108	8,880

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
15 Harbor Boulevard/Nutmeg Place								
NBL	43	0	43	43	0	43	0	43
NBT	1,904	0	1,904	1,904	0	1,904	37	1,941
NBR	184	0	184	184	0	184	0	184
SBL	180	0	180	180	0	180	2	182
SBT	2,051	0	2,051	2,051	-1	2,050	24	2,074
SBR	46	0	46	46	0	46	0	46
EBL	66	0	66	66	0	66	0	66
EBT	11	0	11	11	0	11	0	11
EBR	64	0	64	64	0	64	0	64
WBL	146	0	146	146	0	146	0	146
WBT	25	0	25	25	0	25	0	25
WBR	130	0	130	130	0	130	4	134
North Leg								
Approach	2,277	0	2,277	2,277	-1	2,276	26	2,302
Departure	2,100	0	2,100	2,100	0	2,100	41	2,141
Total	4,377	0	4,377	4,377	-1	4,376	67	4,443
South Leg								
Approach	2,131	0	2,131	2,131	0	2,131	37	2,168
Departure	2,261	0	2,261	2,261	-1	2,260	24	2,284
Total	4,392	0	4,392	4,392	-1	4,391	61	4,452
East Leg								
Approach	301	0	301	301	0	301	4	305
Departure	375	0	375	375	0	375	2	377
Total	676	0	676	676	0	676	6	682
West Leg								
Approach	141	0	141	141	0	141	0	141
Departure	114	0	114	114	0	114	0	114
Total	255	0	255	255	0	255	0	255
Total Approaches								
Approach	4,850	0	4,850	4,850	-1	4,849	67	4,916
Departure	4,850	0	4,850	4,850	-1	4,849	67	4,916
Total	9,700	0	9,700	9,700	-2	9,698	134	9,832

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
16 Harbor Boulevard/Baker Street								
NBL	47	0	47	47	0	47	0	47
NBT	1,819	0	1,819	1,819	-3	1,816	9	1,825
NBR	232	0	232	232	0	232	0	232
SBL	190	0	190	190	0	190	12	202
SBT	1,474	0	1,474	1,474	0	1,474	24	1,498
SBR	217	0	217	217	0	217	0	217
EBL	243	0	243	243	0	243	0	243
EBT	248	0	248	248	0	248	0	248
EBR	55	0	55	55	0	55	0	55
WBL	193	0	193	193	0	193	0	193
WBT	215	0	215	215	0	215	0	215
WBR	151	0	151	151	0	151	3	154
North Leg								
Approach	1,881	0	1,881	1,881	0	1,881	36	1,917
Departure	2,213	0	2,213	2,213	-3	2,210	12	2,222
Total	4,094	0	4,094	4,094	-3	4,091	48	4,139
South Leg								
Approach	2,098	0	2,098	2,098	-3	2,095	9	2,104
Departure	1,722	0	1,722	1,722	0	1,722	24	1,746
Total	3,820	0	3,820	3,820	-3	3,817	33	3,850
East Leg								
Approach	559	0	559	559	0	559	3	562
Departure	670	0	670	670	0	670	12	682
Total	1,229	0	1,229	1,229	0	1,229	15	1,244
West Leg								
Approach	546	0	546	546	0	546	0	546
Departure	479	0	479	479	0	479	0	479
Total	1,025	0	1,025	1,025	0	1,025	0	1,025
Total Approaches								
Approach	5,084	0	5,084	5,084	-3	5,081	48	5,129
Departure	5,084	0	5,084	5,084	-3	5,081	48	5,129
Total	10,168	0	10,168	10,168	-6	10,162	96	10,258

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
16 Harbor Boulevard/Baker Street								
NBL	53	0	53	53	0	53	0	53
NBT	1,608	0	1,608	1,608	0	1,608	25	1,633
NBR	196	0	196	196	0	196	0	196
SBL	186	0	186	186	0	186	6	192
SBT	1,877	0	1,877	1,877	-1	1,876	16	1,892
SBR	231	0	231	231	0	231	0	231
EBL	194	0	194	194	0	194	0	194
EBT	228	0	228	228	0	228	0	228
EBR	85	0	85	85	0	85	0	85
WBL	458	0	458	458	0	458	0	458
WBT	630	0	630	630	0	630	0	630
WBR	339	0	339	339	0	339	11	350
North Leg								
Approach	2,294	0	2,294	2,294	-1	2,293	22	2,315
Departure	2,141	0	2,141	2,141	0	2,141	36	2,177
Total	4,435	0	4,435	4,435	-1	4,434	58	4,492
South Leg								
Approach	1,857	0	1,857	1,857	0	1,857	25	1,882
Departure	2,420	0	2,420	2,420	-1	2,419	16	2,435
Total	4,277	0	4,277	4,277	-1	4,276	41	4,317
East Leg								
Approach	1,427	0	1,427	1,427	0	1,427	11	1,438
Departure	610	0	610	610	0	610	6	616
Total	2,037	0	2,037	2,037	0	2,037	17	2,054
West Leg								
Approach	507	0	507	507	0	507	0	507
Departure	914	0	914	914	0	914	0	914
Total	1,421	0	1,421	1,421	0	1,421	0	1,421
Total Approaches								
Approach	6,085	0	6,085	6,085	-1	6,084	58	6,142
Departure	6,085	0	6,085	6,085	-1	6,084	58	6,142
Total	12,170	0	12,170	12,170	-2	12,168	116	12,284

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
17 Susan Street/Sunflower Avenue								
NBL	74	0	74	74	0	74	0	74
NBT	257	0	257	257	0	257	0	257
NBR	51	0	51	51	0	51	0	51
SBL	71	0	71	71	0	71	0	71
SBT	80	0	80	80	0	80	0	80
SBR	26	0	26	26	0	26	5	31
EBL	62	0	62	62	0	62	16	78
EBT	317	0	317	317	0	317	49	366
EBR	42	0	42	42	0	42	0	42
WBL	50	0	50	50	0	50	0	50
WBT	256	0	256	256	-4	252	16	268
WBR	96	0	96	96	0	96	0	96
North Leg								
Approach	177	0	177	177	0	177	5	182
Departure	415	0	415	415	0	415	16	431
Total	592	0	592	592	0	592	21	613
South Leg								
Approach	382	0	382	382	0	382	0	382
Departure	172	0	172	172	0	172	0	172
Total	554	0	554	554	0	554	0	554
East Leg								
Approach	402	0	402	402	-4	398	16	414
Departure	439	0	439	439	0	439	49	488
Total	841	0	841	841	-4	837	65	902
West Leg								
Approach	421	0	421	421	0	421	65	486
Departure	356	0	356	356	-4	352	21	373
Total	777	0	777	777	-4	773	86	859
Total Approaches								
Approach	1,382	0	1,382	1,382	-4	1,378	86	1,464
Departure	1,382	0	1,382	1,382	-4	1,378	86	1,464
Total	2,764	0	2,764	2,764	-8	2,756	172	2,928

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
17 Susan Street/Sunflower Avenue								
NBL	279	0	279	279	0	279	0	279
NBT	614	0	614	614	0	614	0	614
NBR	139	0	139	139	0	139	0	139
SBL	65	0	65	65	0	65	0	65
SBT	170	0	170	170	0	170	0	170
SBR	78	0	78	78	0	78	16	94
EBL	89	0	89	89	0	89	9	98
EBT	455	0	455	455	-1	454	32	486
EBR	29	0	29	29	0	29	0	29
WBL	37	0	37	37	0	37	0	37
WBT	568	0	568	568	0	568	50	618
WBR	196	0	196	196	0	196	0	196
North Leg								
Approach	313	0	313	313	0	313	16	329
Departure	899	0	899	899	0	899	9	908
Total	1,212	0	1,212	1,212	0	1,212	25	1,237
South Leg								
Approach	1,032	0	1,032	1,032	0	1,032	0	1,032
Departure	236	0	236	236	0	236	0	236
Total	1,268	0	1,268	1,268	0	1,268	0	1,268
East Leg								
Approach	801	0	801	801	0	801	50	851
Departure	659	0	659	659	-1	658	32	690
Total	1,460	0	1,460	1,460	-1	1,459	82	1,541
West Leg								
Approach	573	0	573	573	-1	572	41	613
Departure	925	0	925	925	0	925	66	991
Total	1,498	0	1,498	1,498	-1	1,497	107	1,604
Total Approaches								
Approach	2,719	0	2,719	2,719	-1	2,718	107	2,825
Departure	2,719	0	2,719	2,719	-1	2,718	107	2,825
Total	5,438	0	5,438	5,438	-2	5,436	214	5,650

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
18 Susan Street/South Coast Drive								
NBL	158	0	158	158	0	158	0	158
NBT	437	0	437	437	0	437	0	437
NBR	83	0	83	83	0	83	0	83
SBL	65	0	65	65	0	65	0	65
SBT	2	0	2	2	0	2	0	2
SBR	64	0	64	64	0	64	3	67
EBL	94	0	94	94	0	94	12	106
EBT	276	0	276	276	0	276	36	312
EBR	1	0	1	1	0	1	0	1
WBL	0	0	0	0	0	0	0	0
WBT	146	0	146	146	-1	145	11	156
WBR	43	0	43	43	0	43	0	43
North Leg								
Approach	131	0	131	131	0	131	3	134
Departure	574	0	574	574	0	574	12	586
Total	705	0	705	705	0	705	15	720
South Leg								
Approach	678	0	678	678	0	678	0	678
Departure	3	0	3	3	0	3	0	3
Total	681	0	681	681	0	681	0	681
East Leg								
Approach	189	0	189	189	-1	188	11	199
Departure	424	0	424	424	0	424	36	460
Total	613	0	613	613	-1	612	47	659
West Leg								
Approach	371	0	371	371	0	371	48	419
Departure	368	0	368	368	-1	367	14	381
Total	739	0	739	739	-1	738	62	800
Total Approaches								
Approach	1,369	0	1,369	1,369	-1	1,368	62	1,430
Departure	1,369	0	1,369	1,369	-1	1,368	62	1,430
Total	2,738	0	2,738	2,738	-2	2,736	124	2,860

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
18 Susan Street/South Coast Drive								
NBL	528	0	528	528	0	528	0	528
NBT	751	0	751	751	0	751	0	751
NBR	57	0	57	57	0	57	0	57
SBL	143	0	143	143	0	143	0	143
SBT	19	0	19	19	0	19	0	19
SBR	171	0	171	171	0	171	11	182
EBL	88	0	88	88	0	88	6	94
EBT	205	0	205	205	0	205	21	226
EBR	13	0	13	13	0	13	0	13
WBL	38	0	38	38	0	38	0	38
WBT	675	0	675	675	0	675	36	711
WBR	150	0	150	150	0	150	0	150
North Leg								
Approach	333	0	333	333	0	333	11	344
Departure	989	0	989	989	0	989	6	995
Total	1,322	0	1,322	1,322	0	1,322	17	1,339
South Leg								
Approach	1,336	0	1,336	1,336	0	1,336	0	1,336
Departure	70	0	70	70	0	70	0	70
Total	1,406	0	1,406	1,406	0	1,406	0	1,406
East Leg								
Approach	863	0	863	863	0	863	36	899
Departure	405	0	405	405	0	405	21	426
Total	1,268	0	1,268	1,268	0	1,268	57	1,325
West Leg								
Approach	306	0	306	306	0	306	27	333
Departure	1,374	0	1,374	1,374	0	1,374	47	1,421
Total	1,680	0	1,680	1,680	0	1,680	74	1,754
Total Approaches								
Approach	2,838	0	2,838	2,838	0	2,838	74	2,912
Departure	2,838	0	2,838	2,838	0	2,838	74	2,912
Total	5,676	0	5,676	5,676	0	5,676	148	5,824

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
19 Fairview Street/MacArthur Boulevard								
NBL	148	1	149	150	0	150	0	150
NBT	811	8	819	827	0	827	17	844
NBR	78	1	79	80	0	80	0	80
SBL	375	4	379	383	0	383	0	383
SBT	1,581	16	1,597	1,613	-2	1,611	6	1,617
SBR	162	2	164	166	0	166	0	166
EBL	138	1	139	140	0	140	0	140
EBT	1,031	10	1,041	1,051	0	1,051	0	1,051
EBR	169	2	171	173	0	173	0	173
WBL	186	2	188	190	0	190	0	190
WBT	484	5	489	494	0	494	0	494
WBR	155	2	157	159	0	159	0	159
North Leg								
Approach	2,118	22	2,140	2,162	-2	2,160	6	2,166
Departure	1,104	11	1,115	1,126	0	1,126	17	1,143
Total	3,222	33	3,255	3,288	-2	3,286	23	3,309
South Leg								
Approach	1,037	10	1,047	1,057	0	1,057	17	1,074
Departure	1,936	20	1,956	1,976	-2	1,974	6	1,980
Total	2,973	30	3,003	3,033	-2	3,031	23	3,054
East Leg								
Approach	825	9	834	843	0	843	0	843
Departure	1,484	15	1,499	1,514	0	1,514	0	1,514
Total	2,309	24	2,333	2,357	0	2,357	0	2,357
West Leg								
Approach	1,338	13	1,351	1,364	0	1,364	0	1,364
Departure	794	8	802	810	0	810	0	810
Total	2,132	21	2,153	2,174	0	2,174	0	2,174
Total Approaches								
Approach	5,318	54	5,372	5,426	-2	5,424	23	5,447
Departure	5,318	54	5,372	5,426	-2	5,424	23	5,447
Total	10,636	108	10,744	10,852	-4	10,848	46	10,894

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
19 Fairview Street/MacArthur Boulevard								
NBL	211	2	213	213	0	213	0	213
NBT	1,677	17	1,694	1,694	0	1,694	10	1,704
NBR	115	1	116	116	0	116	0	116
SBL	160	2	162	162	0	162	0	162
SBT	893	9	902	902	0	902	17	919
SBR	106	1	107	107	0	107	0	107
EBL	288	3	291	291	0	291	0	291
EBT	737	7	744	744	0	744	0	744
EBR	229	2	231	231	0	231	0	231
WBL	161	2	163	163	0	163	0	163
WBT	1,280	13	1,293	1,293	0	1,293	0	1,293
WBR	289	3	292	292	0	292	0	292
North Leg								
Approach	1,159	12	1,171	1,171	0	1,171	17	1,188
Departure	2,254	23	2,277	2,277	0	2,277	10	2,287
Total	3,413	35	3,448	3,448	0	3,448	27	3,475
South Leg								
Approach	2,003	20	2,023	2,023	0	2,023	10	2,033
Departure	1,283	13	1,296	1,296	0	1,296	17	1,313
Total	3,286	33	3,319	3,319	0	3,319	27	3,346
East Leg								
Approach	1,730	18	1,748	1,748	0	1,748	0	1,748
Departure	1,012	10	1,022	1,022	0	1,022	0	1,022
Total	2,742	28	2,770	2,770	0	2,770	0	2,770
West Leg								
Approach	1,254	12	1,266	1,266	0	1,266	0	1,266
Departure	1,597	16	1,613	1,613	0	1,613	0	1,613
Total	2,851	28	2,879	2,879	0	2,879	0	2,879
Total Approaches								
Approach	6,146	62	6,208	6,208	0	6,208	27	6,235
Departure	6,146	62	6,208	6,208	0	6,208	27	6,235
Total	12,292	124	12,416	12,416	0	12,416	54	12,470

LSA

Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
20 Fairview Road/Sunflower Avenue								
NBL	171	2	173	173	0	173	0	173
NBT	934	9	943	943	0	943	0	943
NBR	158	2	160	160	0	160	0	160
SBL	172	2	174	174	0	174	0	174
SBT	1,685	17	1,702	1,702	0	1,702	0	1,702
SBR	121	1	122	122	-2	120	6	126
EBL	35	0	35	35	0	35	17	52
EBT	236	2	238	238	0	238	32	270
EBR	63	1	64	64	0	64	0	64
WBL	294	3	297	297	0	297	0	297
WBT	298	3	301	301	-1	300	11	311
WBR	104	1	105	105	0	105	0	105
North Leg								
Approach	1,978	20	1,998	1,998	-2	1,996	6	2,002
Departure	1,073	10	1,083	1,083	0	1,083	17	1,100
Total	3,051	30	3,081	3,081	-2	3,079	23	3,102
South Leg								
Approach	1,263	13	1,276	1,276	0	1,276	0	1,276
Departure	2,042	21	2,063	2,063	0	2,063	0	2,063
Total	3,305	34	3,339	3,339	0	3,339	0	3,339
East Leg								
Approach	696	7	703	703	-1	702	11	713
Departure	566	6	572	572	0	572	32	604
Total	1,262	13	1,275	1,275	-1	1,274	43	1,317
West Leg								
Approach	334	3	337	337	0	337	49	386
Departure	590	6	596	596	-3	593	17	610
Total	924	9	933	933	-3	930	66	996
Total Approaches								
Approach	4,271	43	4,314	4,314	-3	4,311	66	4,377
Departure	4,271	43	4,314	4,314	-3	4,311	66	4,377
Total	8,542	86	8,628	8,628	-6	8,622	132	8,754

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
20 Fairview Road/Sunflower Avenue								
NBL	137	1	138	138	0	138	0	138
NBT	1,711	17	1,728	1,728	0	1,728	0	1,728
NBR	293	3	296	296	0	296	0	296
SBL	100	1	101	101	0	101	0	101
SBT	1,118	11	1,129	1,129	0	1,129	0	1,129
SBR	69	1	70	70	0	70	17	87
EBL	183	2	185	185	0	185	11	196
EBT	403	4	407	407	0	407	21	428
EBR	140	1	141	141	0	141	0	141
WBL	225	2	227	227	0	227	0	227
WBT	512	5	517	517	0	517	32	549
WBR	160	2	162	162	0	162	0	162
North Leg								
Approach	1,287	13	1,300	1,300	0	1,300	17	1,317
Departure	2,054	21	2,075	2,075	0	2,075	11	2,086
Total	3,341	34	3,375	3,375	0	3,375	28	3,403
South Leg								
Approach	2,141	21	2,162	2,162	0	2,162	0	2,162
Departure	1,483	14	1,497	1,497	0	1,497	0	1,497
Total	3,624	35	3,659	3,659	0	3,659	0	3,659
East Leg								
Approach	897	9	906	906	0	906	32	938
Departure	796	8	804	804	0	804	21	825
Total	1,693	17	1,710	1,710	0	1,710	53	1,763
West Leg								
Approach	726	7	733	733	0	733	32	765
Departure	718	7	725	725	0	725	49	774
Total	1,444	14	1,458	1,458	0	1,458	81	1,539
Total Approaches								
Approach	5,051	50	5,101	5,101	0	5,101	81	5,182
Departure	5,051	50	5,101	5,101	0	5,101	81	5,182
Total	10,102	100	10,202	10,202	0	10,202	162	10,364

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
21 Fairview Road/South Coast Drive								
NBL	232	2	234	234	0	234	2	236
NBT	1,200	12	1,212	1,212	0	1,212	0	1,212
NBR	176	2	178	178	0	178	0	178
SBL	29	0	29	29	0	29	0	29
SBT	1,907	19	1,926	1,926	0	1,926	0	1,926
SBR	21	0	21	21	0	21	0	21
EBL	8	0	8	8	0	8	0	8
EBT	82	1	83	83	0	83	27	110
EBR	138	1	139	139	0	139	8	147
WBL	311	3	314	314	0	314	0	314
WBT	97	1	98	98	0	98	8	106
WBR	57	1	58	58	0	58	0	58
North Leg								
Approach	1,957	19	1,976	1,976	0	1,976	0	1,976
Departure	1,265	13	1,278	1,278	0	1,278	0	1,278
Total	3,222	32	3,254	3,254	0	3,254	0	3,254
South Leg								
Approach	1,608	16	1,624	1,624	0	1,624	2	1,626
Departure	2,356	23	2,379	2,379	0	2,379	8	2,387
Total	3,964	39	4,003	4,003	0	4,003	10	4,013
East Leg								
Approach	465	5	470	470	0	470	8	478
Departure	287	3	290	290	0	290	27	317
Total	752	8	760	760	0	760	35	795
West Leg								
Approach	228	2	230	230	0	230	35	265
Departure	350	3	353	353	0	353	10	363
Total	578	5	583	583	0	583	45	628
Total Approaches								
Approach	4,258	42	4,300	4,300	0	4,300	45	4,345
Departure	4,258	42	4,300	4,300	0	4,300	45	4,345
Total	8,516	84	8,600	8,600	0	8,600	90	8,690

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
21 Fairview Road/South Coast Drive								
NBL	188	2	190	190	0	190	8	198
NBT	1,758	18	1,776	1,776	0	1,776	0	1,776
NBR	338	3	341	341	0	341	0	341
SBL	51	1	52	52	0	52	0	52
SBT	1,365	14	1,379	1,379	0	1,379	0	1,379
SBR	51	1	52	52	0	52	0	52
EBL	61	1	62	62	0	62	0	62
EBT	148	1	149	149	0	149	16	165
EBR	539	5	544	544	0	544	4	548
WBL	447	4	451	451	0	451	0	451
WBT	451	5	456	456	0	456	28	484
WBR	317	3	320	320	0	320	0	320
North Leg								
Approach	1,467	16	1,483	1,483	0	1,483	0	1,483
Departure	2,136	22	2,158	2,158	0	2,158	0	2,158
Total	3,603	38	3,641	3,641	0	3,641	0	3,641
South Leg								
Approach	2,284	23	2,307	2,307	0	2,307	8	2,315
Departure	2,351	23	2,374	2,374	0	2,374	4	2,378
Total	4,635	46	4,681	4,681	0	4,681	12	4,693
East Leg								
Approach	1,215	12	1,227	1,227	0	1,227	28	1,255
Departure	537	5	542	542	0	542	16	558
Total	1,752	17	1,769	1,769	0	1,769	44	1,813
West Leg								
Approach	748	7	755	755	0	755	20	775
Departure	690	8	698	698	0	698	36	734
Total	1,438	15	1,453	1,453	0	1,453	56	1,509
Total Approaches								
Approach	5,714	58	5,772	5,772	0	5,772	56	5,828
Departure	5,714	58	5,772	5,772	0	5,772	56	5,828
Total	11,428	116	11,544	11,544	0	11,544	112	11,656

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
22 Fairview Road/I-405 Northbound Ramps								
NBL	242	2	244	243	0	243	0	243
NBT	787	8	795	793	0	793	2	795
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,992	20	2,012	2,042	0	2,042	8	2,050
SBR	291	3	294	294	0	294	0	294
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	812	8	820	832	0	832	0	832
WBT	0	0	0	0	0	0	0	0
WBR	850	9	859	859	0	859	0	859
North Leg								
Approach	2,283	23	2,306	2,336	0	2,336	8	2,344
Departure	1,637	17	1,654	1,652	0	1,652	2	1,654
Total	3,920	40	3,960	3,988	0	3,988	10	3,998
South Leg								
Approach	1,029	10	1,039	1,036	0	1,036	2	1,038
Departure	2,804	28	2,832	2,874	0	2,874	8	2,882
Total	3,833	38	3,871	3,910	0	3,910	10	3,920
East Leg								
Approach	1,662	17	1,679	1,691	0	1,691	0	1,691
Departure	0	0	0	0	0	0	0	0
Total	1,662	17	1,679	1,691	0	1,691	0	1,691
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	533	5	538	537	0	537	0	537
Total	533	5	538	537	0	537	0	537
Total Approaches								
Approach	4,974	50	5,024	5,063	0	5,063	10	5,073
Departure	4,974	50	5,024	5,063	0	5,063	10	5,073
Total	9,948	100	10,048	10,126	0	10,126	20	10,146

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
22 Fairview Road/I-405 Northbound Ramps								
NBL	184	2	186	185	0	185	0	185
NBT	1,376	14	1,390	1,384	0	1,384	8	1,392
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,956	20	1,976	1,989	0	1,989	4	1,993
SBR	336	3	339	339	0	339	0	339
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	772	8	780	785	0	785	0	785
WBT	0	0	0	0	0	0	0	0
WBR	957	10	967	967	0	967	0	967
North Leg								
Approach	2,292	23	2,315	2,328	0	2,328	4	2,332
Departure	2,333	24	2,357	2,351	0	2,351	8	2,359
Total	4,625	47	4,672	4,679	0	4,679	12	4,691
South Leg								
Approach	1,560	16	1,576	1,569	0	1,569	8	1,577
Departure	2,728	28	2,756	2,774	0	2,774	4	2,778
Total	4,288	44	4,332	4,343	0	4,343	12	4,355
East Leg								
Approach	1,729	18	1,747	1,752	0	1,752	0	1,752
Departure	0	0	0	0	0	0	0	0
Total	1,729	18	1,747	1,752	0	1,752	0	1,752
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	520	5	525	524	0	524	0	524
Total	520	5	525	524	0	524	0	524
Total Approaches								
Approach	5,581	57	5,638	5,649	0	5,649	12	5,661
Departure	5,581	57	5,638	5,649	0	5,649	12	5,661
Total	11,162	114	11,276	11,298	0	11,298	24	11,322

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
23 Fairview Road/I-405 Southbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	882	9	891	891	0	891	2	893
NBR	1,084	11	1,095	1,095	0	1,095	0	1,095
SBL	1,168	12	1,180	1,180	0	1,180	0	1,180
SBT	1,677	17	1,694	1,694	0	1,694	8	1,702
SBR	0	0	0	0	0	0	0	0
EBL	144	1	145	145	0	145	0	145
EBT	0	0	0	0	0	0	0	0
EBR	395	4	399	399	0	399	0	399
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	2,845	29	2,874	2,874	0	2,874	8	2,882
Departure	1,026	10	1,036	1,036	0	1,036	2	1,038
Total	3,871	39	3,910	3,910	0	3,910	10	3,920
South Leg								
Approach	1,966	20	1,986	1,986	0	1,986	2	1,988
Departure	2,072	21	2,093	2,093	0	2,093	8	2,101
Total	4,038	41	4,079	4,079	0	4,079	10	4,089
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	2,252	23	2,275	2,275	0	2,275	0	2,275
Total	2,252	23	2,275	2,275	0	2,275	0	2,275
West Leg								
Approach	539	5	544	544	0	544	0	544
Departure	0	0	0	0	0	0	0	0
Total	539	5	544	544	0	544	0	544
Total Approaches								
Approach	5,350	54	5,404	5,404	0	5,404	10	5,414
Departure	5,350	54	5,404	5,404	0	5,404	10	5,414
Total	10,700	108	10,808	10,808	0	10,808	20	10,828

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
23 Fairview Road/I-405 Southbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	1,188	12	1,200	1,200	0	1,200	8	1,208
NBR	557	6	563	563	0	563	0	563
SBL	1,063	11	1,074	1,074	0	1,074	0	1,074
SBT	1,683	17	1,700	1,700	0	1,700	4	1,704
SBR	0	0	0	0	0	0	0	0
EBL	365	4	369	369	0	369	0	369
EBT	0	0	0	0	0	0	0	0
EBR	463	5	468	468	0	468	0	468
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	2,746	28	2,774	2,774	0	2,774	4	2,778
Departure	1,553	16	1,569	1,569	0	1,569	8	1,577
Total	4,299	44	4,343	4,343	0	4,343	12	4,355
South Leg								
Approach	1,745	18	1,763	1,763	0	1,763	8	1,771
Departure	2,146	22	2,168	2,168	0	2,168	4	2,172
Total	3,891	40	3,931	3,931	0	3,931	12	3,943
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	1,620	17	1,637	1,637	0	1,637	0	1,637
Total	1,620	17	1,637	1,637	0	1,637	0	1,637
West Leg								
Approach	828	9	837	837	0	837	0	837
Departure	0	0	0	0	0	0	0	0
Total	828	9	837	837	0	837	0	837
Total Approaches								
Approach	5,319	55	5,374	5,374	0	5,374	12	5,386
Departure	5,319	55	5,374	5,374	0	5,374	12	5,386
Total	10,638	110	10,748	10,748	0	10,748	24	10,772

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
24 Fairview Road/Baker Street								
NBL	140	1	141	141	0	141	0	141
NBT	1,343	13	1,356	1,356	0	1,356	1	1,357
NBR	639	6	645	645	0	645	0	645
SBL	244	2	246	246	0	246	4	250
SBT	1,554	16	1,570	1,570	0	1,570	4	1,574
SBR	221	2	223	223	0	223	0	223
EBL	267	3	270	270	0	270	0	270
EBT	544	5	549	549	0	549	0	549
EBR	158	2	160	160	0	160	0	160
WBL	333	3	336	336	0	336	0	336
WBT	283	3	286	286	0	286	0	286
WBR	149	1	150	150	0	150	1	151
North Leg								
Approach	2,019	20	2,039	2,039	0	2,039	8	2,047
Departure	1,759	17	1,776	1,776	0	1,776	2	1,778
Total	3,778	37	3,815	3,815	0	3,815	10	3,825
South Leg								
Approach	2,122	20	2,142	2,142	0	2,142	1	2,143
Departure	2,045	21	2,066	2,066	0	2,066	4	2,070
Total	4,167	41	4,208	4,208	0	4,208	5	4,213
East Leg								
Approach	765	7	772	772	0	772	1	773
Departure	1,427	13	1,440	1,440	0	1,440	4	1,444
Total	2,192	20	2,212	2,212	0	2,212	5	2,217
West Leg								
Approach	969	10	979	979	0	979	0	979
Departure	644	6	650	650	0	650	0	650
Total	1,613	16	1,629	1,629	0	1,629	0	1,629
Total Approaches								
Approach	5,875	57	5,932	5,932	0	5,932	10	5,942
Departure	5,875	57	5,932	5,932	0	5,932	10	5,942
Total	11,750	114	11,864	11,864	0	11,864	20	11,884

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
24 Fairview Road/Baker Street								
NBL	182	2	184	184	0	184	0	184
NBT	1,121	11	1,132	1,132	0	1,132	4	1,136
NBR	363	4	367	367	0	367	0	367
SBL	216	2	218	218	0	218	2	220
SBT	1,395	14	1,409	1,409	0	1,409	2	1,411
SBR	328	3	331	331	0	331	0	331
EBL	273	3	276	276	0	276	0	276
EBT	410	4	414	414	0	414	0	414
EBR	165	2	167	167	0	167	0	167
WBL	654	7	661	661	0	661	0	661
WBT	1,133	11	1,144	1,144	0	1,144	0	1,144
WBR	183	2	185	185	0	185	4	189
North Leg								
Approach	1,939	19	1,958	1,958	0	1,958	4	1,962
Departure	1,577	16	1,593	1,593	0	1,593	8	1,601
Total	3,516	35	3,551	3,551	0	3,551	12	3,563
South Leg								
Approach	1,666	17	1,683	1,683	0	1,683	4	1,687
Departure	2,214	23	2,237	2,237	0	2,237	2	2,239
Total	3,880	40	3,920	3,920	0	3,920	6	3,926
East Leg								
Approach	1,970	20	1,990	1,990	0	1,990	4	1,994
Departure	989	10	999	999	0	999	2	1,001
Total	2,959	30	2,989	2,989	0	2,989	6	2,995
West Leg								
Approach	848	9	857	857	0	857	0	857
Departure	1,643	16	1,659	1,659	0	1,659	0	1,659
Total	2,491	25	2,516	2,516	0	2,516	0	2,516
Total Approaches								
Approach	6,423	65	6,488	6,488	0	6,488	12	6,500
Departure	6,423	65	6,488	6,488	0	6,488	12	6,500
Total	12,846	130	12,976	12,976	0	12,976	24	13,000

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
25 Cadillac Avenue - Driveway 1/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	1	0	1	1	-1	0	133	133
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	18	0	18	18	0	18	0	18
EBR	17	0	17	17	-17	0	0	0
WBL	10	0	10	10	-10	0	43	43
WBT	94	0	94	94	-1	93	0	93
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	1	0	1	1	-1	0	133	133
Departure	27	0	27	27	-27	0	43	43
Total	28	0	28	28	-28	0	176	176
East Leg								
Approach	104	0	104	104	-11	93	43	136
Departure	19	0	19	19	-1	18	133	151
Total	123	0	123	123	-12	111	176	287
West Leg								
Approach	35	0	35	35	-17	18	0	18
Departure	94	0	94	94	-1	93	0	93
Total	129	0	129	129	-18	111	0	111
Total Approaches								
Approach	140	0	140	140	-29	111	176	287
Departure	140	0	140	140	-29	111	176	287
Total	280	0	280	280	-58	222	352	574

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
25 Cadillac Avenue - Driveway 1/Sunflower Avenue								
NBL	4	0	4	4	-4	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	3	0	3	3	-3	0	85	85
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	94	0	94	94	0	94	0	94
EBR	0	0	0	0	0	0	0	0
WBL	1	0	1	1	-1	0	136	136
WBT	150	0	150	150	0	150	0	150
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	7	0	7	7	-7	0	85	85
Departure	1	0	1	1	-1	0	136	136
Total	8	0	8	8	-8	0	221	221
East Leg								
Approach	151	0	151	151	-1	150	136	286
Departure	97	0	97	97	-3	94	85	179
Total	248	0	248	248	-4	244	221	465
West Leg								
Approach	94	0	94	94	0	94	0	94
Departure	154	0	154	154	-4	150	0	150
Total	248	0	248	248	-4	244	0	244
Total Approaches								
Approach	252	0	252	252	-8	244	221	465
Departure	252	0	252	252	-8	244	221	465
Total	504	0	504	504	-16	488	442	930

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
26 Driveway 2/Sunflower Avenue								
NBL	1	0	1	1	-1	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	1	0	1	1	-1	0	133	133
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	20	0	20	20	-1	19	133	152
EBR	0	0	0	0	0	0	0	0
WBL	6	0	6	6	-6	0	43	43
WBT	109	0	109	109	-10	99	43	142
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	2	0	2	2	-2	0	133	133
Departure	6	0	6	6	-6	0	43	43
Total	8	0	8	8	-8	0	176	176
East Leg								
Approach	115	0	115	115	-16	99	86	185
Departure	21	0	21	21	-2	19	266	285
Total	136	0	136	136	-18	118	352	470
West Leg								
Approach	20	0	20	20	-1	19	133	152
Departure	110	0	110	110	-11	99	43	142
Total	130	0	130	130	-12	118	176	294
Total Approaches								
Approach	137	0	137	137	-19	118	352	470
Departure	137	0	137	137	-19	118	352	470
Total	274	0	274	274	-38	236	704	940

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
26 Driveway 2/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	85	85
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	99	0	99	99	-3	96	85	181
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	136	136
WBT	153	0	153	153	-1	152	136	288
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	0	0	0	0	0	0	85	85
Departure	0	0	0	0	0	0	136	136
Total	0	0	0	0	0	0	221	221
East Leg								
Approach	153	0	153	153	-1	152	272	424
Departure	99	0	99	99	-3	96	170	266
Total	252	0	252	252	-4	248	442	690
West Leg								
Approach	99	0	99	99	-3	96	85	181
Departure	153	0	153	153	-1	152	136	288
Total	252	0	252	252	-4	248	221	469
Total Approaches								
Approach	252	0	252	252	-4	248	442	690
Departure	252	0	252	252	-4	248	442	690
Total	504	0	504	504	-8	496	884	1,380

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
27 Fedex Driveway - Driveway 3/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	136	136
SBL	2	0	2	2	0	2	0	2
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	23	0	23	23	-2	21	265	286
EBR	0	0	0	0	0	0	0	0
WBL	1	0	1	1	-1	0	45	45
WBT	122	0	122	122	-16	106	87	193
WBR	51	0	51	51	0	51	0	51
North Leg								
Approach	2	0	2	2	0	2	0	2
Departure	51	0	51	51	0	51	0	51
Total	53	0	53	53	0	53	0	53
South Leg								
Approach	0	0	0	0	0	0	136	136
Departure	1	0	1	1	-1	0	45	45
Total	1	0	1	1	-1	0	181	181
East Leg								
Approach	174	0	174	174	-17	157	132	289
Departure	25	0	25	25	-2	23	401	424
Total	199	0	199	199	-19	180	533	713
West Leg								
Approach	23	0	23	23	-2	21	265	286
Departure	122	0	122	122	-16	106	87	193
Total	145	0	145	145	-18	127	352	479
Total Approaches								
Approach	199	0	199	199	-19	180	533	713
Departure	199	0	199	199	-19	180	533	713
Total	398	0	398	398	-38	360	1,066	1,426

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
27 Fedex Driveway - Driveway 3/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	87	87
SBL	43	0	43	43	0	43	0	43
SBT	0	0	0	0	0	0	0	0
SBR	1	0	1	1	0	1	0	1
EBL	0	0	0	0	0	0	0	0
EBT	104	0	104	104	-3	101	169	270
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	140	140
WBT	155	0	155	155	-1	154	271	425
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	44	0	44	44	0	44	0	44
Departure	0	0	0	0	0	0	0	0
Total	44	0	44	44	0	44	0	44
South Leg								
Approach	0	0	0	0	0	0	87	87
Departure	0	0	0	0	0	0	140	140
Total	0	0	0	0	0	0	227	227
East Leg								
Approach	155	0	155	155	-1	154	411	565
Departure	147	0	147	147	-3	144	256	400
Total	302	0	302	302	-4	298	667	965
West Leg								
Approach	104	0	104	104	-3	101	169	270
Departure	156	0	156	156	-1	155	271	426
Total	260	0	260	260	-4	256	440	696
Total Approaches								
Approach	303	0	303	303	-4	299	667	966
Departure	303	0	303	303	-4	299	667	966
Total	606	0	606	606	-8	598	1,334	1,932

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
29 Talbert Avenue/Mt. Washington Street								
NBL	1	0	1	1	0	1	0	1
NBT	1	0	1	1	0	1	0	1
NBR	214	0	214	214	0	214	0	214
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	158	0	158	158	0	158	0	158
EBL	92	0	92	92	0	92	0	92
EBT	1,942	0	1,942	1,942	-5	1,937	18	1,955
EBR	13	0	13	13	0	13	0	13
WBL	27	0	27	27	0	27	0	27
WBT	402	0	402	402	0	402	42	444
WBR	108	0	108	108	0	108	0	108
North Leg								
Approach	158	0	158	158	0	158	0	158
Departure	201	0	201	201	0	201	0	201
Total	359	0	359	359	0	359	0	359
South Leg								
Approach	216	0	216	216	0	216	0	216
Departure	40	0	40	40	0	40	0	40
Total	256	0	256	256	0	256	0	256
East Leg								
Approach	537	0	537	537	0	537	42	579
Departure	2,156	0	2,156	2,156	-5	2,151	18	2,169
Total	2,693	0	2,693	2,693	-5	2,688	60	2,748
West Leg								
Approach	2,047	0	2,047	2,047	-5	2,042	18	2,060
Departure	561	0	561	561	0	561	42	603
Total	2,608	0	2,608	2,608	-5	2,603	60	2,663
Total Approaches								
Approach	2,958	0	2,958	2,958	-5	2,953	60	3,013
Departure	2,958	0	2,958	2,958	-5	2,953	60	3,013
Total	5,916	0	5,916	5,916	-10	5,906	120	6,026

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
29 Talbert Avenue/Mt. Washington Street								
NBL	0	0	0	0	0	0	0	0
NBT	7	0	7	7	0	7	0	7
NBR	118	0	118	118	0	118	0	118
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	150	0	150	150	0	150	0	150
EBL	48	0	48	48	0	48	0	48
EBT	643	0	643	643	0	643	45	688
EBR	7	0	7	7	0	7	0	7
WBL	448	0	448	448	0	448	0	448
WBT	2,808	0	2,808	2,808	-1	2,807	32	2,839
WBR	423	0	423	423	0	423	0	423
	4,652							
North Leg								
Approach	150	0	150	150	0	150	0	150
Departure	478	0	478	478	0	478	0	478
Total	628	0	628	628	0	628	0	628
South Leg								
Approach	125	0	125	125	0	125	0	125
Departure	455	0	455	455	0	455	0	455
Total	580	0	580	580	0	580	0	580
East Leg								
Approach	3,679	0	3,679	3,679	-1	3,678	32	3,710
Departure	761	0	761	761	0	761	45	806
Total	4,440	0	4,440	4,440	-1	4,439	77	4,516
West Leg								
Approach	698	0	698	698	0	698	45	743
Departure	2,958	0	2,958	2,958	-1	2,957	32	2,989
Total	3,656	0	3,656	3,656	-1	3,655	77	3,732
Total Approaches								
Approach	4,652	0	4,652	4,652	-1	4,651	77	4,728
Departure	4,652	0	4,652	4,652	-1	4,651	77	4,728
Total	9,304	0	9,304	9,304	-2	9,302	154	9,456

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Table C-1 - Existing Peak Hour Volumes

A.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
30 Harbor Boulevard/Segerstorm Avenue								
NBL	100	0	100	100	0	100	0	100
NBT	734	0	734	734	0	734	20	754
NBR	61	0	61	61	0	61	0	61
SBL	179	0	179	179	0	179	0	179
SBT	2,085	0	2,085	2,085	-3	2,082	8	2,090
SBR	64	0	64	64	0	64	0	64
EBL	111	0	111	111	0	111	0	111
EBT	459	0	459	459	0	459	0	459
EBR	196	0	196	196	-1	195	0	195
WBL	99	0	99	99	-1	98	0	98
WBT	246	0	246	246	0	246	0	246
WBR	92	0	92	92	0	92	0	92
North Leg								
Approach	2,328	0	2,328	2,328	-3	2,325	8	2,333
Departure	937	0	937	937	0	937	20	957
Total	3,265	0	3,265	3,265	-3	3,262	28	3,290
South Leg								
Approach	895	0	895	895	0	895	20	915
Departure	2,380	0	2,380	2,380	-5	2,375	8	2,383
Total	3,275	0	3,275	3,275	-5	3,270	28	3,298
East Leg								
Approach	437	0	437	437	-1	436	0	436
Departure	699	0	699	699	0	699	0	699
Total	1,136	0	1,136	1,136	-1	1,135	0	1,135
West Leg								
Approach	766	0	766	766	-1	765	0	765
Departure	410	0	410	410	0	410	0	410
Total	1,176	0	1,176	1,176	-1	1,175	0	1,175
Total Approaches								
Approach	4,426	0	4,426	4,426	-5	4,421	28	4,449
Departure	4,426	0	4,426	4,426	-5	4,421	28	4,449
Total	8,852	0	8,852	8,852	-10	8,842	56	8,898

P.M. Peak Hour

	Existing Counts	Counts Adjustment	Counts 2019 Adjusted	Existing 2019 Baseline	Existing Industrial Trips	Exist Baseline Minus Industrial	Proposed Project Trips	Existing WP
30 Harbor Boulevard/Segerstorm Avenue								
NBL	196	0	196	196	0	196	0	196
NBT	1,574	0	1,574	1,574	-1	1,573	14	1,587
NBR	59	0	59	59	0	59	0	59
SBL	131	0	131	131	0	131	0	131
SBT	956	0	956	956	0	956	22	978
SBR	78	0	78	78	0	78	0	78
EBL	114	0	114	114	0	114	0	114
EBT	456	0	456	456	0	456	0	456
EBR	114	0	114	114	0	114	0	114
WBL	111	0	111	111	0	111	0	111
WBT	940	0	940	940	0	940	0	940
WBR	356	0	356	356	0	356	0	356
North Leg								
Approach	1,165	0	1,165	1,165	0	1,165	22	1,187
Departure	2,044	0	2,044	2,044	-1	2,043	14	2,057
Total	3,209	0	3,209	3,209	-1	3,208	36	3,244
South Leg								
Approach	1,829	0	1,829	1,829	-1	1,828	14	1,842
Departure	1,181	0	1,181	1,181	0	1,181	22	1,203
Total	3,010	0	3,010	3,010	-1	3,009	36	3,045
East Leg								
Approach	1,407	0	1,407	1,407	0	1,407	0	1,407
Departure	646	0	646	646	0	646	0	646
Total	2,053	0	2,053	2,053	0	2,053	0	2,053
West Leg								
Approach	684	0	684	684	0	684	0	684
Departure	1,214	0	1,214	1,214	0	1,214	0	1,214
Total	1,898	0	1,898	1,898	0	1,898	0	1,898
Total Approaches								
Approach	5,085	0	5,085	5,085	-1	5,084	36	5,120
Departure	5,085	0	5,085	5,085	-1	5,084	36	5,120
Total	10,170	0	10,170	10,170	-2	10,168	72	10,240

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
1 Euclid Street/Talbert Avenue								
NBL	216	17	0	233	0	233	0	233
NBT	471	38	1	510	0	510	0	510
NBR	46	4	0	50	0	50	1	51
SBL	612	49	0	661	3	664	8	669
SBT	811	65	0	876	0	876	0	876
SBR	282	23	0	305	0	305	0	305
EBL	140	11	0	151	0	151	0	151
EBT	1,204	96	47	1,347	2	1,349	8	1,355
EBR	55	4	0	59	0	59	0	59
WBL	29	2	0	31	0	31	4	35
WBT	407	33	9	449	0	449	17	466
WBR	66	5	0	71	0	71	17	88
North Leg								
Approach	1,705	137	0	1,842	3	1,845	8	1,850
Departure	677	54	1	732	0	732	17	749
Total	2,382	191	1	2,574	3	2,577	25	2,599
South Leg								
Approach	733	59	1	793	0	793	1	794
Departure	895	71	0	966	0	966	4	970
Total	1,628	130	1	1,759	0	1,759	5	1,764
East Leg								
Approach	502	40	9	551	0	551	38	589
Departure	1,862	149	47	2,058	5	2,063	17	2,075
Total	2,364	189	56	2,609	5	2,614	55	2,664
West Leg								
Approach	1,399	111	47	1,557	2	1,559	8	1,565
Departure	905	73	9	987	0	987	17	1,004
Total	2,304	184	56	2,544	2	2,546	25	2,569
Total Approaches								
Approach	4,339	347	57	4,743	5	4,748	55	4,798
Departure	4,339	347	57	4,743	5	4,748	55	4,798
Total	8,678	694	114	9,486	10	9,496	110	9,596

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
1 Euclid Street/Talbert Avenue								
NBL	134	11	0	145	0	145	0	145
NBT	488	39	1	528	0	528	0	528
NBR	29	2	0	31	0	31	4	35
SBL	141	11	0	152	0	152	18	170
SBT	476	38	1	515	0	515	0	515
SBR	220	18	0	238	0	238	0	238
EBL	227	18	0	245	0	245	0	245
EBT	520	42	10	572	0	572	18	590
EBR	259	21	0	280	0	280	0	280
WBL	115	9	0	124	0	124	2	126
WBT	1,902	152	46	2,100	0	2,100	13	2,113
WBR	688	55	0	743	1	744	13	756
North Leg								
Approach	837	67	1	905	0	905	18	923
Departure	1,403	112	1	1,516	1	1,517	13	1,529
Total	2,240	179	2	2,421	1	2,422	31	2,452
South Leg								
Approach	651	52	1	704	0	704	4	708
Departure	850	68	1	919	0	919	2	921
Total	1,501	120	2	1,623	0	1,623	6	1,629
East Leg								
Approach	2,705	216	46	2,967	1	2,968	28	2,995
Departure	690	55	10	755	0	755	40	795
Total	3,395	271	56	3,722	1	3,723	68	3,790
West Leg								
Approach	1,006	81	10	1,097	0	1,097	18	1,115
Departure	2,256	181	46	2,483	0	2,483	13	2,496
Total	3,262	262	56	3,580	0	3,580	31	3,611
Total Approaches								
Approach	5,199	416	58	5,673	1	5,674	68	5,741
Departure	5,199	416	58	5,673	1	5,674	68	5,741
Total	10,398	832	116	11,346	2	11,348	136	11,482

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
2 Euclid Street/I-405 Northbound Ramps - Newhope Street								
NBL	22	2	0	24	0	24	0	24
NBT	273	22	0	295	0	295	0	295
NBR	470	38	0	508	1	509	2	510
SBL	0	0	0	0	0	0	0	0
SBT	788	63	0	851	0	851	0	851
SBR	48	4	0	52	0	52	0	52
EBL	553	44	1	598	0	598	0	598
EBT	338	27	1	366	0	366	0	366
EBR	522	42	0	564	0	564	0	564
WBL	168	13	0	181	0	181	4	185
WBT	56	4	0	60	0	60	0	60
WBR	10	1	0	11	0	11	0	11
North Leg								
Approach	836	67	0	903	0	903	0	903
Departure	836	67	1	904	0	904	0	904
Total	1,672	134	1	1,807	0	1,807	0	1,807
South Leg								
Approach	765	62	0	827	1	828	2	829
Departure	1,478	118	0	1,596	0	1,596	4	1,600
Total	2,243	180	0	2,423	1	2,424	6	2,429
East Leg								
Approach	234	18	0	252	0	252	4	256
Departure	808	65	1	874	1	875	2	876
Total	1,042	83	1	1,126	1	1,127	6	1,132
West Leg								
Approach	1,413	113	2	1,528	0	1,528	0	1,528
Departure	126	10	0	136	0	136	0	136
Total	1,539	123	2	1,664	0	1,664	0	1,664
Total Approaches								
Approach	3,248	260	2	3,510	1	3,511	6	3,516
Departure	3,248	260	2	3,510	1	3,511	6	3,516
Total	6,496	520	4	7,020	2	7,022	12	7,032

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
2 Euclid Street/I-405 Northbound Ramps - Newhope Street								
NBL	203	16	0	219	0	219	0	219
NBT	332	27	0	359	0	359	0	359
NBR	267	21	0	288	0	288	5	293
SBL	0	0	0	0	0	0	0	0
SBT	721	58	1	780	0	780	0	780
SBR	228	18	0	246	0	246	0	246
EBL	413	33	1	447	0	447	0	447
EBT	79	6	1	86	0	86	0	86
EBR	403	32	0	435	0	435	0	435
WBL	456	36	1	493	0	493	3	496
WBT	475	38	0	513	0	513	0	513
WBR	18	1	0	19	0	19	0	19
North Leg								
Approach	949	76	1	1,026	0	1,026	0	1,026
Departure	763	61	1	825	0	825	0	825
Total	1,712	137	2	1,851	0	1,851	0	1,851
South Leg								
Approach	802	64	0	866	0	866	5	871
Departure	1,580	126	2	1,708	0	1,708	3	1,711
Total	2,382	190	2	2,574	0	2,574	8	2,582
East Leg								
Approach	949	75	1	1,025	0	1,025	3	1,028
Departure	346	27	1	374	0	374	5	379
Total	1,295	102	2	1,399	0	1,399	8	1,407
West Leg								
Approach	895	71	2	968	0	968	0	968
Departure	906	72	0	978	0	978	0	978
Total	1,801	143	2	1,946	0	1,946	0	1,946
Total Approaches								
Approach	3,595	286	4	3,885	0	3,885	8	3,893
Departure	3,595	286	4	3,885	0	3,885	8	3,893
Total	7,190	572	8	7,770	0	7,770	16	7,786

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
3 I-405 Southbound Ramps - OCSD Driveway/Ellis Avenue - Euclid Street								
NBL	5	0	0	5	0	5	0	5
NBT	15	1	0	16	0	16	0	16
NBR	2	0	0	2	0	2	0	2
SBL	75	6	0	81	0	81	0	81
SBT	1	0	0	1	0	1	0	1
SBR	28	2	0	30	0	30	0	30
EBL	636	51	0	687	0	687	0	687
EBT	968	77	0	1,045	1	1,046	2	1,047
EBR	24	2	0	26	0	26	0	26
WBL	30	2	0	32	0	32	0	32
WBT	672	54	0	726	0	726	4	730
WBR	746	60	1	807	0	807	0	807
North Leg								
Approach	104	8	0	112	0	112	0	112
Departure	1,397	112	1	1,510	0	1,510	0	1,510
Total	1,501	120	1	1,622	0	1,622	0	1,622
South Leg								
Approach	22	1	0	23	0	23	0	23
Departure	55	4	0	59	0	59	0	59
Total	77	5	0	82	0	82	0	82
East Leg								
Approach	1,448	116	1	1,565	0	1,565	4	1,569
Departure	1,045	83	0	1,128	1	1,129	2	1,130
Total	2,493	199	1	2,693	1	2,694	6	2,699
West Leg								
Approach	1,628	130	0	1,758	1	1,759	2	1,760
Departure	705	56	0	761	0	761	4	765
Total	2,333	186	0	2,519	1	2,520	6	2,525
Total Approaches								
Approach	3,202	255	1	3,458	1	3,459	6	3,464
Departure	3,202	255	1	3,458	1	3,459	6	3,464
Total	6,404	510	2	6,916	2	6,918	12	6,928

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
3 I-405 Southbound Ramps - OCSD Driveway/Ellis Avenue - Euclid Street								
NBL	20	2	0	22	0	22	0	22
NBT	44	4	0	48	0	48	0	48
NBR	61	5	0	66	0	66	0	66
SBL	142	11	0	153	0	153	0	153
SBT	0	0	0	0	0	0	0	0
SBR	54	4	0	58	0	58	0	58
EBL	588	47	0	635	0	635	0	635
EBT	485	39	0	524	0	524	5	529
EBR	2	0	0	2	0	2	0	2
WBL	12	1	0	13	0	13	0	13
WBT	1,186	95	0	1,281	0	1,281	3	1,284
WBR	691	55	2	748	0	748	0	748
North Leg								
Approach	196	15	0	211	0	211	0	211
Departure	1,323	106	2	1,431	0	1,431	0	1,431
Total	1,519	121	2	1,642	0	1,642	0	1,642
South Leg								
Approach	125	11	0	136	0	136	0	136
Departure	14	1	0	15	0	15	0	15
Total	139	12	0	151	0	151	0	151
East Leg								
Approach	1,889	151	2	2,042	0	2,042	3	2,045
Departure	688	55	0	743	0	743	5	748
Total	2,577	206	2	2,785	0	2,785	8	2,793
West Leg								
Approach	1,075	86	0	1,161	0	1,161	5	1,166
Departure	1,260	101	0	1,361	0	1,361	3	1,364
Total	2,335	187	0	2,522	0	2,522	8	2,530
Total Approaches								
Approach	3,285	263	2	3,550	0	3,550	8	3,558
Departure	3,285	263	2	3,550	0	3,550	8	3,558
Total	6,570	526	4	7,100	0	7,100	16	7,116

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
4 Newhope Street/Talbert Avenue								
NBL	1	0	0	1	0	1	0	1
NBT	409	33	1	443	0	443	0	443
NBR	384	31	0	415	1	416	2	417
SBL	314	25	0	339	0	339	0	339
SBT	134	11	0	145	0	145	0	145
SBR	72	6	0	78	0	78	0	78
EBL	67	5	0	72	0	72	0	72
EBT	1,782	143	47	1,972	5	1,977	16	1,988
EBR	10	1	0	11	0	11	0	11
WBL	93	7	0	100	0	100	4	104
WBT	423	34	9	466	0	466	38	504
WBR	53	4	0	57	0	57	0	57
North Leg								
Approach	520	42	0	562	0	562	0	562
Departure	529	42	1	572	0	572	0	572
Total	1,049	84	1	1,134	0	1,134	0	1,134
South Leg								
Approach	794	64	1	859	1	860	2	861
Departure	237	19	0	256	0	256	4	260
Total	1,031	83	1	1,115	1	1,116	6	1,121
East Leg								
Approach	569	45	9	623	0	623	42	665
Departure	2,480	199	47	2,726	6	2,732	18	2,744
Total	3,049	244	56	3,349	6	3,355	60	3,409
West Leg								
Approach	1,859	149	47	2,055	5	2,060	16	2,071
Departure	496	40	9	545	0	545	38	583
Total	2,355	189	56	2,600	5	2,605	54	2,654
Total Approaches								
Approach	3,742	300	57	4,099	6	4,105	60	4,159
Departure	3,742	300	57	4,099	6	4,105	60	4,159
Total	7,484	600	114	8,198	12	8,210	120	8,318

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
4 Newhope Street/Talbert Avenue								
NBL	15	1	0	16	0	16	0	16
NBT	237	19	1	257	0	257	0	257
NBR	95	8	0	103	0	103	5	108
SBL	213	17	0	230	0	230	0	230
SBT	486	39	1	526	0	526	0	526
SBR	161	13	0	174	0	174	0	174
EBL	173	14	0	187	0	187	0	187
EBT	513	41	10	564	0	564	40	604
EBR	11	1	0	12	0	12	0	12
WBL	462	37	0	499	0	499	3	502
WBT	2,522	202	46	2,770	1	2,771	29	2,799
WBR	177	14	0	191	0	191	0	191
North Leg								
Approach	860	69	1	930	0	930	0	930
Departure	587	47	1	635	0	635	0	635
Total	1,447	116	2	1,565	0	1,565	0	1,565
South Leg								
Approach	347	28	1	376	0	376	5	381
Departure	959	77	1	1,037	0	1,037	3	1,040
Total	1,306	105	2	1,413	0	1,413	8	1,421
East Leg								
Approach	3,161	253	46	3,460	1	3,461	32	3,492
Departure	821	66	10	897	0	897	45	942
Total	3,982	319	56	4,357	1	4,358	77	4,434
West Leg								
Approach	697	56	10	763	0	763	40	803
Departure	2,698	216	46	2,960	1	2,961	29	2,989
Total	3,395	272	56	3,723	1	3,724	69	3,792
Total Approaches								
Approach	5,065	406	58	5,529	1	5,530	77	5,606
Departure	5,065	406	58	5,529	1	5,530	77	5,606
Total	10,130	812	116	11,058	2	11,060	154	11,212

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
5 OCTA Bus Base - Hyland Avenue/MacArthur Boulevard								
NBL	63	5	0	68	1	69	42	110
NBT	6	0	0	6	0	6	0	6
NBR	16	1	0	17	0	17	0	17
SBL	9	1	0	10	0	10	0	10
SBT	2	0	0	2	0	2	0	2
SBR	7	1	0	8	0	8	0	8
EBL	13	1	0	14	0	14	0	14
EBT	1,875	150	49	2,074	0	2,074	0	2,074
EBR	784	63	0	847	6	853	19	866
WBL	60	5	3	68	0	68	0	68
WBT	499	40	16	555	0	555	0	555
WBR	11	1	0	12	0	12	0	12
North Leg								
Approach	18	2	0	20	0	20	0	20
Departure	30	2	0	32	0	32	0	32
Total	48	4	0	52	0	52	0	52
South Leg								
Approach	85	6	0	91	1	92	42	133
Departure	846	68	3	917	6	923	19	936
Total	931	74	3	1,008	7	1,015	61	1,069
East Leg								
Approach	570	46	19	635	0	635	0	635
Departure	1,900	152	49	2,101	0	2,101	0	2,101
Total	2,470	198	68	2,736	0	2,736	0	2,736
West Leg								
Approach	2,672	214	49	2,935	6	2,941	19	2,954
Departure	569	46	16	631	1	632	42	673
Total	3,241	260	65	3,566	7	3,573	61	3,627
Total Approaches								
Approach	3,345	268	68	3,681	7	3,688	61	3,742
Departure	3,345	268	68	3,681	7	3,688	61	3,742
Total	6,690	536	136	7,362	14	7,376	122	7,484

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
5 OCTA Bus Base - Hyland Avenue/MacArthur Boulevard								
NBL	1,359	109	0	1,468	1	1,469	32	1,500
NBT	6	0	0	6	0	6	0	6
NBR	61	5	0	66	0	66	0	66
SBL	5	0	0	5	0	5	0	5
SBT	1	0	0	1	0	1	0	1
SBR	22	2	0	24	0	24	0	24
EBL	17	1	0	18	0	18	0	18
EBT	772	62	16	850	0	850	0	850
EBR	145	12	0	157	0	157	46	203
WBL	8	1	19	28	0	28	0	28
WBT	2,381	190	49	2,620	0	2,620	0	2,620
WBR	12	1	0	13	0	13	0	13
North Leg								
Approach	28	2	0	30	0	30	0	30
Departure	35	2	0	37	0	37	0	37
Total	63	4	0	67	0	67	0	67
South Leg								
Approach	1,426	114	0	1,540	1	1,541	32	1,572
Departure	154	13	19	186	0	186	46	232
Total	1,580	127	19	1,726	1	1,727	78	1,804
East Leg								
Approach	2,401	192	68	2,661	0	2,661	0	2,661
Departure	838	67	16	921	0	921	0	921
Total	3,239	259	84	3,582	0	3,582	0	3,582
West Leg								
Approach	934	75	16	1,025	0	1,025	46	1,071
Departure	3,762	301	49	4,112	1	4,113	32	4,144
Total	4,696	376	65	5,137	1	5,138	78	5,215
Total Approaches								
Approach	4,789	383	84	5,256	1	5,257	78	5,334
Departure	4,789	383	84	5,256	1	5,257	78	5,334
Total	9,578	766	168	10,512	2	10,514	156	10,668

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
6 Hyland Avenue/Sunflower Avenue								
NBL	73	6	0	79	1	80	17	96
NBT	122	10	0	132	0	132	0	132
NBR	11	1	0	12	0	12	0	12
SBL	129	10	0	139	0	139	0	139
SBT	316	25	3	344	0	344	0	344
SBR	78	6	0	84	0	84	22	106
EBL	10	1	0	11	0	11	54	65
EBT	30	2	2	34	1	35	245	279
EBR	17	1	0	18	1	19	103	121
WBL	34	3	5	42	0	42	0	42
WBT	130	10	6	146	16	162	93	239
WBR	67	5	0	72	0	72	0	72
North Leg								
Approach	523	41	3	567	0	567	22	589
Departure	199	16	0	215	0	215	54	269
Total	722	57	3	782	0	782	76	858
South Leg								
Approach	206	17	0	223	1	224	17	240
Departure	367	29	8	404	1	405	103	507
Total	573	46	8	627	2	629	120	747
East Leg								
Approach	231	18	11	260	16	276	93	353
Departure	170	13	2	185	1	186	245	430
Total	401	31	13	445	17	462	338	783
West Leg								
Approach	57	4	2	63	2	65	402	465
Departure	281	22	6	309	17	326	132	441
Total	338	26	8	372	19	391	534	906
Total Approaches								
Approach	1,017	80	16	1,113	19	1,132	534	1,647
Departure	1,017	80	16	1,113	19	1,132	534	1,647
Total	2,034	160	32	2,226	38	2,264	1,068	3,294

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
6 Hyland Avenue/Sunflower Avenue								
NBL	69	6	0	75	0	75	63	138
NBT	548	44	0	592	0	592	0	592
NBR	61	5	0	66	0	66	0	66
SBL	45	4	0	49	0	49	0	49
SBT	225	18	19	262	0	262	0	262
SBR	72	6	0	78	0	78	57	135
EBL	53	4	0	57	0	57	40	97
EBT	193	15	5	213	2	215	156	369
EBR	113	9	0	122	1	123	62	184
WBL	183	15	32	230	0	230	0	230
WBT	160	13	3	176	1	177	291	467
WBR	188	15	0	203	0	203	0	203
North Leg								
Approach	342	28	19	389	0	389	57	446
Departure	789	63	0	852	0	852	40	892
Total	1,131	91	19	1,241	0	1,241	97	1,338
South Leg								
Approach	678	55	0	733	0	733	63	796
Departure	521	42	51	614	1	615	62	676
Total	1,199	97	51	1,347	1	1,348	125	1,472
East Leg								
Approach	531	43	35	609	1	610	291	900
Departure	299	24	5	328	2	330	156	484
Total	830	67	40	937	3	940	447	1,384
West Leg								
Approach	359	28	5	392	3	395	258	650
Departure	301	25	3	329	1	330	411	740
Total	660	53	8	721	4	725	669	1,390
Total Approaches								
Approach	1,910	154	59	2,123	4	2,127	669	2,792
Departure	1,910	154	59	2,123	4	2,127	669	2,792
Total	3,820	308	118	4,246	8	4,254	1,338	5,584

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
7 Hyland Avenue/I-405 Northbound Ramps - South Coast Drive								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	268	21	2	291	0	291	63	354
SBT	0	0	0	0	0	0	0	0
SBR	54	4	8	66	1	67	40	106
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	144	12	25	181	0	181	0	181
WBR	282	23	6	311	1	312	17	328
North Leg								
Approach	322	25	10	357	1	358	103	460
Departure	282	23	6	311	1	312	17	328
Total	604	48	16	668	2	670	120	788
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	426	35	31	492	1	493	17	509
Departure	268	21	2	291	0	291	63	354
Total	694	56	33	783	1	784	80	863
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	198	16	33	247	1	248	40	287
Total	198	16	33	247	1	248	40	287
Total Approaches								
Approach	748	60	41	849	2	851	120	969
Departure	748	60	41	849	2	851	120	969
Total	1,496	120	82	1,698	4	1,702	240	1,938

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
7 Hyland Avenue/I-405 Northbound Ramps - South Coast Drive								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	347	28	5	380	0	380	36	416
SBT	0	0	0	0	0	0	0	0
SBR	347	28	51	426	1	427	25	451
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	437	35	151	623	0	623	0	623
WBR	775	62	3	840	0	840	63	903
North Leg								
Approach	694	56	56	806	1	807	61	867
Departure	775	62	3	840	0	840	63	903
Total	1,469	118	59	1,646	1	1,647	124	1,770
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	1,212	97	154	1,463	0	1,463	63	1,526
Departure	347	28	5	380	0	380	36	416
Total	1,559	125	159	1,843	0	1,843	99	1,942
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	784	63	202	1,049	1	1,050	25	1,074
Total	784	63	202	1,049	1	1,050	25	1,074
Total Approaches								
Approach	1,906	153	210	2,269	1	2,270	124	2,393
Departure	1,906	153	210	2,269	1	2,270	124	2,393
Total	3,812	306	420	4,538	2	4,540	248	4,786

LSA

Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
8 Harbor Boulevard/MacArthur Boulevard								
NBL	119	10	55	184	0	184	0	184
NBT	901	72	25	998	0	998	23	1,021
NBR	88	7	4	99	0	99	0	99
SBL	346	28	0	374	0	374	0	374
SBT	1,885	151	50	2,086	4	2,090	6	2,092
SBR	123	10	1	134	0	134	0	134
EBL	145	12	0	157	0	157	0	157
EBT	1,252	100	6	1,358	0	1,358	0	1,358
EBR	377	30	43	450	0	450	0	450
WBL	93	7	1	101	0	101	0	101
WBT	397	32	15	444	0	444	0	444
WBR	106	8	1	115	0	115	0	115
North Leg								
Approach	2,354	189	51	2,594	4	2,598	6	2,600
Departure	1,152	92	26	1,270	0	1,270	23	1,293
Total	3,506	281	77	3,864	4	3,868	29	3,893
South Leg								
Approach	1,108	89	84	1,281	0	1,281	23	1,304
Departure	2,355	188	94	2,637	4	2,641	6	2,643
Total	3,463	277	178	3,918	4	3,922	29	3,947
East Leg								
Approach	596	47	17	660	0	660	0	660
Departure	1,686	135	10	1,831	0	1,831	0	1,831
Total	2,282	182	27	2,491	0	2,491	0	2,491
West Leg								
Approach	1,774	142	49	1,965	0	1,965	0	1,965
Departure	639	52	71	762	0	762	0	762
Total	2,413	194	120	2,727	0	2,727	0	2,727
Total Approaches								
Approach	5,832	467	201	6,500	4	6,504	29	6,529
Departure	5,832	467	201	6,500	4	6,504	29	6,529
Total	11,664	934	402	13,000	8	13,008	58	13,058

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
8 Harbor Boulevard/MacArthur Boulevard								
NBL	565	45	45	655	0	655	0	655
NBT	1,546	124	51	1,721	1	1,722	13	1,734
NBR	84	7	2	93	0	93	0	93
SBL	220	18	1	239	0	239	0	239
SBT	1,000	80	24	1,104	0	1,104	23	1,127
SBR	160	13	0	173	0	173	0	173
EBL	130	10	1	141	0	141	0	141
EBT	580	46	14	640	0	640	0	640
EBR	177	14	31	222	0	222	0	222
WBL	52	4	3	59	0	59	0	59
WBT	1,387	111	6	1,504	0	1,504	0	1,504
WBR	233	19	1	253	0	253	0	253
North Leg								
Approach	1,380	111	25	1,516	0	1,516	23	1,539
Departure	1,909	153	53	2,115	1	2,116	13	2,128
Total	3,289	264	78	3,631	1	3,632	36	3,667
South Leg								
Approach	2,195	176	98	2,469	1	2,470	13	2,482
Departure	1,229	98	58	1,385	0	1,385	23	1,408
Total	3,424	274	156	3,854	1	3,855	36	3,890
East Leg								
Approach	1,672	134	10	1,816	0	1,816	0	1,816
Departure	884	71	17	972	0	972	0	972
Total	2,556	205	27	2,788	0	2,788	0	2,788
West Leg								
Approach	887	70	46	1,003	0	1,003	0	1,003
Departure	2,112	169	51	2,332	0	2,332	0	2,332
Total	2,999	239	97	3,335	0	3,335	0	3,335
Total Approaches								
Approach	6,134	491	179	6,804	1	6,805	36	6,840
Departure	6,134	491	179	6,804	1	6,805	36	6,840
Total	12,268	982	358	13,608	2	13,610	72	13,680

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
9 Harbor Boulevard/Scenic Avenue - West Lake Center Drive								
NBL	72	6	4	82	7	89	0	82
NBT	1,126	90	86	1,302	0	1,302	24	1,326
NBR	62	5	4	71	0	71	0	71
SBL	68	5	0	73	0	73	0	73
SBT	2,187	175	92	2,454	0	2,454	9	2,463
SBR	66	5	1	72	4	76	0	72
EBL	14	1	0	15	0	15	0	15
EBT	28	2	0	30	0	30	0	30
EBR	31	2	0	33	0	33	0	33
WBL	25	2	0	27	0	27	0	27
WBT	17	1	0	18	0	18	0	18
WBR	27	2	0	29	0	29	0	29
North Leg								
Approach	2,321	185	93	2,599	4	2,603	9	2,608
Departure	1,167	93	86	1,346	0	1,346	24	1,370
Total	3,488	278	179	3,945	4	3,949	33	3,978
South Leg								
Approach	1,260	101	94	1,455	7	1,462	24	1,479
Departure	2,243	179	92	2,514	0	2,514	9	2,523
Total	3,503	280	186	3,969	7	3,976	33	4,002
East Leg								
Approach	69	5	0	74	0	74	0	74
Departure	158	12	4	174	0	174	0	174
Total	227	17	4	248	0	248	0	248
West Leg								
Approach	73	5	0	78	0	78	0	78
Departure	155	12	5	172	11	183	0	172
Total	228	17	5	250	11	261	0	250
Total Approaches								
Approach	3,723	296	187	4,206	11	4,217	33	4,239
Departure	3,723	296	187	4,206	11	4,217	33	4,239
Total	7,446	592	374	8,412	22	8,434	66	8,478

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
9 Harbor Boulevard/Scenic Avenue - West Lake Center Drive								
NBL	43	3	2	48	0	48	0	48
NBT	1,947	156	99	2,202	0	2,202	17	2,219
NBR	27	2	2	31	0	31	0	31
SBL	13	1	0	14	0	14	0	14
SBT	1,243	99	59	1,401	0	1,401	26	1,427
SBR	12	1	0	13	0	13	0	13
EBL	36	3	1	40	1	41	0	40
EBT	53	4	0	57	0	57	0	57
EBR	91	7	3	101	2	103	0	101
WBL	82	7	3	92	0	92	0	92
WBT	236	19	0	255	0	255	0	255
WBR	174	14	0	188	0	188	0	188
North Leg								
Approach	1,268	101	59	1,428	0	1,428	26	1,454
Departure	2,157	173	100	2,430	1	2,431	17	2,447
Total	3,425	274	159	3,858	1	3,859	43	3,901
South Leg								
Approach	2,017	161	103	2,281	0	2,281	17	2,298
Departure	1,416	113	65	1,594	2	1,596	26	1,620
Total	3,433	274	168	3,875	2	3,877	43	3,918
East Leg								
Approach	492	40	3	535	0	535	0	535
Departure	93	7	2	102	0	102	0	102
Total	585	47	5	637	0	637	0	637
West Leg								
Approach	180	14	4	198	3	201	0	198
Departure	291	23	2	316	0	316	0	316
Total	471	37	6	514	3	517	0	514
Total Approaches								
Approach	3,957	316	169	4,442	3	4,445	43	4,485
Departure	3,957	316	169	4,442	3	4,445	43	4,485
Total	7,914	632	338	8,884	6	8,890	86	8,970

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
10 Harbor Boulevard/Sunflower Avenue								
NBL	197	16	6	219	12	231	51	270
NBT	1,230	98	81	1,409	7	1,416	0	1,409
NBR	209	17	303	529	0	529	0	529
SBL	179	14	67	260	0	260	0	260
SBT	1,859	149	26	2,034	0	2,034	0	2,034
SBR	37	3	1	41	0	41	10	51
EBL	10	1	0	11	0	11	24	35
EBT	133	11	0	144	0	144	64	208
EBR	35	3	2	40	1	41	113	153
WBL	103	8	21	132	0	132	0	132
WBT	109	9	5	123	4	127	21	144
WBR	71	6	11	88	0	88	0	88
North Leg								
Approach	2,075	166	94	2,335	0	2,335	10	2,345
Departure	1,311	105	92	1,508	7	1,515	24	1,532
Total	3,386	271	186	3,843	7	3,850	34	3,877
South Leg								
Approach	1,636	131	390	2,157	19	2,176	51	2,208
Departure	1,997	160	49	2,206	1	2,207	113	2,319
Total	3,633	291	439	4,363	20	4,383	164	4,527
East Leg								
Approach	283	23	37	343	4	347	21	364
Departure	521	42	370	933	0	933	64	997
Total	804	65	407	1,276	4	1,280	85	1,361
West Leg								
Approach	178	15	2	195	1	196	201	396
Departure	343	28	12	383	16	399	82	465
Total	521	43	14	578	17	595	283	861
Total Approaches								
Approach	4,172	335	523	5,030	24	5,054	283	5,313
Departure	4,172	335	523	5,030	24	5,054	283	5,313
Total	8,344	670	1,046	10,060	48	10,108	566	10,626

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
10 Harbor Boulevard/Sunflower Avenue								
NBL	148	12	3	163	1	164	158	321
NBT	1,787	143	37	1,967	0	1,967	0	1,967
NBR	309	25	56	390	0	390	0	390
SBL	86	7	12	105	0	105	0	105
SBT	1,290	103	51	1,444	2	1,446	0	1,444
SBR	53	4	0	57	0	57	26	83
EBL	51	4	1	56	0	56	18	74
EBT	144	12	0	156	1	157	42	198
EBR	199	16	5	220	1	221	74	294
WBL	238	19	132	389	0	389	0	389
WBT	665	53	32	750	0	750	66	816
WBR	186	15	65	266	0	266	0	266
North Leg								
Approach	1,429	114	63	1,606	2	1,608	26	1,632
Departure	2,024	162	103	2,289	0	2,289	18	2,307
Total	3,453	276	166	3,895	2	3,897	44	3,939
South Leg								
Approach	2,244	180	96	2,520	1	2,521	158	2,678
Departure	1,727	138	188	2,053	3	2,056	74	2,127
Total	3,971	318	284	4,573	4	4,577	232	4,805
East Leg								
Approach	1,089	87	229	1,405	0	1,405	66	1,471
Departure	539	44	68	651	1	652	42	693
Total	1,628	131	297	2,056	1	2,057	108	2,164
West Leg								
Approach	394	32	6	432	2	434	134	566
Departure	866	69	35	970	1	971	250	1,220
Total	1,260	101	41	1,402	3	1,405	384	1,786
Total Approaches								
Approach	5,156	413	394	5,963	5	5,968	384	6,347
Departure	5,156	413	394	5,963	5	5,968	384	6,347
Total	10,312	826	788	11,926	10	11,936	768	12,694

LSA

Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
11 Harbor Boulevard/South Coast Drive								
NBL	311	25	65	401	0	401	0	401
NBT	1,665	133	388	2,186	19	2,205	51	2,237
NBR	259	21	133	413	0	413	0	413
SBL	72	6	0	78	0	78	0	78
SBT	1,834	147	41	2,022	1	2,023	113	2,135
SBR	52	4	9	65	0	65	0	65
EBL	15	1	2	18	0	18	0	18
EBT	54	4	4	62	0	62	63	125
EBR	227	18	8	253	0	253	0	253
WBL	86	7	21	114	0	114	0	114
WBT	201	16	44	261	1	262	17	278
WBR	53	4	0	57	0	57	0	57
North Leg								
Approach	1,958	157	50	2,165	1	2,166	113	2,278
Departure	1,733	138	390	2,261	19	2,280	51	2,312
Total	3,691	295	440	4,426	20	4,446	164	4,590
South Leg								
Approach	2,235	179	586	3,000	19	3,019	51	3,051
Departure	2,147	172	70	2,389	1	2,390	113	2,502
Total	4,382	351	656	5,389	20	5,409	164	5,553
East Leg								
Approach	340	27	65	432	1	433	17	449
Departure	385	31	137	553	0	553	63	616
Total	725	58	202	985	1	986	80	1,065
West Leg								
Approach	296	23	14	333	0	333	63	396
Departure	564	45	118	727	1	728	17	744
Total	860	68	132	1,060	1	1,061	80	1,140
Total Approaches								
Approach	4,829	386	715	5,930	21	5,951	244	6,174
Departure	4,829	386	715	5,930	21	5,951	244	6,174
Total	9,658	772	1,430	11,860	42	11,902	488	12,348

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
11 Harbor Boulevard/South Coast Drive								
NBL	373	30	13	416	0	416	0	416
NBT	1,957	157	87	2,201	1	2,202	158	2,359
NBR	212	17	24	253	0	253	0	253
SBL	73	6	0	79	0	79	0	79
SBT	1,642	131	186	1,959	3	1,962	74	2,033
SBR	62	5	2	69	0	69	0	69
EBL	26	2	9	37	0	37	0	37
EBT	35	3	22	60	0	60	36	96
EBR	382	31	40	453	0	453	0	453
WBL	401	32	129	562	0	562	0	562
WBT	794	64	133	991	0	991	63	1,054
WBR	231	18	0	249	0	249	0	249
North Leg								
Approach	1,777	142	188	2,107	3	2,110	74	2,181
Departure	2,214	177	96	2,487	1	2,488	158	2,645
Total	3,991	319	284	4,594	4	4,598	232	4,826
South Leg								
Approach	2,542	204	124	2,870	1	2,871	158	3,028
Departure	2,425	194	355	2,974	3	2,977	74	3,048
Total	4,967	398	479	5,844	4	5,848	232	6,076
East Leg								
Approach	1,426	114	262	1,802	0	1,802	63	1,865
Departure	320	26	46	392	0	392	36	428
Total	1,746	140	308	2,194	0	2,194	99	2,293
West Leg								
Approach	443	36	71	550	0	550	36	586
Departure	1,229	99	148	1,476	0	1,476	63	1,539
Total	1,672	135	219	2,026	0	2,026	99	2,125
Total Approaches								
Approach	6,188	496	645	7,329	4	7,333	331	7,660
Departure	6,188	496	645	7,329	4	7,333	331	7,660
Total	12,376	992	1,290	14,658	8	14,666	662	15,320

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
12 Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,469	118	363	1,950	11	1,961	30	1,980
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,341	107	27	1,475	0	1,475	45	1,520
SBR	809	65	43	917	1	918	68	985
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	531	42	0	573	0	573	0	573
WBT	0	0	0	0	0	0	0	0
WBR	846	68	226	1,140	8	1,148	22	1,162
North Leg								
Approach	2,150	172	70	2,392	1	2,393	113	2,505
Departure	2,315	186	589	3,090	19	3,109	52	3,142
Total	4,465	358	659	5,482	20	5,502	165	5,647
South Leg								
Approach	1,469	118	363	1,950	11	1,961	30	1,980
Departure	1,872	149	27	2,048	0	2,048	45	2,093
Total	3,341	267	390	3,998	11	4,009	75	4,073
East Leg								
Approach	1,377	110	226	1,713	8	1,721	22	1,735
Departure	0	0	0	0	0	0	0	0
Total	1,377	110	226	1,713	8	1,721	22	1,735
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	809	65	43	917	1	918	68	985
Total	809	65	43	917	1	918	68	985
Total Approaches								
Approach	4,996	400	659	6,055	20	6,075	165	6,220
Departure	4,996	400	659	6,055	20	6,075	165	6,220
Total	9,992	800	1,318	12,110	40	12,150	330	12,440

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
12 Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,528	122	67	1,717	0	1,717	88	1,805
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,398	112	149	1,659	1	1,660	31	1,690
SBR	967	77	208	1,252	2	1,254	43	1,295
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	690	55	0	745	0	745	0	745
WBT	0	0	0	0	0	0	0	0
WBR	1,066	85	58	1,209	0	1,209	70	1,279
North Leg								
Approach	2,365	189	357	2,911	3	2,914	74	2,985
Departure	2,594	207	125	2,926	0	2,926	158	3,084
Total	4,959	396	482	5,837	3	5,840	232	6,069
South Leg								
Approach	1,528	122	67	1,717	0	1,717	88	1,805
Departure	2,088	167	149	2,404	1	2,405	31	2,435
Total	3,616	289	216	4,121	1	4,122	119	4,240
East Leg								
Approach	1,756	140	58	1,954	0	1,954	70	2,024
Departure	0	0	0	0	0	0	0	0
Total	1,756	140	58	1,954	0	1,954	70	2,024
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	967	77	208	1,252	2	1,254	43	1,295
Total	967	77	208	1,252	2	1,254	43	1,295
Total Approaches								
Approach	5,649	451	482	6,582	3	6,585	232	6,814
Departure	5,649	451	482	6,582	3	6,585	232	6,814
Total	11,298	902	964	13,164	6	13,170	464	13,628

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
13 Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,134	91	152	1,377	5	1,382	16	1,393
NBR	570	46	24	640	0	640	0	640
SBL	0	0	0	0	0	0	0	0
SBT	1,872	150	27	2,049	0	2,049	45	2,094
SBR	0	0	0	0	0	0	0	0
EBL	335	27	211	573	6	579	13	586
EBT	0	0	0	0	0	0	0	0
EBR	450	36	8	494	0	494	0	494
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	1,872	150	27	2,049	0	2,049	45	2,094
Departure	1,469	118	363	1,950	11	1,961	29	1,979
Total	3,341	268	390	3,999	11	4,010	74	4,073
South Leg								
Approach	1,704	137	176	2,017	5	2,022	16	2,033
Departure	2,322	186	35	2,543	0	2,543	45	2,588
Total	4,026	323	211	4,560	5	4,565	61	4,621
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	570	46	24	640	0	640	0	640
Total	570	46	24	640	0	640	0	640
West Leg								
Approach	785	63	219	1,067	6	1,073	13	1,080
Departure	0	0	0	0	0	0	0	0
Total	785	63	219	1,067	6	1,073	13	1,080
Total Approaches								
Approach	4,361	350	422	5,133	11	5,144	74	5,207
Departure	4,361	350	422	5,133	11	5,144	74	5,207
Total	8,722	700	844	10,266	22	10,288	148	10,414

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
13 Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,351	108	30	1,489	0	1,489	47	1,536
NBR	627	50	15	692	0	692	0	692
SBL	0	0	0	0	0	0	0	0
SBT	2,088	167	149	2,404	1	2,405	31	2,435
SBR	0	0	0	0	0	0	0	0
EBL	177	14	37	228	0	228	41	269
EBT	0	0	0	0	0	0	0	0
EBR	707	57	24	788	0	788	0	788
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	2,088	167	149	2,404	1	2,405	31	2,435
Departure	1,528	122	67	1,717	0	1,717	88	1,805
Total	3,616	289	216	4,121	1	4,122	119	4,240
South Leg								
Approach	1,978	158	45	2,181	0	2,181	47	2,228
Departure	2,795	224	173	3,192	1	3,193	31	3,223
Total	4,773	382	218	5,373	1	5,374	78	5,451
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	627	50	15	692	0	692	0	692
Total	627	50	15	692	0	692	0	692
West Leg								
Approach	884	71	61	1,016	0	1,016	41	1,057
Departure	0	0	0	0	0	0	0	0
Total	884	71	61	1,016	0	1,016	41	1,057
Total Approaches								
Approach	4,950	396	255	5,601	1	5,602	119	5,720
Departure	4,950	396	255	5,601	1	5,602	119	5,720
Total	9,900	792	510	11,202	2	11,204	238	11,440

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
14 Harbor Boulevard/Gisler Avenue								
NBL	96	8	0	104	0	104	0	104
NBT	2,065	165	110	2,340	3	2,343	16	2,356
NBR	9	1	0	10	0	10	0	10
SBL	74	6	0	80	0	80	0	80
SBT	1,803	144	25	1,972	0	1,972	41	2,013
SBR	218	17	11	246	0	246	4	250
EBL	628	50	67	745	1	746	1	746
EBT	50	4	0	54	0	54	0	54
EBR	138	11	0	149	0	149	0	149
WBL	32	3	0	35	0	35	0	35
WBT	37	3	0	40	0	40	0	40
WBR	164	13	0	177	1	178	0	177
North Leg								
Approach	2,095	167	36	2,298	0	2,298	45	2,343
Departure	2,857	228	177	3,262	5	3,267	17	3,279
Total	4,952	395	213	5,560	5	5,565	62	5,622
South Leg								
Approach	2,170	174	110	2,454	3	2,457	16	2,470
Departure	1,973	158	25	2,156	0	2,156	41	2,197
Total	4,143	332	135	4,610	3	4,613	57	4,667
East Leg								
Approach	233	19	0	252	1	253	0	252
Departure	133	11	0	144	0	144	0	144
Total	366	30	0	396	1	397	0	396
West Leg								
Approach	816	65	67	948	1	949	1	949
Departure	351	28	11	390	0	390	4	394
Total	1,167	93	78	1,338	1	1,339	5	1,343
Total Approaches								
Approach	5,314	425	213	5,952	5	5,957	62	6,014
Departure	5,314	425	213	5,952	5	5,957	62	6,014
Total	10,628	850	426	11,904	10	11,914	124	12,028

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
14 Harbor Boulevard/Gisler Avenue								
NBL	139	11	0	150	0	150	0	150
NBT	1,952	156	33	2,141	0	2,141	43	2,184
NBR	20	2	0	22	0	22	0	22
SBL	135	11	0	146	0	146	0	146
SBT	2,089	167	109	2,365	1	2,366	29	2,394
SBR	356	28	65	449	0	449	2	451
EBL	376	30	12	418	0	418	4	422
EBT	36	3	0	39	0	39	0	39
EBR	114	9	0	123	0	123	0	123
WBL	44	4	0	48	0	48	0	48
WBT	59	5	0	64	0	64	0	64
WBR	341	27	0	368	0	368	0	368
North Leg								
Approach	2,580	206	174	2,960	1	2,961	31	2,991
Departure	2,669	213	45	2,927	0	2,927	47	2,974
Total	5,249	419	219	5,887	1	5,888	78	5,965
South Leg								
Approach	2,111	169	33	2,313	0	2,313	43	2,356
Departure	2,247	180	109	2,536	1	2,537	29	2,565
Total	4,358	349	142	4,849	1	4,850	72	4,921
East Leg								
Approach	444	36	0	480	0	480	0	480
Departure	191	16	0	207	0	207	0	207
Total	635	52	0	687	0	687	0	687
West Leg								
Approach	526	42	12	580	0	580	4	584
Departure	554	44	65	663	0	663	2	665
Total	1,080	86	77	1,243	0	1,243	6	1,249
Total Approaches								
Approach	5,661	453	219	6,333	1	6,334	78	6,411
Departure	5,661	453	219	6,333	1	6,334	78	6,411
Total	11,322	906	438	12,666	2	12,668	156	12,822

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
15 Harbor Boulevard/Nutmeg Place								
NBL	15	1	0	16	0	16	0	16
NBT	2,037	163	113	2,313	3	2,316	13	2,326
NBR	121	10	8	139	0	139	0	139
SBL	127	10	0	137	0	137	4	141
SBT	1,817	145	23	1,985	0	1,985	36	2,021
SBR	50	4	0	54	0	54	0	54
EBL	42	3	0	45	0	45	0	45
EBT	4	0	0	4	0	4	0	4
EBR	33	3	0	36	0	36	0	36
WBL	27	2	2	31	0	31	0	31
WBT	6	0	0	6	0	6	0	6
WBR	107	9	0	116	0	116	1	117
North Leg								
Approach	1,994	159	23	2,176	0	2,176	40	2,216
Departure	2,186	175	113	2,474	3	2,477	14	2,488
Total	4,180	334	136	4,650	3	4,653	54	4,704
South Leg								
Approach	2,173	174	121	2,468	3	2,471	13	2,481
Departure	1,877	150	25	2,052	0	2,052	36	2,088
Total	4,050	324	146	4,520	3	4,523	49	4,569
East Leg								
Approach	140	11	2	153	0	153	1	154
Departure	252	20	8	280	0	280	4	284
Total	392	31	10	433	0	433	5	438
West Leg								
Approach	79	6	0	85	0	85	0	85
Departure	71	5	0	76	0	76	0	76
Total	150	11	0	161	0	161	0	161
Total Approaches								
Approach	4,386	350	146	4,882	3	4,885	54	4,936
Departure	4,386	350	146	4,882	3	4,885	54	4,936
Total	8,772	700	292	9,764	6	9,770	108	9,872

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
15 Harbor Boulevard/Nutmeg Place								
NBL	43	3	0	46	0	46	0	46
NBT	1,904	152	32	2,088	0	2,088	37	2,125
NBR	184	15	4	203	0	203	0	203
SBL	180	14	0	194	0	194	2	196
SBT	2,050	164	111	2,325	1	2,326	24	2,349
SBR	46	4	0	50	0	50	0	50
EBL	66	5	0	71	0	71	0	71
EBT	11	1	0	12	0	12	0	12
EBR	64	5	0	69	0	69	0	69
WBL	146	12	8	166	0	166	0	166
WBT	25	2	0	27	0	27	0	27
WBR	130	10	0	140	0	140	4	144
North Leg								
Approach	2,276	182	111	2,569	1	2,570	26	2,595
Departure	2,100	167	32	2,299	0	2,299	41	2,340
Total	4,376	349	143	4,868	1	4,869	67	4,935
South Leg								
Approach	2,131	170	36	2,337	0	2,337	37	2,374
Departure	2,260	181	119	2,560	1	2,561	24	2,584
Total	4,391	351	155	4,897	1	4,898	61	4,958
East Leg								
Approach	301	24	8	333	0	333	4	337
Departure	375	30	4	409	0	409	2	411
Total	676	54	12	742	0	742	6	748
West Leg								
Approach	141	11	0	152	0	152	0	152
Departure	114	9	0	123	0	123	0	123
Total	255	20	0	275	0	275	0	275
Total Approaches								
Approach	4,849	387	155	5,391	1	5,392	67	5,458
Departure	4,849	387	155	5,391	1	5,392	67	5,458
Total	9,698	774	310	10,782	2	10,784	134	10,916

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
16 Harbor Boulevard/Baker Street								
NBL	47	4	0	51	0	51	0	51
NBT	1,816	145	81	2,042	3	2,045	9	2,051
NBR	232	19	1	252	0	252	0	252
SBL	190	15	0	205	0	205	12	217
SBT	1,474	118	18	1,610	0	1,610	24	1,634
SBR	217	17	6	240	0	240	0	240
EBL	243	19	38	300	0	300	0	300
EBT	248	20	0	268	0	268	0	268
EBR	55	4	0	59	0	59	0	59
WBL	193	15	1	209	0	209	0	209
WBT	215	17	0	232	0	232	0	232
WBR	151	12	1	164	0	164	3	167
						0		
North Leg								
Approach	1,881	150	24	2,055	0	2,055	36	2,091
Departure	2,210	176	120	2,506	3	2,509	12	2,518
Total	4,091	326	144	4,561	3	4,564	48	4,609
South Leg								
Approach	2,095	168	82	2,345	3	2,348	9	2,354
Departure	1,722	137	19	1,878	0	1,878	24	1,902
Total	3,817	305	101	4,223	3	4,226	33	4,256
East Leg								
Approach	559	44	2	605	0	605	3	608
Departure	670	54	1	725	0	725	12	737
Total	1,229	98	3	1,330	0	1,330	15	1,345
West Leg								
Approach	546	43	38	627	0	627	0	627
Departure	479	38	6	523	0	523	0	523
Total	1,025	81	44	1,150	0	1,150	0	1,150
Total Approaches								
Approach	5,081	405	146	5,632	3	5,635	48	5,680
Departure	5,081	405	146	5,632	3	5,635	48	5,680
Total	10,162	810	292	11,264	6	11,270	96	11,360

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
16 Harbor Boulevard/Baker Street								
NBL	53	4	0	57	0	57	0	57
NBT	1,608	129	29	1,766	0	1,766	25	1,791
NBR	196	16	2	214	0	214	0	214
SBL	186	15	1	202	0	202	6	208
SBT	1,876	150	79	2,105	1	2,106	16	2,121
SBR	231	18	36	285	0	285	0	285
EBL	194	16	7	217	0	217	0	217
EBT	228	18	0	246	0	246	0	246
EBR	85	7	0	92	0	92	0	92
WBL	458	37	2	497	0	497	0	497
WBT	630	50	0	680	0	680	0	680
WBR	339	27	1	367	0	367	11	378
North Leg								
Approach	2,293	183	116	2,592	1	2,593	22	2,614
Departure	2,141	172	37	2,350	0	2,350	36	2,386
Total	4,434	355	153	4,942	1	4,943	58	5,000
South Leg								
Approach	1,857	149	31	2,037	0	2,037	25	2,062
Departure	2,419	194	81	2,694	1	2,695	16	2,710
Total	4,276	343	112	4,731	1	4,732	41	4,772
East Leg								
Approach	1,427	114	3	1,544	0	1,544	11	1,555
Departure	610	49	3	662	0	662	6	668
Total	2,037	163	6	2,206	0	2,206	17	2,223
West Leg								
Approach	507	41	7	555	0	555	0	555
Departure	914	72	36	1,022	0	1,022	0	1,022
Total	1,421	113	43	1,577	0	1,577	0	1,577
Total Approaches								
Approach	6,084	487	157	6,728	1	6,729	58	6,786
Departure	6,084	487	157	6,728	1	6,729	58	6,786
Total	12,168	974	314	13,456	2	13,458	116	13,572

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
17 Susan Street/Sunflower Avenue								
NBL	74	6	0	80	0	80	0	80
NBT	257	21	0	278	0	278	0	278
NBR	51	4	0	55	0	55	0	55
SBL	71	6	0	77	0	77	0	77
SBT	80	6	0	86	0	86	0	86
SBR	26	2	0	28	0	28	5	33
EBL	62	5	0	67	0	67	16	83
EBT	317	25	27	369	0	369	49	418
EBR	42	3	0	45	0	45	0	45
WBL	50	4	0	54	0	54	0	54
WBT	252	20	166	438	4	442	16	454
WBR	96	8	0	104	0	104	0	104
						0		
North Leg								
Approach	177	14	0	191	0	191	5	196
Departure	415	34	0	449	0	449	16	465
Total	592	48	0	640	0	640	21	661
South Leg								
Approach	382	31	0	413	0	413	0	413
Departure	172	13	0	185	0	185	0	185
Total	554	44	0	598	0	598	0	598
East Leg								
Approach	398	32	166	596	4	600	16	612
Departure	439	35	27	501	0	501	49	550
Total	837	67	193	1,097	4	1,101	65	1,162
West Leg								
Approach	421	33	27	481	0	481	65	546
Departure	352	28	166	546	4	550	21	567
Total	773	61	193	1,027	4	1,031	86	1,113
Total Approaches								
Approach	1,378	110	193	1,681	4	1,685	86	1,767
Departure	1,378	110	193	1,681	4	1,685	86	1,767
Total	2,756	220	386	3,362	8	3,370	172	3,534

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
17 Susan Street/Sunflower Avenue								
NBL	279	22	0	301	0	301	0	301
NBT	614	49	0	663	0	663	0	663
NBR	139	11	0	150	0	150	0	150
SBL	65	5	0	70	0	70	0	70
SBT	170	14	0	184	0	184	0	184
SBR	78	6	0	84	0	84	16	100
EBL	89	7	0	96	0	96	9	105
EBT	454	36	161	651	1	652	32	683
EBR	29	2	0	31	0	31	0	31
WBL	37	3	0	40	0	40	0	40
WBT	568	45	30	643	0	643	50	693
WBR	196	16	0	212	0	212	0	212
North Leg								
Approach	313	25	0	338	0	338	16	354
Departure	899	72	0	971	0	971	9	980
Total	1,212	97	0	1,309	0	1,309	25	1,334
South Leg								
Approach	1,032	82	0	1,114	0	1,114	0	1,114
Departure	236	19	0	255	0	255	0	255
Total	1,268	101	0	1,369	0	1,369	0	1,369
East Leg								
Approach	801	64	30	895	0	895	50	945
Departure	658	52	161	871	1	872	32	903
Total	1,459	116	191	1,766	1	1,767	82	1,848
West Leg								
Approach	572	45	161	778	1	779	41	819
Departure	925	73	30	1,028	0	1,028	66	1,094
Total	1,497	118	191	1,806	1	1,807	107	1,913
Total Approaches								
Approach	2,718	216	191	3,125	1	3,126	107	3,232
Departure	2,718	216	191	3,125	1	3,126	107	3,232
Total	5,436	432	382	6,250	2	6,252	214	6,464

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
18 Susan Street/South Coast Drive								
NBL	158	13	0	171	0	171	0	171
NBT	437	35	0	472	0	472	0	472
NBR	83	7	0	90	0	90	0	90
SBL	65	5	0	70	0	70	0	70
SBT	2	0	0	2	0	2	0	2
SBR	64	5	0	69	0	69	3	72
EBL	94	8	0	102	0	102	12	114
EBT	276	22	4	302	0	302	36	338
EBR	1	0	0	1	0	1	0	1
WBL	0	0	0	0	0	0	0	0
WBT	145	12	23	180	1	181	11	191
WBR	43	3	0	46	0	46	0	46
North Leg								
Approach	131	10	0	141	0	141	3	144
Departure	574	46	0	620	0	620	12	632
Total	705	56	0	761	0	761	15	776
South Leg								
Approach	678	55	0	733	0	733	0	733
Departure	3	0	0	3	0	3	0	3
Total	681	55	0	736	0	736	0	736
East Leg								
Approach	188	15	23	226	1	227	11	237
Departure	424	34	4	462	0	462	36	498
Total	612	49	27	688	1	689	47	735
West Leg								
Approach	371	30	4	405	0	405	48	453
Departure	367	30	23	420	1	421	14	434
Total	738	60	27	825	1	826	62	887
Total Approaches								
Approach	1,368	110	27	1,505	1	1,506	62	1,567
Departure	1,368	110	27	1,505	1	1,506	62	1,567
Total	2,736	220	54	3,010	2	3,012	124	3,134

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
18 Susan Street/South Coast Drive								
NBL	528	42	0	570	0	570	0	570
NBT	751	60	0	811	0	811	0	811
NBR	57	5	0	62	0	62	0	62
SBL	143	11	0	154	0	154	0	154
SBT	19	2	0	21	0	21	0	21
SBR	171	14	0	185	0	185	11	196
EBL	88	7	0	95	0	95	6	101
EBT	205	16	22	243	0	243	21	264
EBR	13	1	0	14	0	14	0	14
WBL	38	3	0	41	0	41	0	41
WBT	675	54	4	733	0	733	36	769
WBR	150	12	0	162	0	162	0	162
North Leg								
Approach	333	27	0	360	0	360	11	371
Departure	989	79	0	1,068	0	1,068	6	1,074
Total	1,322	106	0	1,428	0	1,428	17	1,445
South Leg								
Approach	1,336	107	0	1,443	0	1,443	0	1,443
Departure	70	6	0	76	0	76	0	76
Total	1,406	113	0	1,519	0	1,519	0	1,519
East Leg								
Approach	863	69	4	936	0	936	36	972
Departure	405	32	22	459	0	459	21	480
Total	1,268	101	26	1,395	0	1,395	57	1,452
West Leg								
Approach	306	24	22	352	0	352	27	379
Departure	1,374	110	4	1,488	0	1,488	47	1,535
Total	1,680	134	26	1,840	0	1,840	74	1,914
Total Approaches								
Approach	2,838	227	26	3,091	0	3,091	74	3,165
Departure	2,838	227	26	3,091	0	3,091	74	3,165
Total	5,676	454	52	6,182	0	6,182	148	6,330

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
19 Fairview Street/MacArthur Boulevard								
NBL	150	12	3	165	0	165	0	165
NBT	827	66	64	957	0	957	17	974
NBR	80	6	2	88	0	88	0	88
SBL	383	31	1	415	0	415	0	415
SBT	1,611	129	94	1,834	2	1,836	6	1,840
SBR	166	13	3	182	0	182	0	182
EBL	140	11	0	151	0	151	0	151
EBT	1,051	84	5	1,140	0	1,140	0	1,140
EBR	173	14	0	187	0	187	0	187
WBL	190	15	7	212	0	212	0	212
WBT	494	40	10	544	0	544	0	544
WBR	159	13	2	174	0	174	0	174
North Leg								
Approach	2,160	173	98	2,431	2	2,433	6	2,437
Departure	1,126	90	66	1,282	0	1,282	17	1,299
Total	3,286	263	164	3,713	2	3,715	23	3,736
South Leg								
Approach	1,057	84	69	1,210	0	1,210	17	1,227
Departure	1,974	158	101	2,233	2	2,235	6	2,239
Total	3,031	242	170	3,443	2	3,445	23	3,466
East Leg								
Approach	843	68	19	930	0	930	0	930
Departure	1,514	121	8	1,643	0	1,643	0	1,643
Total	2,357	189	27	2,573	0	2,573	0	2,573
West Leg								
Approach	1,364	109	5	1,478	0	1,478	0	1,478
Departure	810	65	16	891	0	891	0	891
Total	2,174	174	21	2,369	0	2,369	0	2,369
Total Approaches								
Approach	5,424	434	191	6,049	2	6,051	23	6,072
Departure	5,424	434	191	6,049	2	6,051	23	6,072
Total	10,848	868	382	12,098	4	12,102	46	12,144

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
19 Fairview Street/MacArthur Boulevard								
NBL	213	17	0	230	0	230	0	230
NBT	1,694	136	74	1,904	0	1,904	10	1,914
NBR	116	9	8	133	0	133	0	133
SBL	162	13	3	178	0	178	0	178
SBT	902	72	49	1,023	0	1,023	17	1,040
SBR	107	9	0	116	0	116	0	116
EBL	291	23	3	317	0	317	0	317
EBT	744	60	11	815	0	815	0	815
EBR	231	18	3	252	0	252	0	252
WBL	163	13	5	181	0	181	0	181
WBT	1,293	103	6	1,402	0	1,402	0	1,402
WBR	292	23	2	317	0	317	0	317
North Leg								
Approach	1,171	94	52	1,317	0	1,317	17	1,334
Departure	2,277	182	79	2,538	0	2,538	10	2,548
Total	3,448	276	131	3,855	0	3,855	27	3,882
South Leg								
Approach	2,023	162	82	2,267	0	2,267	10	2,277
Departure	1,296	103	57	1,456	0	1,456	17	1,473
Total	3,319	265	139	3,723	0	3,723	27	3,750
East Leg								
Approach	1,748	139	13	1,900	0	1,900	0	1,900
Departure	1,022	82	22	1,126	0	1,126	0	1,126
Total	2,770	221	35	3,026	0	3,026	0	3,026
West Leg								
Approach	1,266	101	17	1,384	0	1,384	0	1,384
Departure	1,613	129	6	1,748	0	1,748	0	1,748
Total	2,879	230	23	3,132	0	3,132	0	3,132
Total Approaches								
Approach	6,208	496	164	6,868	0	6,868	27	6,895
Departure	6,208	496	164	6,868	0	6,868	27	6,895
Total	12,416	992	328	13,736	0	13,736	54	13,790

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
20 Fairview Road/Sunflower Avenue								
NBL	173	14	67	254	0	254	0	254
NBT	943	75	62	1,080	0	1,080	0	1,080
NBR	160	13	5	178	0	178	0	178
SBL	174	14	6	194	0	194	0	194
SBT	1,702	136	62	1,900	0	1,900	0	1,900
SBR	120	10	33	163	2	165	6	169
EBL	35	3	5	43	0	43	17	60
EBT	238	19	11	268	0	268	32	300
EBR	64	5	11	80	0	80	0	80
WBL	297	24	2	323	0	323	0	323
WBT	300	24	67	391	1	392	11	402
WBR	105	8	2	115	0	115	0	115
North Leg								
Approach	1,996	160	101	2,257	2	2,259	6	2,263
Departure	1,083	86	69	1,238	0	1,238	17	1,255
Total	3,079	246	170	3,495	2	3,497	23	3,518
South Leg								
Approach	1,276	102	134	1,512	0	1,512	0	1,512
Departure	2,063	165	75	2,303	0	2,303	0	2,303
Total	3,339	267	209	3,815	0	3,815	0	3,815
East Leg								
Approach	702	56	71	829	1	830	11	840
Departure	572	46	22	640	0	640	32	672
Total	1,274	102	93	1,469	1	1,470	43	1,512
West Leg								
Approach	337	27	27	391	0	391	49	440
Departure	593	48	167	808	3	811	17	825
Total	930	75	194	1,199	3	1,202	66	1,265
Total Approaches								
Approach	4,311	345	333	4,989	3	4,992	66	5,055
Departure	4,311	345	333	4,989	3	4,992	66	5,055
Total	8,622	690	666	9,978	6	9,984	132	10,110

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
20 Fairview Road/Sunflower Avenue								
NBL	138	11	12	161	0	161	0	161
NBT	1,728	138	46	1,912	0	1,912	0	1,912
NBR	296	24	3	323	0	323	0	323
SBL	101	8	3	112	0	112	0	112
SBT	1,129	90	48	1,267	0	1,267	0	1,267
SBR	70	6	6	82	0	82	17	99
EBL	185	15	32	232	0	232	11	243
EBT	407	33	65	505	0	505	21	526
EBR	141	11	65	217	0	217	0	217
WBL	227	18	4	249	0	249	0	249
WBT	517	41	12	570	0	570	32	602
WBR	162	13	4	179	0	179	0	179
North Leg								
Approach	1,300	104	57	1,461	0	1,461	17	1,478
Departure	2,075	166	82	2,323	0	2,323	11	2,334
Total	3,375	270	139	3,784	0	3,784	28	3,812
South Leg								
Approach	2,162	173	61	2,396	0	2,396	0	2,396
Departure	1,497	119	117	1,733	0	1,733	0	1,733
Total	3,659	292	178	4,129	0	4,129	0	4,129
East Leg								
Approach	906	72	20	998	0	998	32	1,030
Departure	804	65	71	940	0	940	21	961
Total	1,710	137	91	1,938	0	1,938	53	1,991
West Leg								
Approach	733	59	162	954	0	954	32	986
Departure	725	58	30	813	0	813	49	862
Total	1,458	117	192	1,767	0	1,767	81	1,848
Total Approaches								
Approach	5,101	408	300	5,809	0	5,809	81	5,890
Departure	5,101	408	300	5,809	0	5,809	81	5,890
Total	10,202	816	600	11,618	0	11,618	162	11,780

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
21 Fairview Road/South Coast Drive								
NBL	234	19	9	262	0	262	2	264
NBT	1,212	97	133	1,442	0	1,442	0	1,442
NBR	178	14	0	192	0	192	0	192
SBL	29	2	0	31	0	31	0	31
SBT	1,926	154	70	2,150	0	2,150	0	2,150
SBR	21	2	5	28	0	28	0	28
EBL	8	1	1	10	0	10	0	10
EBT	83	7	2	92	0	92	27	119
EBR	139	11	2	152	0	152	8	160
WBL	314	25	0	339	0	339	0	339
WBT	98	8	9	115	0	115	8	123
WBR	58	5	0	63	0	63	0	63
North Leg								
Approach	1,976	158	75	2,209	0	2,209	0	2,209
Departure	1,278	103	134	1,515	0	1,515	0	1,515
Total	3,254	261	209	3,724	0	3,724	0	3,724
South Leg								
Approach	1,624	130	142	1,896	0	1,896	2	1,898
Departure	2,379	190	72	2,641	0	2,641	8	2,649
Total	4,003	320	214	4,537	0	4,537	10	4,547
East Leg								
Approach	470	38	9	517	0	517	8	525
Departure	290	23	2	315	0	315	27	342
Total	760	61	11	832	0	832	35	867
West Leg								
Approach	230	19	5	254	0	254	35	289
Departure	353	29	23	405	0	405	10	415
Total	583	48	28	659	0	659	45	704
Total Approaches								
Approach	4,300	345	231	4,876	0	4,876	45	4,921
Departure	4,300	345	231	4,876	0	4,876	45	4,921
Total	8,600	690	462	9,752	0	9,752	90	9,842

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
21 Fairview Road/South Coast Drive								
NBL	190	15	2	207	0	207	8	215
NBT	1,776	142	57	1,975	0	1,975	0	1,975
NBR	341	27	0	368	0	368	0	368
SBL	52	4	0	56	0	56	0	56
SBT	1,379	110	116	1,605	0	1,605	0	1,605
SBR	52	4	1	57	0	57	0	57
EBL	62	5	4	71	0	71	0	71
EBT	149	12	9	170	0	170	16	186
EBR	544	44	9	597	0	597	4	601
WBL	451	36	0	487	0	487	0	487
WBT	456	36	2	494	0	494	28	522
WBR	320	26	0	346	0	346	0	346
North Leg								
Approach	1,483	118	117	1,718	0	1,718	0	1,718
Departure	2,158	173	61	2,392	0	2,392	0	2,392
Total	3,641	291	178	4,110	0	4,110	0	4,110
South Leg								
Approach	2,307	184	59	2,550	0	2,550	8	2,558
Departure	2,374	190	125	2,689	0	2,689	4	2,693
Total	4,681	374	184	5,239	0	5,239	12	5,251
East Leg								
Approach	1,227	98	2	1,327	0	1,327	28	1,355
Departure	542	43	9	594	0	594	16	610
Total	1,769	141	11	1,921	0	1,921	44	1,965
West Leg								
Approach	755	61	22	838	0	838	20	858
Departure	698	55	5	758	0	758	36	794
Total	1,453	116	27	1,596	0	1,596	56	1,652
Total Approaches								
Approach	5,772	461	200	6,433	0	6,433	56	6,489
Departure	5,772	461	200	6,433	0	6,433	56	6,489
Total	11,544	922	400	12,866	0	12,866	112	12,978

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
22 Fairview Road/I-405 Northbound Ramps								
NBL	243	19	0	262	0	262	0	262
NBT	793	63	140	996	0	996	2	998
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	2,042	163	67	2,272	0	2,272	8	2,280
SBR	294	24	3	321	0	321	0	321
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	832	67	0	899	0	899	0	899
WBT	0	0	0	0	0	0	0	0
WBR	859	69	1	929	0	929	0	929
North Leg								
Approach	2,336	187	70	2,593	0	2,593	8	2,601
Departure	1,652	132	141	1,925	0	1,925	2	1,927
Total	3,988	319	211	4,518	0	4,518	10	4,528
South Leg								
Approach	1,036	82	140	1,258	0	1,258	2	1,260
Departure	2,874	230	67	3,171	0	3,171	8	3,179
Total	3,910	312	207	4,429	0	4,429	10	4,439
East Leg								
Approach	1,691	136	1	1,828	0	1,828	0	1,828
Departure	0	0	0	0	0	0	0	0
Total	1,691	136	1	1,828	0	1,828	0	1,828
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	537	43	3	583	0	583	0	583
Total	537	43	3	583	0	583	0	583
Total Approaches								
Approach	5,063	405	211	5,679	0	5,679	10	5,689
Departure	5,063	405	211	5,679	0	5,679	10	5,689
Total	10,126	810	422	11,358	0	11,358	20	11,378

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
22 Fairview Road/I-405 Northbound Ramps								
NBL	185	15	0	200	0	200	0	200
NBT	1,384	111	54	1,549	0	1,549	8	1,557
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,989	159	121	2,269	0	2,269	4	2,273
SBR	339	27	3	369	0	369	0	369
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	785	63	0	848	0	848	0	848
WBT	0	0	0	0	0	0	0	0
WBR	967	77	4	1,048	0	1,048	0	1,048
North Leg								
Approach	2,328	186	124	2,638	0	2,638	4	2,642
Departure	2,351	188	58	2,597	0	2,597	8	2,605
Total	4,679	374	182	5,235	0	5,235	12	5,247
South Leg								
Approach	1,569	126	54	1,749	0	1,749	8	1,757
Departure	2,774	222	121	3,117	0	3,117	4	3,121
Total	4,343	348	175	4,866	0	4,866	12	4,878
East Leg								
Approach	1,752	140	4	1,896	0	1,896	0	1,896
Departure	0	0	0	0	0	0	0	0
Total	1,752	140	4	1,896	0	1,896	0	1,896
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	524	42	3	569	0	569	0	569
Total	524	42	3	569	0	569	0	569
Total Approaches								
Approach	5,649	452	182	6,283	0	6,283	12	6,295
Departure	5,649	452	182	6,283	0	6,283	12	6,295
Total	11,298	904	364	12,566	0	12,566	24	12,590

LSA

Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
23 Fairview Road/I-405 Southbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	891	71	139	1,101	0	1,101	2	1,103
NBR	1,095	88	0	1,183	0	1,183	0	1,183
SBL	1,180	94	3	1,277	0	1,277	0	1,277
SBT	1,694	136	64	1,894	0	1,894	8	1,902
SBR	0	0	0	0	0	0	0	0
EBL	145	12	2	159	0	159	0	159
EBT	0	0	0	0	0	0	0	0
EBR	399	32	0	431	0	431	0	431
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	2,874	230	67	3,171	0	3,171	8	3,179
Departure	1,036	83	141	1,260	0	1,260	2	1,262
Total	3,910	313	208	4,431	0	4,431	10	4,441
South Leg								
Approach	1,986	159	139	2,284	0	2,284	2	2,286
Departure	2,093	168	64	2,325	0	2,325	8	2,333
Total	4,079	327	203	4,609	0	4,609	10	4,619
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	2,275	182	3	2,460	0	2,460	0	2,460
Total	2,275	182	3	2,460	0	2,460	0	2,460
West Leg								
Approach	544	44	2	590	0	590	0	590
Departure	0	0	0	0	0	0	0	0
Total	544	44	2	590	0	590	0	590
Total Approaches								
Approach	5,404	433	208	6,045	0	6,045	10	6,055
Departure	5,404	433	208	6,045	0	6,045	10	6,055
Total	10,808	866	416	12,090	0	12,090	20	12,110

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
23 Fairview Road/I-405 Southbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	1,200	96	50	1,346	0	1,346	8	1,354
NBR	563	45	0	608	0	608	0	608
SBL	1,074	86	2	1,162	0	1,162	0	1,162
SBT	1,700	136	119	1,955	0	1,955	4	1,959
SBR	0	0	0	0	0	0	0	0
EBL	369	30	4	403	0	403	0	403
EBT	0	0	0	0	0	0	0	0
EBR	468	37	0	505	0	505	0	505
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	2,774	222	121	3,117	0	3,117	4	3,121
Departure	1,569	126	54	1,749	0	1,749	8	1,757
Total	4,343	348	175	4,866	0	4,866	12	4,878
South Leg								
Approach	1,763	141	50	1,954	0	1,954	8	1,962
Departure	2,168	173	119	2,460	0	2,460	4	2,464
Total	3,931	314	169	4,414	0	4,414	12	4,426
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	1,637	131	2	1,770	0	1,770	0	1,770
Total	1,637	131	2	1,770	0	1,770	0	1,770
West Leg								
Approach	837	67	4	908	0	908	0	908
Departure	0	0	0	0	0	0	0	0
Total	837	67	4	908	0	908	0	908
Total Approaches								
Approach	5,374	430	175	5,979	0	5,979	12	5,991
Departure	5,374	430	175	5,979	0	5,979	12	5,991
Total	10,748	860	350	11,958	0	11,958	24	11,982

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
24 Fairview Road/Baker Street								
NBL	141	11	0	152	0	152	0	152
NBT	1,356	108	61	1,525	0	1,525	1	1,526
NBR	645	52	1	698	0	698	0	698
SBL	246	20	11	277	0	277	4	281
SBT	1,570	126	23	1,719	0	1,719	4	1,723
SBR	223	18	7	248	0	248	0	248
EBL	270	22	15	307	0	307	0	307
EBT	549	44	3	596	0	596	0	596
EBR	160	13	0	173	0	173	0	173
WBL	336	27	1	364	0	364	0	364
WBT	286	23	4	313	0	313	0	313
WBR	150	12	24	186	0	186	1	187
North Leg								
Approach	2,039	164	41	2,244	0	2,244	8	2,252
Departure	1,776	142	100	2,018	0	2,018	2	2,020
Total	3,815	306	141	4,262	0	4,262	10	4,272
South Leg								
Approach	2,142	171	62	2,375	0	2,375	1	2,376
Departure	2,066	166	24	2,256	0	2,256	4	2,260
Total	4,208	337	86	4,631	0	4,631	5	4,636
East Leg								
Approach	772	62	29	863	0	863	1	864
Departure	1,440	116	15	1,571	0	1,571	4	1,575
Total	2,212	178	44	2,434	0	2,434	5	2,439
West Leg								
Approach	979	79	18	1,076	0	1,076	0	1,076
Departure	650	52	11	713	0	713	0	713
Total	1,629	131	29	1,789	0	1,789	0	1,789
Total Approaches								
Approach	5,932	476	150	6,558	0	6,558	10	6,568
Departure	5,932	476	150	6,558	0	6,558	10	6,568
Total	11,864	952	300	13,116	0	13,116	20	13,136

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
24 Fairview Road/Baker Street								
NBL	184	15	0	199	0	199	0	199
NBT	1,132	91	20	1,243	0	1,243	4	1,247
NBR	367	29	2	398	0	398	0	398
SBL	218	17	20	255	0	255	2	257
SBT	1,409	113	55	1,577	0	1,577	2	1,579
SBR	331	26	12	369	0	369	0	369
EBL	276	22	5	303	0	303	0	303
EBT	414	33	4	451	0	451	0	451
EBR	167	13	0	180	0	180	0	180
WBL	661	53	2	716	0	716	0	716
WBT	1,144	92	3	1,239	0	1,239	0	1,239
WBR	185	15	7	207	0	207	4	211
North Leg								
Approach	1,958	156	87	2,201	0	2,201	4	2,205
Departure	1,593	128	32	1,753	0	1,753	8	1,761
Total	3,551	284	119	3,954	0	3,954	12	3,966
South Leg								
Approach	1,683	135	22	1,840	0	1,840	4	1,844
Departure	2,237	179	57	2,473	0	2,473	2	2,475
Total	3,920	314	79	4,313	0	4,313	6	4,319
East Leg								
Approach	1,990	160	12	2,162	0	2,162	4	2,166
Departure	999	79	26	1,104	0	1,104	2	1,106
Total	2,989	239	38	3,266	0	3,266	6	3,272
West Leg								
Approach	857	68	9	934	0	934	0	934
Departure	1,659	133	15	1,807	0	1,807	0	1,807
Total	2,516	201	24	2,741	0	2,741	0	2,741
Total Approaches								
Approach	6,488	519	130	7,137	0	7,137	12	7,149
Departure	6,488	519	130	7,137	0	7,137	12	7,149
Total	12,976	1,038	260	14,274	0	14,274	24	14,298

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
25 Cadillac Avenue - Driveway 1/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	1	1	133	133
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	18	1	0	19	0	19	0	19
EBR	0	0	0	0	17	17	0	0
WBL	0	0	0	0	10	10	43	43
WBT	93	7	0	100	1	101	0	100
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	0	0	0	0	1	1	133	133
Departure	0	0	0	0	27	27	43	43
Total	0	0	0	0	28	28	176	176
East Leg								
Approach	93	7	0	100	11	111	43	143
Departure	18	1	0	19	1	20	133	152
Total	111	8	0	119	12	131	176	295
West Leg								
Approach	18	1	0	19	17	36	0	19
Departure	93	7	0	100	1	101	0	100
Total	111	8	0	119	18	137	0	119
Total Approaches								
Approach	111	8	0	119	29	148	176	295
Departure	111	8	0	119	29	148	176	295
Total	222	16	0	238	58	296	352	590

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
25 Cadillac Avenue - Driveway 1/Sunflower Avenue								
NBL	0	0	0	0	4	4	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	3	3	85	85
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	94	8	0	102	0	102	0	102
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	1	1	136	136
WBT	150	12	0	162	0	162	0	162
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	0	0	0	0	7	7	85	85
Departure	0	0	0	0	1	1	136	136
Total	0	0	0	0	8	8	221	221
East Leg								
Approach	150	12	0	162	1	163	136	298
Departure	94	8	0	102	3	105	85	187
Total	244	20	0	264	4	268	221	485
West Leg								
Approach	94	8	0	102	0	102	0	102
Departure	150	12	0	162	4	166	0	162
Total	244	20	0	264	4	268	0	264
Total Approaches								
Approach	244	20	0	264	8	272	221	485
Departure	244	20	0	264	8	272	221	485
Total	488	40	0	528	16	544	442	970

LSA

Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
26 Driveway 2/Sunflower Avenue								
NBL	0	0	0	0	1	1	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	1	1	133	133
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	19	2	0	21	1	22	133	154
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	6	6	43	43
WBT	99	8	0	107	10	117	43	150
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	0	0	0	0	2	2	133	133
Departure	0	0	0	0	6	6	43	43
Total	0	0	0	0	8	8	176	176
East Leg								
Approach	99	8	0	107	16	123	86	193
Departure	19	2	0	21	2	23	266	287
Total	118	10	0	128	18	146	352	480
West Leg								
Approach	19	2	0	21	1	22	133	154
Departure	99	8	0	107	11	118	43	150
Total	118	10	0	128	12	140	176	304
Total Approaches								
Approach	118	10	0	128	19	147	352	480
Departure	118	10	0	128	19	147	352	480
Total	236	20	0	256	38	294	704	960

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
26 Driveway 2/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	85	85
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	96	8	0	104	3	107	85	189
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	136	136
WBT	152	12	0	164	1	165	136	300
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	0	0	0	0	0	0	85	85
Departure	0	0	0	0	0	0	136	136
Total	0	0	0	0	0	0	221	221
East Leg								
Approach	152	12	0	164	1	165	272	436
Departure	96	8	0	104	3	107	170	274
Total	248	20	0	268	4	272	442	710
West Leg								
Approach	96	8	0	104	3	107	85	189
Departure	152	12	0	164	1	165	136	300
Total	248	20	0	268	4	272	221	489
Total Approaches								
Approach	248	20	0	268	4	272	442	710
Departure	248	20	0	268	4	272	442	710
Total	496	40	0	536	8	544	884	1,420

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
27 Fedex Driveway - Driveway 3/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	136	136
SBL	2	0	0	2	0	2	0	2
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	21	2	0	23	2	25	265	288
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	1	1	45	45
WBT	106	8	0	114	16	130	87	201
WBR	51	4	0	55	0	55	0	55
North Leg								
Approach	2	0	0	2	0	2	0	2
Departure	51	4	0	55	0	55	0	55
Total	53	4	0	57	0	57	0	57
South Leg								
Approach	0	0	0	0	0	0	136	136
Departure	0	0	0	0	1	1	45	45
Total	0	0	0	0	1	1	181	181
East Leg								
Approach	157	12	0	169	17	186	132	301
Departure	23	2	0	25	2	27	401	426
Total	180	14	0	194	19	213	533	727
West Leg								
Approach	21	2	0	23	2	25	265	288
Departure	106	8	0	114	16	130	87	201
Total	127	10	0	137	18	155	352	489
Total Approaches								
Approach	180	14	0	194	19	213	533	727
Departure	180	14	0	194	19	213	533	727
Total	360	28	0	388	38	426	1,066	1,454

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
27 Fedex Driveway - Driveway 3/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	87	87
SBL	43	3	0	46	0	46	0	46
SBT	0	0	0	0	0	0	0	0
SBR	1	0	0	1	0	1	0	1
EBL	0	0	0	0	0	0	0	0
EBT	101	8	0	109	3	112	169	278
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	140	140
WBT	154	12	0	166	1	167	271	437
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	44	3	0	47	0	47	0	47
Departure	0	0	0	0	0	0	0	0
Total	44	3	0	47	0	47	0	47
South Leg								
Approach	0	0	0	0	0	0	87	87
Departure	0	0	0	0	0	0	140	140
Total	0	0	0	0	0	0	227	227
East Leg								
Approach	154	12	0	166	1	167	411	577
Departure	144	11	0	155	3	158	256	411
Total	298	23	0	321	4	325	667	988
West Leg								
Approach	101	8	0	109	3	112	169	278
Departure	155	12	0	167	1	168	271	438
Total	256	20	0	276	4	280	440	716
Total Approaches								
Approach	299	23	0	322	4	326	667	989
Departure	299	23	0	322	4	326	667	989
Total	598	46	0	644	8	652	1,334	1,978

LSA

Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
29 Talbert Avenue/Mt. Washington Street								
NBL	1	1	0	2	0	2	0	2
NBT	1	1	0	2	0	2	0	2
NBR	214	107	0	321	0	321	0	321
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	158	11	0	169	0	169	0	169
EBL	92	7	0	99	0	99	0	99
EBT	1,937	155	49	2,141	5	2,146	18	2,159
EBR	13	1	0	14	0	14	0	14
WBL	27	2	1	30	0	30	0	30
WBT	402	32	15	449	0	449	42	491
WBR	108	9	0	117	0	117	0	117
North Leg								
Approach	158	11	0	169	0	169	0	169
Departure	201	17	0	218	0	218	0	218
Total	359	28	0	387	0	387	0	387
South Leg								
Approach	216	109	0	325	0	325	0	325
Departure	40	3	1	44	0	44	0	44
Total	256	112	1	369	0	369	0	369
East Leg								
Approach	537	43	16	596	0	596	42	638
Departure	2,151	262	49	2,462	5	2,467	18	2,480
Total	2,688	305	65	3,058	5	3,063	60	3,118
West Leg								
Approach	2,042	163	49	2,254	5	2,259	18	2,272
Departure	561	44	15	620	0	620	42	662
Total	2,603	207	64	2,874	5	2,879	60	2,934
Total Approaches								
Approach	2,953	326	65	3,344	5	3,349	60	3,404
Departure	2,953	326	65	3,344	5	3,349	60	3,404
Total	5,906	653	130	6,689	10	6,699	120	6,809

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
29 Talbert Avenue/Mt. Washington Street								
NBL	0	0	0	0	0	0	0	0
NBT	7	0	0	7	0	7	0	7
NBR	118	11	1	130	0	130	0	130
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	150	113	0	263	0	263	0	263
EBL	48	4	0	52	0	52	0	52
EBT	643	51	15	709	0	709	45	754
EBR	7	1	0	8	0	8	0	8
WBL	448	36	0	484	0	484	0	484
WBT	2,807	225	49	3,081	1	3,082	32	3,113
WBR	423	34	0	457	0	457	0	457
North Leg								
Approach	150	113	0	263	0	263	0	263
Departure	478	38	0	516	0	516	0	516
Total	628	151	0	779	0	779	0	779
South Leg								
Approach	125	11	1	137	0	137	0	137
Departure	455	37	0	492	0	492	0	492
Total	580	48	1	629	0	629	0	629
East Leg								
Approach	3,678	295	49	4,022	1	4,023	32	4,054
Departure	761	62	16	839	0	839	45	884
Total	4,439	357	65	4,861	1	4,862	77	4,938
West Leg								
Approach	698	56	15	769	0	769	45	814
Departure	2,957	338	49	3,344	1	3,345	32	3,376
Total	3,655	394	64	4,113	1	4,114	77	4,190
Total Approaches								
Approach	4,651	475	65	5,191	1	5,192	77	5,268
Departure	4,651	475	65	5,191	1	5,192	77	5,268
Total	9,302	950	130	10,382	2	10,384	154	10,536

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Table C-2 - Future Short-Term Cumulative (2027) Peak Hour Volumes

A.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Land Use Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
30 Harbor Boulevard/Segerstorm Avenue								
NBL	100	8	1	109	0	109	0	109
NBT	734	59	25	818	0	818	20	838
NBR	61	5	0	66	0	66	0	66
SBL	179	14	0	193	0	193	0	193
SBT	2,082	167	46	2,295	3	2,298	8	2,303
SBR	64	5	0	69	0	69	0	69
EBL	111	9	0	120	0	120	0	120
EBT	459	37	0	496	0	496	0	496
EBR	195	16	5	216	1	217	0	216
WBL	98	8	0	106	1	107	0	106
WBT	246	20	0	266	0	266	0	266
WBR	92	7	0	99	0	99	0	99
North Leg								
Approach	2,325	186	46	2,557	3	2,560	8	2,565
Departure	937	75	25	1,037	0	1,037	20	1,057
Total	3,262	261	71	3,594	3	3,597	28	3,622
South Leg								
Approach	895	72	26	993	0	993	20	1,013
Departure	2,375	191	51	2,617	5	2,622	8	2,625
Total	3,270	263	77	3,610	5	3,615	28	3,638
East Leg								
Approach	436	35	0	471	1	472	0	471
Departure	699	56	0	755	0	755	0	755
Total	1,135	91	0	1,226	1	1,227	0	1,226
West Leg								
Approach	765	62	5	832	1	833	0	832
Departure	410	33	1	444	0	444	0	444
Total	1,175	95	6	1,276	1	1,277	0	1,276
Total Approaches								
Approach	4,421	355	77	4,853	5	4,858	28	4,881
Departure	4,421	355	77	4,853	5	4,858	28	4,881
Total	8,842	710	154	9,706	10	9,716	56	9,762

P.M. Peak Hour

	Exiting Baseline Minus Industrial	2019 - 2027 Growth	Cumulative Trips	Future Short-Term Cumulative NP (2027) w/o Industrial Trips	Industrial Trips	Future Short-Term Cumulative Baseline (2027)	Project Trips	Future Short-Term Cumulative WP (2027)
30 Harbor Boulevard/Segerstorm Avenue								
NBL	196	16	4	216	0	216	0	216
NBT	1,573	126	48	1,747	1	1,748	14	1,761
NBR	59	5	0	64	0	64	0	64
SBL	131	10	0	141	0	141	0	141
SBT	956	76	24	1,056	0	1,056	22	1,078
SBR	78	6	0	84	0	84	0	84
EBL	114	9	0	123	0	123	0	123
EBT	456	36	0	492	0	492	0	492
EBR	114	9	1	124	0	124	0	124
WBL	111	9	0	120	0	120	0	120
WBT	940	75	0	1,015	0	1,015	0	1,015
WBR	356	28	0	384	0	384	0	384
North Leg								
Approach	1,165	92	24	1,281	0	1,281	22	1,303
Departure	2,043	163	48	2,254	1	2,255	14	2,268
Total	3,208	255	72	3,535	1	3,536	36	3,571
South Leg								
Approach	1,828	147	52	2,027	1	2,028	14	2,041
Departure	1,181	94	25	1,300	0	1,300	22	1,322
Total	3,009	241	77	3,327	1	3,328	36	3,363
East Leg								
Approach	1,407	112	0	1,519	0	1,519	0	1,519
Departure	646	51	0	697	0	697	0	697
Total	2,053	163	0	2,216	0	2,216	0	2,216
West Leg								
Approach	684	54	1	739	0	739	0	739
Departure	1,214	97	4	1,315	0	1,315	0	1,315
Total	1,898	151	5	2,054	0	2,054	0	2,054
Total Approaches								
Approach	5,084	405	77	5,566	1	5,567	36	5,602
Departure	5,084	405	77	5,566	1	5,567	36	5,602
Total	10,168	810	154	11,132	2	11,134	72	11,204

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
1 Euclid Street/Talbert Avenue								
NBL	245	245	0	245	152	152	0	152
NBT	536	536	0	536	557	557	0	557
NBR	53	53	1	54	34	34	4	38
SBL	697	694	8	702	160	160	18	178
SBT	1,027	1,027	0	1,027	656	656	0	656
SBR	320	320	0	320	250	250	0	250
EBL	159	159	0	159	257	257	0	257
EBT	1,416	1,414	8	1,422	601	601	18	619
EBR	71	71	0	71	281	281	0	281
WBL	42	42	4	46	171	171	2	173
WBT	471	471	17	488	2,205	2,205	13	2,218
WBR	75	75	17	92	781	780	13	793
North Leg								
Approach	2,044	2,041	8	2,049	1,066	1,066	18	1,084
Departure	769	769	17	786	1,595	1,594	13	1,607
Total	2,813	2,810	25	2,835	2,661	2,660	31	2,691
South Leg								
Approach	833	833	1	834	743	743	4	747
Departure	1,140	1,140	4	1,144	1,108	1,108	2	1,110
Total	1,973	1,973	5	1,978	1,851	1,851	6	1,857
East Leg								
Approach	588	588	38	626	3,157	3,156	28	3,184
Departure	2,166	2,161	17	2,178	794	794	40	834
Total	2,754	2,749	55	2,804	3,951	3,950	68	4,018
West Leg								
Approach	1,646	1,644	8	1,652	1,139	1,139	18	1,157
Departure	1,036	1,036	17	1,053	2,607	2,607	13	2,620
Total	2,682	2,680	25	2,705	3,746	3,746	31	3,777
Total Approaches								
Approach	5,111	5,106	55	5,161	6,105	6,104	68	6,172
Departure	5,111	5,106	55	5,161	6,105	6,104	68	6,172
Total	10,222	10,212	110	10,322	12,210	12,208	136	12,344

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
2 Euclid Street/I-405 Northbound Ramps - Newhope Street								
NBL	48	48	0	48	239	239	0	239
NBT	310	310	0	310	377	377	0	377
NBR	562	561	2	563	423	423	5	428
SBL	0	0	0	0	0	0	0	0
SBT	876	876	0	876	910	910	0	910
SBR	107	107	0	107	320	320	0	320
EBL	628	628	0	628	469	469	0	469
EBT	374	374	0	374	105	105	0	105
EBR	592	592	0	592	457	457	0	457
WBL	272	272	4	276	518	518	3	521
WBT	181	181	0	181	539	539	0	539
WBR	15	15	0	15	19	19	0	19
North Leg								
Approach	983	983	0	983	1,230	1,230	0	1,230
Departure	953	953	0	953	865	865	0	865
Total	1,936	1,936	0	1,936	2,095	2,095	0	2,095
South Leg								
Approach	920	919	2	921	1,039	1,039	5	1,044
Departure	1,740	1,740	4	1,744	1,884	1,884	3	1,887
Total	2,660	2,659	6	2,665	2,923	2,923	8	2,931
East Leg								
Approach	468	468	4	472	1,075	1,075	3	1,078
Departure	936	935	2	937	528	528	5	533
Total	1,404	1,403	6	1,409	1,603	1,603	8	1,611
West Leg								
Approach	1,594	1,594	0	1,594	1,031	1,031	0	1,031
Departure	336	336	0	336	1,098	1,098	0	1,098
Total	1,930	1,930	0	1,930	2,129	2,129	0	2,129
Total Approaches								
Approach	3,965	3,964	6	3,970	4,375	4,375	8	4,383
Departure	3,965	3,964	6	3,970	4,375	4,375	8	4,383
Total	7,930	7,928	12	7,940	8,751	8,751	16	8,767

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
3 I-405 Southbound Ramps - OCSD Driveway/Ellis Avenue - Euclid Street								
NBL	6	6	0	6	23	23	0	23
NBT	17	17	0	17	50	50	0	50
NBR	2	2	0	2	71	71	0	71
SBL	93	93	0	93	255	255	0	255
SBT	1	1	0	1	0	0	0	0
SBR	40	40	0	40	71	71	0	71
EBL	721	721	0	721	667	667	0	667
EBT	1,074	1,073	2	1,075	599	599	5	604
EBR	27	27	0	27	2	2	0	2
WBL	34	34	0	34	14	14	0	14
WBT	879	879	4	883	1,345	1,345	3	1,348
WBR	847	847	0	847	785	785	0	785
North Leg								
Approach	134	134	0	134	326	326	0	326
Departure	1,586	1,586	0	1,586	1,503	1,503	0	1,503
Total	1,720	1,720	0	1,720	1,829	1,829	0	1,829
South Leg								
Approach	25	25	0	25	145	145	0	145
Departure	62	62	0	62	16	16	0	16
Total	87	87	0	87	160	160	0	160
East Leg								
Approach	1,760	1,760	4	1,764	2,144	2,144	3	2,147
Departure	1,169	1,168	2	1,170	925	925	5	930
Total	2,929	2,928	6	2,934	3,069	3,069	8	3,077
West Leg								
Approach	1,823	1,822	2	1,824	1,268	1,268	5	1,273
Departure	925	925	4	929	1,439	1,439	3	1,442
Total	2,748	2,747	6	2,753	2,707	2,707	8	2,715
Total Approaches								
Approach	3,741	3,740	6	3,746	3,882	3,882	8	3,890
Departure	3,741	3,740	6	3,746	3,882	3,882	8	3,890
Total	7,483	7,481	12	7,493	7,765	7,765	16	7,781

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
4 Newhope Street/Talbert Avenue								
NBL	2	2	0	2	24	24	0	24
NBT	531	531	0	531	364	364	0	364
NBR	437	436	2	438	108	108	5	113
SBL	356	356	0	356	242	242	0	242
SBT	293	293	0	293	562	562	0	562
SBR	128	128	0	128	199	199	0	199
EBL	79	79	0	79	196	196	0	196
EBT	2,076	2,071	16	2,087	592	592	40	632
EBR	20	20	0	20	12	12	0	12
WBL	105	105	4	109	524	524	3	527
WBT	489	489	38	527	2,910	2,909	29	2,938
WBR	60	60	0	60	201	201	0	201
North Leg								
Approach	777	777	0	777	1,003	1,003	0	1,003
Departure	670	670	0	670	761	761	0	761
Total	1,447	1,447	0	1,447	1,763	1,763	0	1,763
South Leg								
Approach	970	969	2	971	496	496	5	501
Departure	418	418	4	422	1,098	1,098	3	1,101
Total	1,388	1,387	6	1,393	1,594	1,594	8	1,602
East Leg								
Approach	654	654	42	696	3,634	3,633	32	3,665
Departure	2,868	2,862	18	2,880	942	942	45	987
Total	3,522	3,516	60	3,576	4,576	4,575	77	4,652
West Leg								
Approach	2,175	2,170	16	2,186	801	801	40	841
Departure	619	619	38	657	3,133	3,132	29	3,161
Total	2,794	2,789	54	2,843	3,933	3,932	69	4,001
Total Approaches								
Approach	4,575	4,569	60	4,629	5,933	5,932	77	6,009
Departure	4,575	4,569	60	4,629	5,933	5,932	77	6,009
Total	9,151	9,139	120	9,259	11,866	11,864	154	12,018

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
5 OCTA Bus Base - Hyland Avenue/MacArthur Boulevard								
NBL	72	71	42	113	1,542	1,541	32	1,573
NBT	6	6	0	6	6	6	0	6
NBR	18	18	0	18	69	69	0	69
SBL	10	10	0	10	5	5	0	5
SBT	2	2	0	2	1	1	0	1
SBR	8	8	0	8	25	25	0	25
EBL	14	14	0	14	19	19	0	19
EBT	2,178	2,178	0	2,178	893	893	0	893
EBR	895	889	19	908	165	165	46	211
WBL	71	71	0	71	29	29	0	29
WBT	583	583	0	583	2,751	2,751	0	2,751
WBR	12	12	0	12	14	14	0	14
North Leg								
Approach	20	20	0	20	31	31	0	31
Departure	32	32	0	32	39	39	0	39
Total	53	53	0	53	70	70	0	70
South Leg								
Approach	97	96	42	138	1,618	1,617	32	1,649
Departure	969	963	19	982	195	195	46	241
Total	1,065	1,058	61	1,119	1,813	1,812	78	1,890
East Leg								
Approach	666	666	0	666	2,794	2,794	0	2,794
Departure	2,206	2,206	0	2,206	967	967	0	967
Total	2,872	2,872	0	2,872	3,761	3,761	0	3,761
West Leg								
Approach	3,087	3,081	19	3,100	1,076	1,076	46	1,122
Departure	664	663	42	705	4,319	4,318	32	4,350
Total	3,751	3,744	61	3,805	5,395	5,394	78	5,472
Total Approaches								
Approach	3,870	3,863	61	3,924	5,519	5,518	78	5,596
Departure	3,870	3,863	61	3,924	5,519	5,518	78	5,596
Total	7,740	7,726	122	7,848	11,039	11,037	156	11,193

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
6 Hyland Avenue/Sunflower Avenue								
NBL	84	83	17	100	79	79	63	142
NBT	139	139	0	139	622	622	0	622
NBR	12	12	0	12	69	69	0	69
SBL	146	146	0	146	51	51	0	51
SBT	361	361	0	361	275	275	0	275
SBR	88	88	22	110	82	82	57	139
EBL	12	12	54	66	60	60	40	100
EBT	37	36	245	281	226	224	156	380
EBR	21	20	103	123	141	140	62	202
WBL	42	42	0	42	242	242	0	242
WBT	181	165	93	258	181	180	291	471
WBR	76	76	0	76	213	213	0	213
North Leg								
Approach	595	595	22	617	408	408	57	465
Departure	226	226	54	280	895	895	40	935
Total	821	821	76	897	1,303	1,303	97	1,400
South Leg								
Approach	235	234	17	251	770	770	63	833
Departure	424	423	103	526	658	657	62	719
Total	659	657	120	777	1,427	1,426	125	1,551
East Leg								
Approach	299	283	93	376	636	635	291	926
Departure	195	194	245	439	346	344	156	500
Total	494	477	338	815	982	979	447	1,426
West Leg								
Approach	70	68	402	470	427	424	258	682
Departure	353	336	132	468	342	341	411	752
Total	423	404	534	938	768	764	669	1,433
Total Approaches								
Approach	1,198	1,179	534	1,713	2,240	2,236	669	2,905
Departure	1,198	1,179	534	1,713	2,240	2,236	669	2,905
Total	2,396	2,358	1,068	3,426	4,481	4,473	1,338	5,811

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
7 Hyland Avenue/I-405 Northbound Ramps - South Coast Drive								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	306	306	63	369	399	399	36	435
SBT	0	0	0	0	0	0	0	0
SBR	70	69	40	109	448	447	25	472
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	190	190	0	190	654	654	0	654
WBR	328	327	17	344	882	882	63	945
North Leg								
Approach	376	375	103	478	847	846	61	907
Departure	328	327	17	344	882	882	63	945
Total	703	701	120	821	1,729	1,728	124	1,852
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	518	517	17	534	1,536	1,536	63	1,599
Departure	306	306	63	369	399	399	36	435
Total	823	822	80	902	1,935	1,935	99	2,034
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	260	259	40	299	1,102	1,101	25	1,126
Total	260	259	40	299	1,102	1,101	25	1,126
Total Approaches								
Approach	893	891	120	1,011	2,383	2,382	124	2,506
Departure	893	891	120	1,011	2,383	2,382	124	2,506
Total	1,786	1,782	240	2,022	4,767	4,765	248	5,013

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
8 Harbor Boulevard/MacArthur Boulevard								
NBL	193	193	0	193	688	688	0	688
NBT	1,048	1,048	23	1,071	1,808	1,807	13	1,820
NBR	100	100	0	100	98	98	0	98
SBL	393	393	0	393	251	251	0	251
SBT	2,194	2,190	6	2,196	1,159	1,159	23	1,182
SBR	141	141	0	141	182	182	0	182
EBL	165	165	0	165	148	148	0	148
EBT	1,426	1,426	0	1,426	672	672	0	672
EBR	473	473	0	473	233	233	0	233
WBL	106	106	0	106	62	62	0	62
WBT	466	466	0	466	1,579	1,579	0	1,579
WBR	121	121	0	121	266	266	0	266
North Leg								
Approach	2,728	2,724	6	2,730	1,592	1,592	23	1,615
Departure	1,334	1,334	23	1,357	2,222	2,221	13	2,234
Total	4,061	4,057	29	4,086	3,814	3,813	36	3,849
South Leg								
Approach	1,341	1,341	23	1,364	2,593	2,592	13	2,605
Departure	2,773	2,769	6	2,775	1,454	1,454	23	1,477
Total	4,114	4,110	29	4,139	4,048	4,047	36	4,083
East Leg								
Approach	693	693	0	693	1,907	1,907	0	1,907
Departure	1,919	1,919	0	1,919	1,021	1,021	0	1,021
Total	2,612	2,612	0	2,612	2,927	2,927	0	2,927
West Leg								
Approach	2,063	2,063	0	2,063	1,053	1,053	0	1,053
Departure	800	800	0	800	2,449	2,449	0	2,449
Total	2,863	2,863	0	2,863	3,502	3,502	0	3,502
Total Approaches								
Approach	6,825	6,821	29	6,850	7,145	7,144	36	7,180
Departure	6,825	6,821	29	6,850	7,145	7,144	36	7,180
Total	13,650	13,642	58	13,700	14,290	14,288	72	14,360

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
9 Harbor Boulevard/Scenic Avenue - West Lake Center Drive								
NBL	93	86	0	86	49	49	0	49
NBT	1,367	1,367	24	1,391	2,312	2,312	17	2,329
NBR	75	75	0	75	33	33	0	33
SBL	77	77	0	77	15	15	0	15
SBT	2,577	2,577	9	2,586	1,471	1,471	26	1,497
SBR	80	76	0	76	14	14	0	14
EBL	22	22	0	22	43	42	0	42
EBT	36	36	0	36	60	60	0	60
EBR	51	51	0	51	112	110	0	110
WBL	28	28	0	28	97	97	0	97
WBT	19	19	0	19	268	268	0	268
WBR	30	30	0	30	197	197	0	197
North Leg								
Approach	2,733	2,729	9	2,738	1,499	1,499	26	1,525
Departure	1,420	1,420	24	1,444	2,553	2,552	17	2,569
Total	4,153	4,149	33	4,182	4,052	4,051	43	4,094
South Leg								
Approach	1,535	1,528	24	1,552	2,394	2,394	17	2,411
Departure	2,656	2,656	9	2,665	1,680	1,678	26	1,704
Total	4,191	4,184	33	4,217	4,073	4,071	43	4,114
East Leg								
Approach	78	78	0	78	562	562	0	562
Departure	187	187	0	187	107	107	0	107
Total	265	265	0	265	669	669	0	669
West Leg								
Approach	109	109	0	109	215	212	0	212
Departure	192	181	0	181	330	330	0	330
Total	301	290	0	290	545	542	0	542
Total Approaches								
Approach	4,454	4,443	33	4,476	4,670	4,667	43	4,710
Departure	4,454	4,443	33	4,476	4,670	4,667	43	4,710
Total	8,909	8,887	66	8,953	9,339	9,333	86	9,419

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
10 Harbor Boulevard/Sunflower Avenue								
NBL	248	236	51	287	172	171	158	329
NBT	1,486	1,479	0	1,479	2,065	2,065	0	2,065
NBR	555	555	0	555	410	410	0	410
SBL	273	273	0	273	110	110	0	110
SBT	2,136	2,136	0	2,136	1,518	1,516	0	1,516
SBR	45	45	10	55	60	60	26	86
EBL	12	12	24	36	59	59	18	77
EBT	151	151	64	215	165	164	42	206
EBR	43	42	113	155	232	231	74	305
WBL	139	139	0	139	408	408	0	408
WBT	141	137	21	158	788	788	66	854
WBR	92	92	0	92	279	279	0	279
North Leg								
Approach	2,454	2,454	10	2,464	1,688	1,686	26	1,712
Departure	1,590	1,583	24	1,607	2,403	2,403	18	2,421
Total	4,044	4,037	34	4,071	4,092	4,090	44	4,134
South Leg								
Approach	2,290	2,271	51	2,322	2,647	2,646	158	2,804
Departure	2,317	2,316	113	2,429	2,159	2,156	74	2,230
Total	4,607	4,587	164	4,751	4,806	4,802	232	5,034
East Leg								
Approach	372	368	21	389	1,475	1,475	66	1,541
Departure	980	980	64	1,044	685	684	42	726
Total	1,352	1,348	85	1,433	2,160	2,159	108	2,267
West Leg								
Approach	206	205	201	406	456	454	134	588
Departure	434	418	82	500	1,020	1,019	250	1,269
Total	640	623	283	906	1,475	1,472	384	1,856
Total Approaches								
Approach	5,321	5,297	283	5,580	6,266	6,261	384	6,645
Departure	5,321	5,297	283	5,580	6,266	6,261	384	6,645
Total	10,643	10,595	566	11,161	12,532	12,522	768	13,290

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
11 Harbor Boulevard/South Coast Drive								
NBL	421	421	0	421	437	437	0	437
NBT	2,314	2,295	51	2,346	2,312	2,311	158	2,469
NBR	434	434	0	434	275	275	0	275
SBL	103	103	0	103	83	83	0	83
SBT	2,124	2,123	113	2,236	2,060	2,057	74	2,131
SBR	68	68	0	68	72	72	0	72
EBL	19	19	0	19	39	39	0	39
EBT	65	65	63	128	63	63	36	99
EBR	266	266	0	266	476	476	0	476
WBL	134	134	0	134	724	724	0	724
WBT	285	284	17	301	1,041	1,041	63	1,104
WBR	103	103	0	103	261	261	0	261
North Leg								
Approach	2,295	2,294	113	2,407	2,215	2,212	74	2,286
Departure	2,436	2,417	51	2,468	2,612	2,611	158	2,769
Total	4,732	4,712	164	4,876	4,828	4,824	232	5,056
South Leg								
Approach	3,169	3,150	51	3,201	3,024	3,023	158	3,181
Departure	2,524	2,523	113	2,636	3,260	3,257	74	3,331
Total	5,693	5,673	164	5,837	6,283	6,279	232	6,511
East Leg								
Approach	522	521	17	538	2,026	2,026	63	2,089
Departure	602	602	63	665	421	421	36	457
Total	1,124	1,123	80	1,203	2,447	2,447	99	2,546
West Leg								
Approach	350	350	63	413	578	578	36	614
Departure	774	773	17	790	1,550	1,550	63	1,613
Total	1,124	1,123	80	1,203	2,127	2,127	99	2,226
Total Approaches								
Approach	6,336	6,315	244	6,559	7,843	7,839	331	8,170
Departure	6,336	6,315	244	6,559	7,843	7,839	331	8,170
Total	12,672	12,630	488	13,118	15,685	15,677	662	16,339

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
12 Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	2,059	2,048	30	2,078	1,803	1,803	88	1,891
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	1,549	1,549	45	1,594	1,743	1,742	31	1,773
SBR	964	963	68	1,031	1,317	1,315	43	1,358
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	602	602	0	602	782	782	0	782
WBT	0	0	0	0	0	0	0	0
WBR	1,205	1,197	22	1,219	1,269	1,269	70	1,339
North Leg								
Approach	2,513	2,512	113	2,625	3,060	3,057	74	3,131
Departure	3,264	3,245	52	3,297	3,072	3,072	158	3,230
Total	5,776	5,756	165	5,921	6,132	6,129	232	6,361
South Leg								
Approach	2,059	2,048	30	2,078	1,803	1,803	88	1,891
Departure	2,150	2,150	45	2,195	2,525	2,524	31	2,555
Total	4,209	4,198	75	4,273	4,328	4,327	119	4,446
East Leg								
Approach	1,807	1,799	22	1,821	2,052	2,052	70	2,122
Departure	0	0	0	0	0	0	0	0
Total	1,807	1,799	22	1,821	2,052	2,052	70	2,122
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	964	963	68	1,031	1,317	1,315	43	1,358
Total	964	963	68	1,031	1,317	1,315	43	1,358
Total Approaches								
Approach	6,378	6,358	165	6,523	6,914	6,911	232	7,143
Departure	6,378	6,358	165	6,523	6,914	6,911	232	7,143
Total	12,756	12,716	330	13,046	13,828	13,822	464	14,286

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
13 Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp								
NBL	0	0	0	0	0	0	0	0
NBT	1,451	1,446	16	1,462	1,563	1,563	47	1,610
NBR	672	672	0	672	727	727	0	727
SBL	0	0	0	0	0	0	0	0
SBT	2,151	2,151	45	2,196	2,525	2,524	31	2,555
SBR	0	0	0	0	0	0	0	0
EBL	608	602	13	615	239	239	41	280
EBT	0	0	0	0	0	0	0	0
EBR	519	519	0	519	827	827	0	827
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	2,151	2,151	45	2,196	2,525	2,524	31	2,555
Departure	2,059	2,048	29	2,077	1,803	1,803	88	1,891
Total	4,210	4,199	74	4,273	4,328	4,327	119	4,446
South Leg								
Approach	2,123	2,118	16	2,134	2,290	2,290	47	2,337
Departure	2,670	2,670	45	2,715	3,353	3,352	31	3,383
Total	4,793	4,788	61	4,849	5,643	5,642	78	5,720
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	672	672	0	672	727	727	0	727
Total	672	672	0	672	727	727	0	727
West Leg								
Approach	1,126	1,120	13	1,133	1,067	1,067	41	1,108
Departure	0	0	0	0	0	0	0	0
Total	1,126	1,120	13	1,133	1,067	1,067	41	1,108
Total Approaches								
Approach	5,401	5,390	74	5,464	5,882	5,881	119	6,000
Departure	5,401	5,390	74	5,464	5,882	5,881	119	6,000
Total	10,801	10,779	148	10,927	11,764	11,762	238	12,000

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
14 Harbor Boulevard/Gisler Avenue								
NBL	124	124	0	124	158	158	0	158
NBT	2,460	2,457	16	2,473	2,248	2,248	43	2,291
NBR	11	11	0	11	23	23	0	23
SBL	84	84	0	84	153	153	0	153
SBT	2,071	2,071	41	2,112	2,484	2,483	29	2,512
SBR	258	258	4	262	471	471	2	473
EBL	783	782	1	783	439	439	4	443
EBT	58	58	0	58	41	41	0	41
EBR	179	179	0	179	129	129	0	129
WBL	40	40	0	40	50	50	0	50
WBT	43	43	0	43	67	67	0	67
WBR	187	186	0	186	386	386	0	386
North Leg								
Approach	2,413	2,413	45	2,458	3,109	3,108	31	3,139
Departure	3,430	3,425	17	3,442	3,073	3,073	47	3,120
Total	5,843	5,838	62	5,900	6,182	6,181	78	6,259
South Leg								
Approach	2,595	2,592	16	2,608	2,429	2,429	43	2,472
Departure	2,290	2,290	41	2,331	2,664	2,663	29	2,692
Total	4,885	4,882	57	4,939	5,092	5,091	72	5,163
East Leg								
Approach	270	269	0	269	504	504	0	504
Departure	153	153	0	153	217	217	0	217
Total	423	422	0	422	721	721	0	721
West Leg								
Approach	1,020	1,019	1	1,020	609	609	4	613
Departure	425	425	4	429	696	696	2	698
Total	1,446	1,445	5	1,450	1,305	1,305	6	1,311
Total Approaches								
Approach	6,298	6,293	62	6,355	6,651	6,650	78	6,728
Departure	6,298	6,293	62	6,355	6,651	6,650	78	6,728
Total	12,596	12,586	124	12,710	13,301	13,299	156	13,455

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
15 Harbor Boulevard/Nutmeg Place								
NBL	17	17	0	17	48	48	0	48
NBT	2,432	2,429	13	2,442	2,192	2,192	37	2,229
NBR	146	146	0	146	213	213	0	213
SBL	144	144	4	148	204	204	2	206
SBT	2,084	2,084	36	2,120	2,442	2,441	24	2,465
SBR	57	57	0	57	53	53	0	53
EBL	47	47	0	47	75	75	0	75
EBT	4	4	0	4	13	13	0	13
EBR	38	38	0	38	72	72	0	72
WBL	33	33	0	33	174	174	0	174
WBT	6	6	0	6	28	28	0	28
WBR	122	122	1	123	147	147	4	151
North Leg								
Approach	2,285	2,285	40	2,325	2,698	2,697	26	2,723
Departure	2,601	2,598	14	2,612	2,414	2,414	41	2,455
Total	4,886	4,883	54	4,937	5,112	5,111	67	5,178
South Leg								
Approach	2,594	2,591	13	2,604	2,454	2,454	37	2,491
Departure	2,155	2,155	36	2,191	2,689	2,688	24	2,712
Total	4,749	4,746	49	4,795	5,143	5,142	61	5,203
East Leg								
Approach	161	161	1	162	350	350	4	354
Departure	294	294	4	298	429	429	2	431
Total	454	454	5	459	779	779	6	785
West Leg								
Approach	89	89	0	89	160	160	0	160
Departure	80	80	0	80	129	129	0	129
Total	169	169	0	169	289	289	0	289
Total Approaches								
Approach	5,129	5,126	54	5,180	5,662	5,661	67	5,728
Departure	5,129	5,126	54	5,180	5,662	5,661	67	5,728
Total	10,258	10,252	108	10,360	11,323	11,321	134	11,455

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
16 Harbor Boulevard/Baker Street								
NBL	51	51	0	51	65	65	0	65
NBT	2,147	2,144	9	2,153	1,854	1,854	25	1,879
NBR	265	265	0	265	225	225	0	225
SBL	215	215	12	227	212	212	6	218
SBT	1,691	1,691	24	1,715	2,211	2,210	16	2,226
SBR	252	252	0	252	299	299	0	299
EBL	315	315	0	315	228	228	0	228
EBT	269	269	0	269	258	258	0	258
EBR	70	70	0	70	100	100	0	100
WBL	219	219	0	219	497	497	0	497
WBT	244	244	0	244	701	701	0	701
WBR	172	172	3	175	385	385	11	396
North Leg								
Approach	2,158	2,158	36	2,194	2,723	2,722	22	2,744
Departure	2,634	2,631	12	2,643	2,468	2,468	36	2,504
Total	4,792	4,789	48	4,837	5,190	5,189	58	5,247
South Leg								
Approach	2,463	2,460	9	2,469	2,144	2,144	25	2,169
Departure	1,980	1,980	24	2,004	2,808	2,807	16	2,823
Total	4,443	4,440	33	4,473	4,952	4,951	41	4,992
East Leg								
Approach	635	635	3	638	1,583	1,583	11	1,594
Departure	749	749	12	761	695	695	6	701
Total	1,384	1,384	15	1,399	2,278	2,278	17	2,295
West Leg								
Approach	654	654	0	654	586	586	0	586
Departure	547	547	0	547	1,065	1,065	0	1,065
Total	1,201	1,201	0	1,201	1,651	1,651	0	1,651
Total Approaches								
Approach	5,910	5,907	48	5,955	7,036	7,035	58	7,093
Departure	5,910	5,907	48	5,955	7,036	7,035	58	7,093
Total	11,819	11,813	96	11,909	14,072	14,070	116	14,186

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
17 Susan Street/Sunflower Avenue								
NBL	88	88	0	88	341	341	0	341
NBT	285	285	0	285	696	696	0	696
NBR	58	58	0	58	155	155	0	155
SBL	81	81	0	81	74	74	0	74
SBT	110	110	0	110	207	207	0	207
SBR	28	28	5	33	88	88	16	104
EBL	98	98	16	114	101	101	9	110
EBT	387	387	49	436	685	684	32	716
EBR	91	91	0	91	41	41	0	41
WBL	66	66	0	66	48	48	0	48
WBT	464	460	16	476	675	675	50	725
WBR	109	109	0	109	223	223	0	223
North Leg								
Approach	219	219	5	224	369	369	16	385
Departure	492	492	16	508	1,020	1,020	9	1,029
Total	711	711	21	732	1,388	1,388	25	1,413
South Leg								
Approach	431	431	0	431	1,192	1,192	0	1,192
Departure	267	267	0	267	296	296	0	296
Total	698	698	0	698	1,488	1,488	0	1,488
East Leg								
Approach	639	635	16	651	946	946	50	996
Departure	526	526	49	575	913	912	32	944
Total	1,165	1,161	65	1,226	1,859	1,858	82	1,940
West Leg								
Approach	576	576	65	641	826	825	41	866
Departure	580	576	21	597	1,104	1,104	66	1,170
Total	1,156	1,152	86	1,238	1,931	1,930	107	2,037
Total Approaches								
Approach	1,865	1,861	86	1,947	3,333	3,332	107	3,439
Departure	1,865	1,861	86	1,947	3,333	3,332	107	3,439
Total	3,730	3,722	172	3,894	6,666	6,664	214	6,878

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
18 Susan Street/South Coast Drive								
NBL	212	212	0	212	626	626	0	626
NBT	487	487	0	487	852	852	0	852
NBR	95	95	0	95	65	65	0	65
SBL	74	74	0	74	163	163	0	163
SBT	2	2	0	2	23	23	0	23
SBR	88	88	3	91	244	244	11	255
EBL	129	129	12	141	102	102	6	108
EBT	320	320	36	356	255	255	21	276
EBR	1	1	0	1	14	14	0	14
WBL	0	0	0	0	43	43	0	43
WBT	247	246	11	257	770	770	36	806
WBR	61	61	0	61	170	170	0	170
North Leg								
Approach	164	164	3	167	430	430	11	441
Departure	677	677	12	689	1,124	1,124	6	1,130
Total	841	841	15	856	1,554	1,554	17	1,571
South Leg								
Approach	794	794	0	794	1,543	1,543	0	1,543
Departure	3	3	0	3	80	80	0	80
Total	797	797	0	797	1,623	1,623	0	1,623
East Leg								
Approach	308	307	11	318	983	983	36	1,019
Departure	488	488	36	524	483	483	21	504
Total	796	795	47	842	1,466	1,466	57	1,523
West Leg								
Approach	450	450	48	498	371	371	27	398
Departure	547	546	14	560	1,640	1,640	47	1,687
Total	997	996	62	1,058	2,011	2,011	74	2,085
Total Approaches								
Approach	1,715	1,714	62	1,776	3,327	3,327	74	3,401
Departure	1,715	1,714	62	1,776	3,327	3,327	74	3,401
Total	3,430	3,428	124	3,552	6,653	6,653	148	6,801

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
19 Fairview Street/MacArthur Boulevard								
NBL	173	173	0	173	242	242	0	242
NBT	1,005	1,005	17	1,022	1,999	1,999	10	2,009
NBR	92	92	0	92	140	140	0	140
SBL	436	436	0	436	187	187	0	187
SBT	1,928	1,926	6	1,932	1,074	1,074	17	1,091
SBR	191	191	0	191	122	122	0	122
EBL	159	159	0	159	333	333	0	333
EBT	1,197	1,197	0	1,197	856	856	0	856
EBR	187	187	0	187	265	265	0	265
WBL	223	223	0	223	190	190	0	190
WBT	571	571	0	571	1,472	1,472	0	1,472
WBR	183	183	0	183	333	333	0	333
North Leg								
Approach	2,555	2,553	6	2,559	1,383	1,383	17	1,400
Departure	1,346	1,346	17	1,363	2,665	2,665	10	2,675
Total	3,901	3,899	23	3,922	4,048	4,048	27	4,075
South Leg								
Approach	1,271	1,271	17	1,288	2,380	2,380	10	2,390
Departure	2,337	2,335	6	2,341	1,529	1,529	17	1,546
Total	3,608	3,606	23	3,629	3,909	3,909	27	3,936
East Leg								
Approach	977	977	0	977	1,995	1,995	0	1,995
Departure	1,725	1,725	0	1,725	1,182	1,182	0	1,182
Total	2,702	2,702	0	2,702	3,177	3,177	0	3,177
West Leg								
Approach	1,543	1,543	0	1,543	1,453	1,453	0	1,453
Departure	936	936	0	936	1,835	1,835	0	1,835
Total	2,478	2,478	0	2,478	3,289	3,289	0	3,289
Total Approaches								
Approach	6,344	6,342	23	6,365	7,211	7,211	27	7,238
Departure	6,344	6,342	23	6,365	7,211	7,211	27	7,238
Total	12,688	12,684	46	12,730	14,423	14,423	54	14,477

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
20 Fairview Road/Sunflower Avenue								
NBL	267	267	0	267	169	169	0	169
NBT	1,134	1,134	0	1,134	2,008	2,008	0	2,008
NBR	188	188	0	188	327	327	0	327
SBL	213	213	0	213	118	118	0	118
SBT	1,995	1,995	0	1,995	1,330	1,330	0	1,330
SBR	173	171	6	177	86	86	17	103
EBL	45	45	17	62	244	244	11	255
EBT	281	281	32	313	530	530	21	551
EBR	84	84	0	84	228	228	0	228
WBL	333	333	0	333	276	276	0	276
WBT	412	411	11	422	599	599	32	631
WBR	115	115	0	115	188	188	0	188
North Leg								
Approach	2,381	2,379	6	2,385	1,534	1,534	17	1,551
Departure	1,294	1,294	17	1,311	2,439	2,439	11	2,450
Total	3,675	3,673	23	3,696	3,973	3,973	28	4,001
South Leg								
Approach	1,589	1,589	0	1,589	2,504	2,504	0	2,504
Departure	2,412	2,412	0	2,412	1,834	1,834	0	1,834
Total	4,001	4,001	0	4,001	4,338	4,338	0	4,338
East Leg								
Approach	860	859	11	870	1,062	1,062	32	1,094
Departure	682	682	32	714	975	975	21	996
Total	1,542	1,541	43	1,584	2,037	2,037	53	2,090
West Leg								
Approach	411	411	49	460	1,002	1,002	32	1,034
Departure	851	848	17	865	854	854	49	903
Total	1,262	1,259	66	1,325	1,855	1,855	81	1,936
Total Approaches								
Approach	5,240	5,237	66	5,303	6,102	6,102	81	6,183
Departure	5,240	5,237	66	5,303	6,102	6,102	81	6,183
Total	10,480	10,474	132	10,606	12,204	12,204	162	12,366

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
21 Fairview Road/South Coast Drive								
NBL	297	297	2	299	217	217	8	225
NBT	1,514	1,514	0	1,514	2,074	2,074	0	2,074
NBR	232	232	0	232	386	386	0	386
SBL	43	43	0	43	59	59	0	59
SBT	2,258	2,258	0	2,258	1,685	1,685	0	1,685
SBR	31	31	0	31	60	60	0	60
EBL	11	11	0	11	75	75	0	75
EBT	125	125	27	152	179	179	16	195
EBR	160	160	8	168	627	627	4	631
WBL	356	356	0	356	511	511	0	511
WBT	144	144	8	152	519	519	28	547
WBR	63	63	0	63	363	363	0	363
North Leg								
Approach	2,332	2,332	0	2,332	1,804	1,804	0	1,804
Departure	1,588	1,588	0	1,588	2,512	2,512	0	2,512
Total	3,919	3,919	0	3,919	4,316	4,316	0	4,316
South Leg								
Approach	2,043	2,043	2	2,045	2,678	2,678	8	2,686
Departure	2,773	2,773	8	2,781	2,823	2,823	4	2,827
Total	4,816	4,816	10	4,826	5,501	5,501	12	5,513
East Leg								
Approach	563	563	8	571	1,393	1,393	28	1,421
Departure	400	400	27	427	624	624	16	640
Total	963	963	35	998	2,017	2,017	44	2,061
West Leg								
Approach	295	295	35	330	880	880	20	900
Departure	472	472	10	482	796	796	36	832
Total	767	767	45	812	1,676	1,676	56	1,732
Total Approaches								
Approach	5,233	5,233	45	5,278	6,755	6,755	56	6,811
Departure	5,233	5,233	45	5,278	6,755	6,755	56	6,811
Total	10,465	10,465	90	10,555	13,509	13,509	112	13,621

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
22 Fairview Road/I-405 Northbound Ramps								
NBL	275	275	0	275	210	210	0	210
NBT	1,046	1,046	2	1,048	1,626	1,626	8	1,634
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	2,386	2,386	8	2,394	2,382	2,382	4	2,386
SBR	337	337	0	337	387	387	0	387
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	944	944	0	944	890	890	0	890
WBT	0	0	0	0	0	0	0	0
WBR	975	975	0	975	1,100	1,100	0	1,100
North Leg								
Approach	2,723	2,723	8	2,731	2,770	2,770	4	2,774
Departure	2,021	2,021	2	2,023	2,727	2,727	8	2,735
Total	4,744	4,744	10	4,754	5,497	5,497	12	5,509
South Leg								
Approach	1,321	1,321	2	1,323	1,836	1,836	8	1,844
Departure	3,330	3,330	8	3,338	3,273	3,273	4	3,277
Total	4,650	4,650	10	4,660	5,109	5,109	12	5,121
East Leg								
Approach	1,919	1,919	0	1,919	1,991	1,991	0	1,991
Departure	0	0	0	0	0	0	0	0
Total	1,919	1,919	0	1,919	1,991	1,991	0	1,991
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	612	612	0	612	597	597	0	597
Total	612	612	0	612	597	597	0	597
Total Approaches								
Approach	5,963	5,963	10	5,973	6,597	6,597	12	6,609
Departure	5,963	5,963	10	5,973	6,597	6,597	12	6,609
Total	11,926	11,926	20	11,946	13,194	13,194	24	13,218

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
23 Fairview Road/I-405 Southbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	1,156	1,156	2	1,158	1,413	1,413	8	1,421
NBR	1,242	1,242	0	1,242	638	638	0	638
SBL	1,341	1,341	0	1,341	1,220	1,220	0	1,220
SBT	1,989	1,989	8	1,997	2,053	2,053	4	2,057
SBR	0	0	0	0	0	0	0	0
EBL	175	175	0	175	423	423	0	423
EBT	0	0	0	0	0	0	0	0
EBR	443	443	0	443	530	530	0	530
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	3,330	3,330	8	3,338	3,273	3,273	4	3,277
Departure	1,331	1,331	2	1,333	1,836	1,836	8	1,844
Total	4,661	4,661	10	4,671	5,109	5,109	12	5,121
South Leg								
Approach	2,398	2,398	2	2,400	2,052	2,052	8	2,060
Departure	2,432	2,432	8	2,440	2,583	2,583	4	2,587
Total	4,830	4,830	10	4,840	4,635	4,635	12	4,647
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	2,583	2,583	0	2,583	1,859	1,859	0	1,859
Total	2,583	2,583	0	2,583	1,859	1,859	0	1,859
West Leg								
Approach	618	618	0	618	953	953	0	953
Departure	0	0	0	0	0	0	0	0
Total	618	618	0	618	953	953	0	953
Total Approaches								
Approach	6,346	6,346	10	6,356	6,278	6,278	12	6,290
Departure	6,346	6,346	10	6,356	6,278	6,278	12	6,290
Total	12,692	12,692	20	12,712	12,556	12,556	24	12,580

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
24 Fairview Road/Baker Street								
NBL	160	160	0	160	209	209	0	209
NBT	1,601	1,601	1	1,602	1,305	1,305	4	1,309
NBR	733	733	0	733	418	418	0	418
SBL	291	291	4	295	268	268	2	270
SBT	1,805	1,805	4	1,809	1,656	1,656	2	1,658
SBR	260	260	0	260	540	540	0	540
EBL	322	322	0	322	584	584	0	584
EBT	626	626	0	626	474	474	0	474
EBR	182	182	0	182	189	189	0	189
WBL	382	382	0	382	752	752	0	752
WBT	329	329	0	329	1,301	1,301	0	1,301
WBR	195	195	1	196	394	394	4	398
North Leg								
Approach	2,356	2,356	8	2,364	2,464	2,464	4	2,468
Departure	2,119	2,119	2	2,121	2,283	2,283	8	2,291
Total	4,475	4,475	10	4,485	4,747	4,747	12	4,759
South Leg								
Approach	2,494	2,494	1	2,495	1,932	1,932	4	1,936
Departure	2,369	2,369	4	2,373	2,597	2,597	2	2,599
Total	4,863	4,863	5	4,868	4,529	4,529	6	4,535
East Leg								
Approach	906	906	1	907	2,447	2,447	4	2,451
Departure	1,650	1,650	4	1,654	1,159	1,159	2	1,161
Total	2,556	2,556	5	2,561	3,606	3,606	6	3,612
West Leg								
Approach	1,130	1,130	0	1,130	1,247	1,247	0	1,247
Departure	749	749	0	749	2,050	2,050	0	2,050
Total	1,878	1,878	0	1,878	3,296	3,296	0	3,296
Total Approaches								
Approach	6,886	6,886	10	6,896	8,089	8,089	12	8,101
Departure	6,886	6,886	10	6,896	8,089	8,089	12	8,101
Total	13,772	13,772	20	13,792	16,178	16,178	24	16,202

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
25 Cadillac Avenue - Driveway 1/Sunflower Avenue								
NBL	0	0	0	0	4	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	1	0	133	133	3	0	85	85
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	25	25	0	25	115	115	0	115
EBR	17	0	0	0	0	0	0	0
WBL	10	0	43	43	1	0	136	136
WBT	107	106	0	106	170	170	0	170
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	1	0	133	133	7	0	85	85
Departure	27	0	43	43	1	0	136	136
Total	28	0	176	176	8	0	221	221
East Leg								
Approach	117	106	43	149	171	170	136	306
Departure	26	25	133	158	118	115	85	200
Total	143	131	176	307	289	285	221	506
West Leg								
Approach	42	25	0	25	115	115	0	115
Departure	107	106	0	106	174	170	0	170
Total	149	131	0	131	289	285	0	285
Total Approaches								
Approach	160	131	176	307	293	285	221	506
Departure	160	131	176	307	293	285	221	506
Total	320	262	352	614	586	570	442	1,012

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
26 Driveway 2/Sunflower Avenue								
NBL	1	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	1	0	133	133	0	0	85	85
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	27	26	133	159	120	117	85	202
EBR	0	0	0	0	0	0	0	0
WBL	6	0	43	43	0	0	136	136
WBT	122	112	43	155	173	172	136	308
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	2	0	133	133	0	0	85	85
Departure	6	0	43	43	0	0	136	136
Total	8	0	176	176	0	0	221	221
East Leg								
Approach	128	112	86	198	173	172	272	444
Departure	28	26	266	292	120	117	170	287
Total	156	138	352	490	293	289	442	731
West Leg								
Approach	27	26	133	159	120	117	85	202
Departure	123	112	43	155	173	172	136	308
Total	150	138	176	314	293	289	221	510
Total Approaches								
Approach	157	138	352	490	293	289	442	731
Departure	157	138	352	490	293	289	442	731
Total	314	276	704	980	586	578	884	1,462

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Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
27 Fedex Driveway - Driveway 3/Sunflower Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	136	136	0	0	87	87
SBL	2	2	0	2	48	48	0	48
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	1	1	0	1
EBL	0	0	0	0	0	0	0	0
EBT	30	28	265	293	125	122	169	291
EBR	0	0	0	0	0	0	0	0
WBL	1	0	45	45	0	0	140	140
WBT	135	119	87	206	175	174	271	445
WBR	58	58	0	58	0	0	0	0
North Leg								
Approach	2	2	0	2	49	49	0	49
Departure	58	58	0	58	0	0	0	0
Total	60	60	0	60	49	49	0	49
South Leg								
Approach	0	0	136	136	0	0	87	87
Departure	1	0	45	45	0	0	140	140
Total	1	0	181	181	0	0	227	227
East Leg								
Approach	194	177	132	309	175	174	411	585
Departure	32	30	401	431	173	170	256	426
Total	226	207	533	740	349	345	667	1,012
West Leg								
Approach	30	28	265	293	125	122	169	291
Departure	135	119	87	206	176	175	271	446
Total	165	147	352	499	301	297	440	737
Total Approaches								
Approach	226	207	533	740	350	346	667	1,013
Departure	226	207	533	740	350	346	667	1,013
Total	452	414	1,066	1,480	699	691	1,334	2,025

LSA

Table C-3 - General Plan Build Out (2040) Volume Summary

	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
29 Talbert Avenue/Mt. Washington Street								
NBL	3	3	0	3	0	0	0	0
NBT	4	4	0	4	8	8	0	8
NBR	496	496	0	496	147	147	0	147
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	187	187	0	187	446	446	0	446
EBL	135	135	0	135	55	55	0	55
EBT	2,253	2,248	18	2,266	744	744	45	789
EBR	156	156	0	156	8	8	0	8
WBL	175	175	0	175	508	508	0	508
WBT	471	471	42	513	3,236	3,235	32	3,267
WBR	123	123	0	123	735	735	0	735
North Leg								
Approach	187	187	0	187	446	446	0	446
Departure	262	262	0	262	798	798	0	798
Total	449	449	0	449	1,244	1,244	0	1,244
South Leg								
Approach	503	503	0	503	155	155	0	155
Departure	331	331	0	331	517	517	0	517
Total	834	834	0	834	672	672	0	672
East Leg								
Approach	769	769	42	811	4,479	4,478	32	4,510
Departure	2,749	2,744	18	2,762	891	891	45	936
Total	3,518	3,513	60	3,573	5,371	5,370	77	5,447
West Leg								
Approach	2,544	2,539	18	2,557	807	807	45	852
Departure	661	661	42	703	3,682	3,681	32	3,713
Total	3,206	3,201	60	3,261	4,490	4,489	77	4,566
Total Approaches								
Approach	4,003	3,998	60	4,058	5,888	5,887	77	5,964
Departure	4,003	3,998	60	4,058	5,888	5,887	77	5,964
Total	8,007	7,997	120	8,117	11,775	11,773	154	11,927

LSA

Table C-3 - General Plan Build Out (2040) Volume Summary

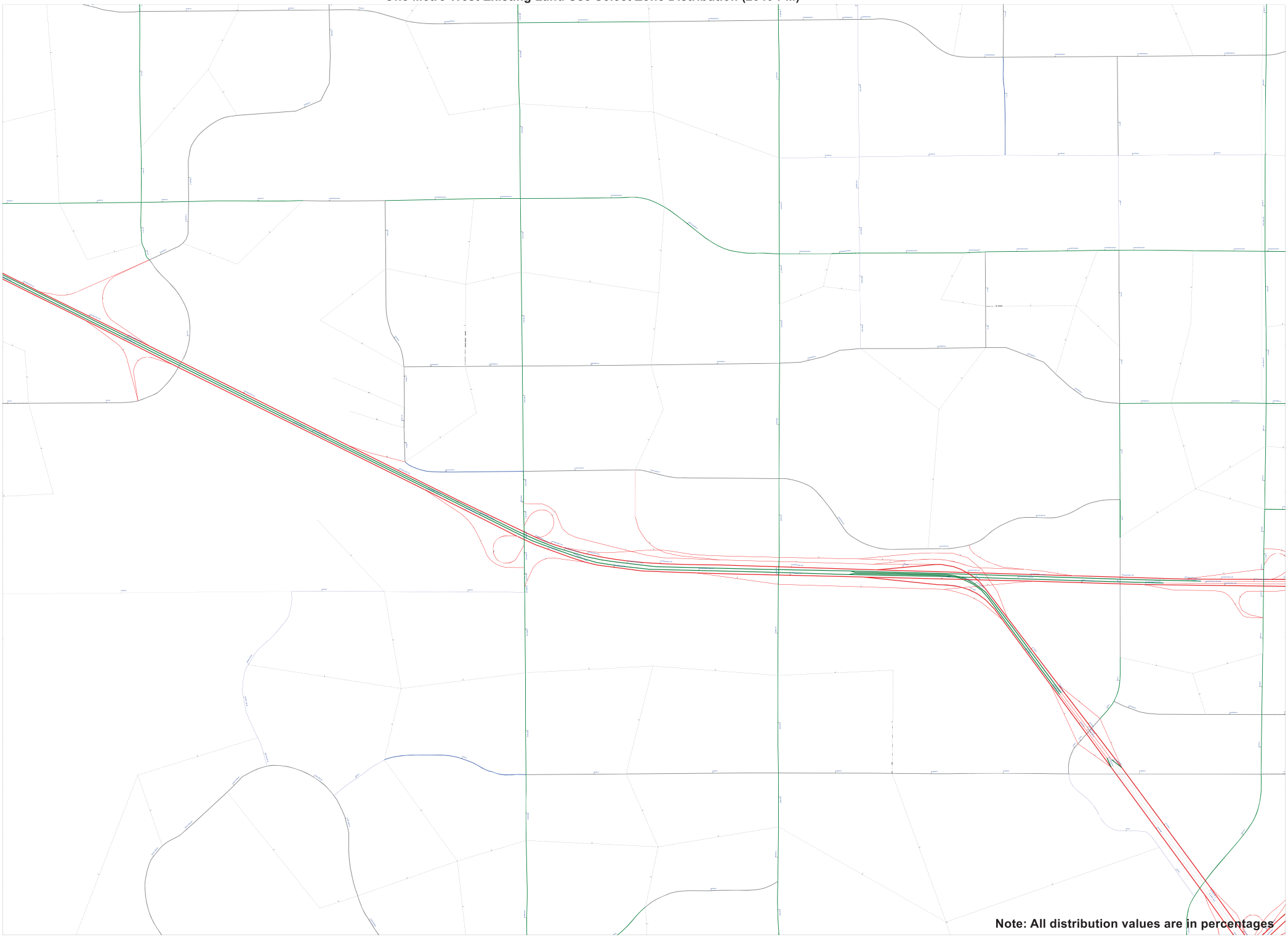
	AM Peak Hour				PM Peak Hour			
	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project	General Plan Build Out (2040) NP	General Plan Build Out (2040) NP w/o Industrial Trips	Project Trips	General Plan Build Out (2040) w/Project
30 Harbor Boulevard/Segerstorm Avenue								
NBL	114	114	0	114	227	227	0	227
NBT	859	859	20	879	1,835	1,834	14	1,848
NBR	69	69	0	69	67	67	0	67
SBL	203	203	0	203	148	148	0	148
SBT	2,413	2,410	8	2,418	1,109	1,109	22	1,131
SBR	72	72	0	72	88	88	0	88
EBL	126	126	0	126	129	129	0	129
EBT	521	521	0	521	517	517	0	517
EBR	228	227	0	227	136	136	0	136
WBL	116	115	0	115	135	135	0	135
WBT	278	278	0	278	1,066	1,066	0	1,066
WBR	104	104	0	104	403	403	0	403
North Leg								
Approach	2,688	2,685	8	2,693	1,345	1,345	22	1,367
Departure	1,089	1,089	20	1,109	2,368	2,367	14	2,381
Total	3,777	3,774	28	3,802	3,713	3,712	36	3,748
South Leg								
Approach	1,043	1,043	20	1,063	2,129	2,128	14	2,142
Departure	2,757	2,752	8	2,760	1,380	1,380	22	1,402
Total	3,799	3,794	28	3,822	3,509	3,508	36	3,544
East Leg								
Approach	498	497	0	497	1,604	1,604	0	1,604
Departure	793	793	0	793	732	732	0	732
Total	1,291	1,290	0	1,290	2,336	2,336	0	2,336
West Leg								
Approach	875	874	0	874	782	782	0	782
Departure	465	465	0	465	1,381	1,381	0	1,381
Total	1,340	1,339	0	1,339	2,163	2,163	0	2,163
Total Approaches								
Approach	5,103	5,098	28	5,126	5,860	5,859	36	5,895
Departure	5,103	5,098	28	5,126	5,860	5,859	36	5,895
Total	10,206	10,196	56	10,252	11,720	11,718	72	11,790

APPENDIX D:

SELECT ZONE MODEL PLOTS

RSE1801

One Metro West Existing Land Use Select Zone Distribution (2040 PM)



Note: All distribution values are in percentages

OCTAM 2040 Select Zone - Residential

OCTAM 2040 Select Zone - Non-Residential

APPENDIX E:

INTERSECTION LEVEL OF SERVICE WORKSHEETS

PROPOSED PROJECT

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	Existing						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		2,880	216	134	0.08	0.05
NBT	2.5		4,250	471	488	0.11 *	0.11 *
NBR	0.5	U	800	46	29	0.00	0.00
SBL	2.0		2,880	615	141	0.21 *	0.05 *
SBT	3.0		5,100	811	476	0.16	0.09
SBR	1.0	D	1,600	282	220	0.00	0.00
EBL	2.0		2,880	140	227	0.05	0.08 *
EBT	2.5		4,250	1,206	520	0.28 *	0.12
EBR	0.5	U	800	55	259	0.00	0.17 *
WBL	2.0		2,880	29	115	0.01 *	0.04
WBT	3.0		5,100	407	1,902	0.08	0.37 *
WBR	1.0	U	1,600	66	689	0.00	0.02 *
N/S Critical Movements						0.32	0.16
E/W Critical Movements						0.29	0.45
Right Turn Critical Movement						0.00	0.19
Clearance Interval						0.05	0.05
ICU						0.66	0.85
Level of Service (LOS)						B	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **2**
NORTH/SOUTH: **Euclid Street**
EAST/WEST: **I-405 Northbound Ramps - Newhope Street**

	Existing						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,600	22	203	0.01 *	0.13 *
NBT	2.5		4,250	273	332	0.06	0.08
NBR	0.5	U	800	471	267	0.48 *	0.09 *
SBL	0.0		0	0	0	0.00	0.00
SBT	2.5		4,250	788	721	0.19 *	0.17 *
SBR	1.5	U	2,400	48	228	0.00	0.00
EBL	2.0		2,880	553	413	0.19 *	0.14 *
EBT	1.5		2,550	338	79	0.13	0.03
EBR	1.5	U	2,400	522	403	0.02 *	0.00
WBL	2.0		2,880	168	456	0.06	0.16
WBT	1.5		2,550	56	475	0.02 *	0.19 *
WBR	0.5	N	800	10	18	0.00	0.00
N/S Critical Movements						0.20	0.30
E/W Critical Movements						0.21	0.33
Right Turn Critical Movement						0.50	0.09
Clearance Interval						0.05	0.05
ICU						0.96	0.77
Level of Service (LOS)						E	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	22	125	0.01	*	0.04	*
SB	3.0		5,100	104	196	0.02	*	0.04	*
EBL	2.0		2,880	636	588	0.22	*	0.20	*
EBT	1.5		2,550	969	485	0.38		0.19	
EBR	0.5	U	800	24	2	0.00		0.00	
WBL	1.0		1,600	30	12	0.02		0.01	
WBT	2.0		3,400	672	1,186	0.20	*	0.35	*
WBR	1.0	P	1,600	746	691	0.27	*	0.08	*
N/S Critical Movements						0.03		0.08	
E/W Critical Movements						0.42		0.55	
Right Turn Critical Movement						0.27		0.08	
Clearance Interval						0.05		0.05	
ICU						0.77		0.76	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **4**
NORTH/SOUTH: **Newhope Street**
EAST/WEST: **Talbert Avenue**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	1	15	0.00		0.01	*
NBT	2.0		3,400	409	237	0.12	*	0.07	
NBR	1.0	P	1,600	385	95	0.09	*	0.00	
SBL	2.0		2,880	314	213	0.11	*	0.07	
SBT	1.5		2,550	134	486	0.05		0.19	*
SBR	0.5	U	800	72	161	0.00		0.00	
EBL	2.0		2,880	67	173	0.02		0.06	*
EBT	2.5		4,250	1,787	513	0.42	*	0.12	
EBR	0.5	U	800	10	11	0.00		0.00	
WBL	2.0		2,880	93	462	0.03	*	0.16	
WBT	3.5		5,950	423	2,523	0.07		0.42	*
WBR	0.5	U	800	53	177	0.00		0.00	
N/S Critical Movements						0.23		0.20	
E/W Critical Movements						0.45		0.48	
Right Turn Critical Movement						0.09		0.00	
Clearance Interval						0.05		0.05	
ICU						0.82		0.73	
Level of Service (LOS)						D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

Move-ment	Existing							
	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	86	1,427	0.01	*	0.21	*
SB	3.0		5,100	18	28	0.00	*	0.01	*
EBL	1.0		1,700	13	17	0.01		0.01	*
EBT	3.0		5,100	1,875	772	0.37	*	0.15	
EBR	1.0	U	1,700	790	145	0.10	*	0.00	
WBL	1.0		1,700	60	8	0.04	*	0.00	
WBT	3.0		5,100	499	2,381	0.10		0.47	*
WBR	1.0	U	1,700	11	12	0.00		0.00	
N/S Critical Movements						0.01		0.22	
E/W Critical Movements						0.41		0.48	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.57		0.75	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	74	69	0.04	*	0.04	
NBT	1.5		2,550	122	548	0.05		0.21	*
NBR	0.5	U	850	11	61	0.00		0.00	
SBL	1.0		1,700	129	45	0.08		0.03	*
SBT	1.5		2,550	316	225	0.12	*	0.09	
SBR	0.5	U	850	78	72	0.00		0.00	
EBL	1.0		1,700	10	53	0.01	*	0.03	
EBT	1.5		2,550	31	195	0.01		0.08	*
EBR	0.5	U	850	18	114	0.00		0.03	*
WBL	1.0		1,700	34	183	0.02		0.11	*
WBT	1.5		2,550	146	161	0.06	*	0.06	
WBR	0.5	U	850	67	188	0.00		0.09	*
N/S Critical Movements						0.16		0.24	
E/W Critical Movements						0.07		0.19	
Right Turn Critical Movement						0.00		0.12	
Clearance Interval						0.05		0.05	
ICU						0.28		0.60	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	268	347	0.16	*	0.20	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	55	348	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	144	437	0.08	*	0.26	*
WBR	1.0	F	1,700	283	775	0.00		0.00	
N/S Critical Movements						0.16		0.20	
E/W Critical Movements						0.08		0.26	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.29		0.51	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **8**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **MacArthur Boulevard**

Move-ment	Existing						
				Volume		V/C Ratio	
	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,400	119	565	0.04 *	0.17 *
NBT	3.0		5,100	901	1,547	0.18	0.30
NBR	1.0	U	1,700	88	84	0.00	0.00
SBL	2.0		3,400	346	220	0.10	0.06
SBT	3.0		5,100	1,889	1,000	0.37 *	0.20 *
SBR	1.0	U	1,700	123	160	0.00	0.00
EBL	1.0		1,700	145	130	0.09	0.08 *
EBT	3.0		5,100	1,252	580	0.25 *	0.11
EBR	1.0	U	1,700	377	177	0.00	0.00
WBL	1.0		1,700	93	52	0.05 *	0.03
WBT	3.0		5,100	397	1,387	0.08	0.27 *
WBR	1.0	U	1,700	106	233	0.00	0.00
N/S Critical Movements						0.41	0.37
E/W Critical Movements						0.30	0.35
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.76	0.77
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	79	43	0.05	*	0.03	
NBT	2.5		4,250	1,126	1,947	0.26		0.46	*
NBR	0.5	U	850	62	27	0.00		0.00	
SBL	1.0		1,700	68	13	0.04		0.01	*
SBT	2.5		4,250	2,187	1,243	0.51	*	0.29	
SBR	0.5	U	850	70	12	0.00		0.00	
EBL	1.0		1,700	14	37	0.01	*	0.02	*
EBT	1.0		1,700	28	53	0.02		0.03	
EBR	1.0	U	1,700	31	93	0.00		0.00	
WBL	1.0		1,700	25	82	0.01		0.05	
WBT	0.5		850	17	236	0.02	*	0.28	*
WBR	0.5	U	850	27	174	0.00		0.00	
N/S Critical Movements						0.56		0.47	
E/W Critical Movements						0.03		0.30	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.64		0.82	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	Existing							
Move-				Volume		V/C Ratio		
ment	Lane		Capacity	AM	PM	AM		PM
NBL	2.0		3,400	209	149	0.06	*	0.04
NBT	3.0		5,100	1,237	1,787	0.24		0.35 *
NBR	1.0	U	1,700	209	309	0.00		0.00
SBL	2.0		3,400	179	86	0.05		0.03 *
SBT	3.0		5,100	1,859	1,292	0.36	*	0.25
SBR	1.0	U	1,700	37	53	0.00		0.00
EB	3.0		5,100	179	396	0.04	*	0.08 *
WB	3.0		5,100	287	1,089	0.06	*	0.21 *
N/S Critical Movements						0.42		0.38
E/W Critical Movements						0.10		0.29
Right Turn Critical Movement						0.00		0.00
Clearance Interval						0.05		0.05
ICU						0.57		0.72
Level of Service (LOS)						A		C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **11**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **South Coast Drive**

				Existing			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	311	373	0.09 *	0.11 *
NBT	3.5		5,950	1,684	1,958	0.28	0.33
NBR	1.5	P	2,550	259	212	0.00	0.00
SBL	2.0		3,400	72	73	0.02	0.02
SBT	4.0		6,800	1,835	1,645	0.27 *	0.24 *
SBR	1.0	U	1,700	52	62	0.00	0.00
EBL	1.0		1,700	15	26	0.01	0.02 *
EBT	0.5		850	54	35	0.06 *	0.04
EBR	1.5	U	2,550	227	382	0.00	0.03 *
WBL	2.0		3,400	86	401	0.03 *	0.12
WBT	2.0		3,400	202	794	0.06	0.23 *
WBR	1.0	U	1,700	53	231	0.00	0.00
N/S Critical Movements						0.36	0.35
E/W Critical Movements						0.09	0.25
Right Turn Critical Movement						0.00	0.03
Clearance Interval						0.05	0.05
ICU						0.50	0.68
Level of Service (LOS)						A	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	1,480	1,528	0.22	*	0.22	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,341	1,399	0.20		0.21	
SBR	1.0	F	1,700	810	969	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	531	690	0.21	*	0.27	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	854	1,066	0.13	*	0.15	*
N/S Critical Movements						0.22		0.22	
E/W Critical Movements						0.21		0.27	
Right Turn Critical Movement						0.13		0.15	
Clearance Interval						0.05		0.05	
ICU						0.61		0.69	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00	*	0.00	*
NBT	3.0		5,100	1,139	1,351	0.22		0.26	
NBR	1.0	F	1,700	570	627	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	4.0		6,800	1,872	2,089	0.28	*	0.31	*
SBR	0.0		0	0	0	0.00		0.00	
EBL	1.5		2,550	341	177	0.13	*	0.07	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	1.5	U	2,550	450	707	0.04	*	0.21	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.28		0.31	
E/W Critical Movements						0.13		0.07	
Right Turn Critical Movement						0.04		0.21	
Clearance Interval						0.05		0.05	
ICU						0.50		0.64	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **14**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Gisler Avenue**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	96	139	0.06	*	0.08	*
NBT	4.5		7,650	2,068	1,952	0.27		0.26	
NBR	0.5	U	850	9	20	0.00		0.00	
SBL	1.0		1,700	74	135	0.04		0.08	
SBT	3.5		5,950	1,803	2,090	0.30	*	0.35	*
SBR	0.5	U	850	218	356	0.00		0.07	*
EB	4.0		6,800	817	526	0.12	*	0.08	*
WB	3.0		5,100	234	444	0.05	*	0.09	*
N/S Critical Movements						0.36		0.43	
E/W Critical Movements						0.17		0.17	
Right Turn Critical Movement						0.00		0.07	
Clearance Interval						0.05		0.05	
ICU						0.58		0.72	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **15**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Nutmeg Place**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	15	43	0.01		0.03	*
NBT	3.5		5,950	2,040	1,904	0.34	*	0.32	
NBR	0.5	U	850	121	184	0.00		0.00	
SBL	2.0		3,400	127	180	0.04	*	0.05	
SBT	3.5		5,950	1,817	2,051	0.31		0.34	*
SBR	0.5	U	850	50	46	0.00		0.00	
EB	2.0		3,400	79	141	0.02	*	0.04	*
WB	2.0		3,400	140	301	0.04	*	0.09	*
N/S Critical Movements						0.38		0.37	
E/W Critical Movements						0.06		0.13	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.49		0.55	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	47	53	0.01		0.02	*
NBT	4.0		6,800	1,819	1,608	0.27	*	0.24	
NBR	1.0	P	1,700	232	196	0.00		0.00	
SBL	2.0		3,400	190	186	0.06	*	0.05	
SBT	4.0		6,800	1,474	1,877	0.22		0.28	*
SBR	1.0	P	1,700	217	231	0.00		0.00	
EBL	2.0		3,400	243	194	0.07		0.06	*
EBT	1.5		2,550	248	228	0.10	*	0.09	
EBR	0.5	U	850	55	85	0.00		0.00	
WBL	2.0		3,400	193	458	0.06	*	0.13	
WBT	2.0		3,400	215	630	0.06		0.19	*
WBR	1.0	U	1,700	151	339	0.00		0.00	
N/S Critical Movements						0.33		0.30	
E/W Critical Movements						0.16		0.25	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.54		0.60	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	74	279	0.04		0.16	
NBT	1.0		1,700	257	614	0.15	*	0.36	*
NBR	1.0	U	1,700	51	139	0.00		0.00	
SBL	1.0		1,700	71	65	0.04	*	0.04	*
SBT	0.5		850	80	170	0.09		0.20	
SBR	0.5	U	850	26	78	0.00		0.00	
EBL	1.0		1,700	62	89	0.04	*	0.05	*
EBT	2.0		3,400	317	455	0.09		0.13	
EBR	1.0	U	1,700	42	29	0.00		0.00	
WBL	1.0		1,700	50	37	0.03		0.02	
WBT	1.5		2,550	256	568	0.10	*	0.22	*
WBR	0.5	U	850	96	196	0.00		0.00	
N/S Critical Movements						0.19		0.40	
E/W Critical Movements						0.14		0.27	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.38		0.72	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

Move-ment	Existing							
	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	158	528	0.05		0.16	
NBT	1.5		2,550	437	751	0.17	*	0.29	*
NBR	0.5	U	850	83	57	0.00		0.00	
SBL	2.0		3,400	65	143	0.02	*	0.04	*
SBT	1.5		2,550	2	19	0.00		0.01	
SBR	0.5	U	850	64	171	0.04	*	0.14	*
EBL	2.0		3,400	94	88	0.03		0.03	*
EBT	1.5		2,550	276	205	0.11	*	0.08	
EBR	0.5	U	850	1	13	0.00		0.00	
WBL	2.0		3,400	0	38	0.00	*	0.01	
WBT	2.0		3,400	146	675	0.04		0.20	*
WBR	1.0	P	1,700	43	150	0.00		0.00	
N/S Critical Movements						0.19		0.33	
E/W Critical Movements						0.11		0.23	
Right Turn Critical Movement						0.04		0.14	
Clearance Interval						0.05		0.05	
ICU						0.39		0.75	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	173	138	0.05	*	0.04	
NBT	3.0		5,100	943	1,728	0.18		0.34	*
NBR	1.0	U	1,700	160	296	0.00		0.00	
SBL	2.0		3,400	174	101	0.05		0.03	*
SBT	2.5		4,250	1,702	1,129	0.40	*	0.27	
SBR	0.5	U	850	122	70	0.00		0.00	
EBL	2.0		3,400	35	185	0.01		0.05	
EBT	1.5		2,550	238	407	0.09	*	0.16	*
EBR	0.5	U	850	64	141	0.00		0.00	
WBL	2.0		3,400	297	227	0.09	*	0.07	*
WBT	2.0		3,400	301	517	0.09		0.15	
WBR	1.0	U	1,700	105	162	0.00		0.00	
N/S Critical Movements						0.45		0.37	
E/W Critical Movements						0.18		0.23	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.68		0.65	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **21**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **South Coast Drive**

				Existing			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	234	190	0.07 *	0.06 *
NBT	3.0		5,100	1,212	1,776	0.24	0.35
NBR	1.0	U	1,700	178	341	0.00	0.00
SBL	2.0		3,400	29	52	0.01	0.02
SBT	2.5		4,250	1,926	1,379	0.45 *	0.32 *
SBR	0.5	U	850	21	52	0.00	0.00
EBL	1.0		1,700	8	62	0.00	0.04
EBT	1.5		2,550	83	149	0.03 *	0.06 *
EBR	1.5	U	2,550	139	544	0.00	0.11 *
WBL	2.0		3,400	314	451	0.09 *	0.13 *
WBT	2.0		3,400	98	456	0.03	0.13
WBR	1.0	U	1,700	58	320	0.00	0.04 *
N/S Critical Movements						0.52	0.38
E/W Critical Movements						0.12	0.19
Right Turn Critical Movement						0.00	0.15
Clearance Interval						0.05	0.05
ICU						0.69	0.77
Level of Service (LOS)						B	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **22**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Northbound Ramps**

	Existing							
Move-				Volume		V/C Ratio		
ment	Lane		Capacity	AM	PM	AM		PM
NBL	1.0		1,700	243	185	0.14	*	0.11 *
NBT	3.0		5,100	793	1,384	0.16		0.27
NBR	0.0		0	0	0	0.00		0.00
SBL	0.0		0	0	0	0.00		0.00
SBT	6.0		10,200	2,042	1,989	0.20	*	0.20 *
SBR	1.0	U	1,700	294	339	0.00		0.00
EBL	0.0		0	0	0	0.00		0.00
EBT	0.0		0	0	0	0.00	*	0.00 *
EBR	0.0		0	0	0	0.00		0.00
WBL	2.0		3,400	832	785	0.24	*	0.23 *
WBT	0.0		0	0	0	0.00		0.00
WBR	2.0	U	3,400	859	967	0.01	*	0.05 *
N/S Critical Movements						0.34		0.31
E/W Critical Movements						0.24		0.23
Right Turn Critical Movement						0.01		0.05
Clearance Interval						0.05		0.05
ICU						0.64		0.64
Level of Service (LOS)						B		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	3.5		5,950	891	1,200	0.15	*	0.20	*
NBR	1.5	U	2,550	1,095	563	0.28	*	0.02	*
SBL	3.0		5,100	1,180	1,074	0.23	*	0.21	*
SBT	3.0		5,100	1,694	1,700	0.33		0.33	
SBR	0.0		0	0	0	0.00		0.00	
EBL	2.0		3,400	145	369	0.04	*	0.11	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	2.0	U	3,400	399	468	0.07	*	0.03	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.38		0.41	
E/W Critical Movements						0.04		0.11	
Right Turn Critical Movement						0.35		0.05	
Clearance Interval						0.05		0.05	
ICU						0.82		0.62	
Level of Service (LOS)						D		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	Existing						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	141	184	0.04	0.05
NBT	3.0		5,100	1,356	1,132	0.27 *	0.22 *
NBR	1.0	P	1,700	645	367	0.01 *	0.00
SBL	2.0		3,400	246	218	0.07 *	0.06 *
SBT	4.0		6,800	1,570	1,409	0.23	0.21
SBR	1.0	U	1,700	223	331	0.00	0.00
EBL	2.0		3,400	270	276	0.08	0.08
EBT	2.0		3,400	549	414	0.16 *	0.12 *
EBR	1.0	U	1,700	160	167	0.00	0.00
WBL	2.0		3,400	336	661	0.10 *	0.19 *
WBT	3.0		5,100	286	1,144	0.06	0.22
WBR	1.0	U	1,700	150	185	0.00	0.00
N/S Critical Movements						0.34	0.28
E/W Critical Movements						0.26	0.31
Right Turn Critical Movement						0.01	0.00
Clearance Interval						0.05	0.05
ICU						0.66	0.64
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	86	1,427	0.01	*	0.21	*
SB	3.0		5,100	18	28	0.00	*	0.01	*
EBL	1.0		1,600	13	17	0.01		0.01	*
EBT	3.0		5,100	1,875	772	0.37	*	0.15	
EBR	1.0	U	1,600	790	145	0.13	*	0.00	
WBL	1.0		1,600	60	8	0.04	*	0.01	
WBT	3.0		5,100	499	2,381	0.10		0.47	*
WBR	1.0	U	1,600	11	12	0.00		0.00	
N/S Critical Movements						0.01		0.22	
E/W Critical Movements						0.41		0.48	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.60		0.75	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	Existing						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,200	119	565	0.04 *	0.18 *
NBT	3.0		5,100	901	1,547	0.18	0.30
NBR	1.0	U	1,600	88	84	0.00	0.00
SBL	2.0		3,200	346	220	0.11	0.07
SBT	3.0		5,100	1,889	1,000	0.37 *	0.20 *
SBR	1.0	U	1,600	123	160	0.00	0.00
EBL	1.0		1,600	145	130	0.09	0.08 *
EBT	3.0		5,100	1,252	580	0.25 *	0.11
EBR	1.0	U	1,600	377	177	0.00	0.00
WBL	1.0		1,600	93	52	0.06 *	0.03
WBT	3.0		5,100	397	1,387	0.08	0.27 *
WBR	1.0	U	1,600	106	233	0.00	0.00
N/S Critical Movements						0.41	0.38
E/W Critical Movements						0.31	0.35
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.77	0.78
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	79	43	0.05	*	0.03	
NBT	2.5		4,250	1,126	1,947	0.26		0.46	*
NBR	0.5	U	800	62	27	0.00		0.00	
SBL	1.0		1,600	68	13	0.04		0.01	*
SBT	2.5		4,250	2,187	1,243	0.51	*	0.29	
SBR	0.5	U	800	70	12	0.00		0.00	
EBL	1.0		1,600	14	37	0.01		0.02	*
EBT	1.0		1,700	28	53	0.02	*	0.03	
EBR	1.0	U	1,600	31	93	0.00		0.01	*
WBL	1.0		1,600	25	82	0.02	*	0.05	
WBT	0.5		850	17	236	0.02		0.28	*
WBR	0.5	U	800	27	174	0.00		0.00	
N/S Critical Movements						0.56		0.47	
E/W Critical Movements						0.04		0.30	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.65		0.83	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM
NBL	2.0		3,200	209	149	0.07	*	0.05
NBT	3.0		5,100	1,237	1,787	0.24		0.35 *
NBR	1.0	U	1,600	209	309	0.00		0.00
SBL	2.0		3,200	179	86	0.06		0.03 *
SBT	3.0		5,100	1,859	1,292	0.36	*	0.25
SBR	1.0	U	1,600	37	53	0.00		0.00
EB	3.0		5,100	179	396	0.04	*	0.08 *
WB	3.0		5,100	287	1,089	0.06	*	0.21 *
N/S Critical Movements						0.43		0.38
E/W Critical Movements						0.10		0.29
Right Turn Critical Movement						0.00		0.00
Clearance Interval						0.05		0.05
ICU						0.58		0.72
Level of Service (LOS)						A		C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

				Existing			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,600	74	279	0.05	0.17
NBT	1.0		1,700	257	614	0.15 *	0.36 *
NBR	1.0	U	1,600	51	139	0.00	0.00
SBL	1.0		1,600	71	65	0.04 *	0.04 *
SBT	0.5		850	80	170	0.09	0.20
SBR	0.5	U	800	26	78	0.00	0.00
EBL	1.0		1,600	62	89	0.04 *	0.06 *
EBT	2.0		3,400	317	455	0.09	0.13
EBR	1.0	U	1,600	42	29	0.00	0.00
WBL	1.0		1,600	50	37	0.03	0.02
WBT	1.5		2,550	256	568	0.10 *	0.22 *
WBR	0.5	U	800	96	196	0.00	0.00
N/S Critical Movements						0.19	0.40
E/W Critical Movements						0.14	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.38	0.73
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

Move-ment	Existing							
				Volume		V/C Ratio		
	Lane		Capacity	AM	PM	AM		PM	
NBL	2		3,200	150	213	0.05	*	0.07	
NBT	3		4,250	827	1,694	0.19		0.40	*
NBR	1	U	800	80	116	0.00		0.00	
SBL	2		3,200	383	162	0.12		0.05	*
SBT	3		5,100	1,613	902	0.32	*	0.18	
SBR	1	U	1,600	166	107	0.00		0.00	
EBL	2		3,200	140	291	0.04		0.09	*
EBT	3		5,100	1,051	744	0.21	*	0.15	
EBR	1	U	1,600	173	231	0.00		0.00	
WBL	2		3,200	190	163	0.06	*	0.05	
WBT	3		5,100	494	1,293	0.10		0.25	*
WBR	1	U	1,600	159	292	0.00		0.00	
N/S Critical Movements						0.37		0.45	
E/W Critical Movements						0.27		0.34	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.69		0.84	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

Move-ment	Existing							
	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	173	138	0.05	*	0.04	
NBT	3.0		5,100	943	1,728	0.18		0.34	*
NBR	1.0	U	1,600	160	296	0.00		0.00	
SBL	2.0		3,200	174	101	0.05		0.03	*
SBT	2.5		4,250	1,702	1,129	0.40	*	0.27	
SBR	0.5	U	800	122	70	0.00		0.00	
EBL	2.0		3,200	35	185	0.01		0.06	
EBT	1.5		2,550	238	407	0.09	*	0.16	*
EBR	0.5	U	800	64	141	0.00		0.00	
WBL	2.0		3,200	297	227	0.09	*	0.07	*
WBT	2.0		3,400	301	517	0.09		0.15	
WBR	1.0	U	1,600	105	162	0.00		0.00	
N/S Critical Movements						0.45		0.37	
E/W Critical Movements						0.18		0.23	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.68		0.65	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **29**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Segerstrom Avenue**

	Existing							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	100	196	0.03	*	0.06	
NBT	2.5		4,250	734	1,574	0.17		0.37	*
NBR	0.5	U	800	61	59	0.00		0.00	
SBL	1.0		1,600	179	131	0.11		0.08	*
SBT	2.5		4,250	2,085	956	0.49	*	0.22	
SBR	0.5	U	800	64	78	0.00		0.00	
EBL	1.0		1,600	111	114	0.07		0.07	*
EBT	1.5		2,550	459	456	0.18	*	0.18	
EBR	0.5	U	800	196	114	0.04	*	0.00	
WBL	1.0		1,600	99	111	0.06	*	0.07	
WBT	2.0		3,400	246	940	0.07		0.28	*
WBR	1.0	U	1,600	92	356	0.00		0.00	
N/S Critical Movements						0.52		0.45	
E/W Critical Movements						0.24		0.35	
Right Turn Critical Movement						0.04		0.00	
Clearance Interval						0.05		0.05	
ICU						0.85		0.85	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	338	522	168	56	10	22	273	471	0	788	48
Future Volume (veh/h)	553	338	522	168	56	10	22	273	471	0	788	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	582	356	549	177	59	11	23	287	496	0	829	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	685	441	748	242	341	62	41	1945	906	0	2847	804
Arrive On Green	0.19	0.24	0.24	0.07	0.11	0.11	0.02	0.57	0.57	0.00	0.51	0.51
Sat Flow, veh/h	3563	1870	3170	3456	3004	545	1781	3404	1585	0	5611	1585
Grp Volume(v), veh/h	582	356	549	177	34	36	23	287	496	0	829	51
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1772	1781	1702	1585	0	1870	1585
Q Serve(g_s), s	17.3	19.8	17.6	5.5	1.9	2.0	1.4	4.3	21.5	0.0	9.4	1.8
Cycle Q Clear(g_c), s	17.3	19.8	17.6	5.5	1.9	2.0	1.4	4.3	21.5	0.0	9.4	1.8
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	685	441	748	242	202	201	41	1945	906	0	2847	804
V/C Ratio(X)	0.85	0.81	0.73	0.73	0.17	0.18	0.56	0.15	0.55	0.00	0.29	0.06
Avail Cap(c_a), veh/h	1020	638	1081	393	299	298	121	1945	906	0	2847	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72	0.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	39.7	38.8	50.1	44.1	44.1	53.2	11.0	14.7	0.0	15.7	13.8
Incr Delay (d2), s/veh	4.5	5.0	1.5	4.2	0.4	0.4	8.5	0.1	1.7	0.0	0.3	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	8.0	9.6	6.9	2.5	0.9	0.9	0.7	1.6	7.8	0.0	4.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	44.6	40.3	54.3	44.5	44.5	61.6	11.2	16.4	0.0	15.9	13.9
LnGrp LOS	D	D	D	D	D	D	E	B	B	A	B	B
Approach Vol, veh/h		1487			247			806			880	
Approach Delay, s/veh		44.1			51.5			15.8			15.8	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		67.3	12.2	30.4	7.0	60.3	25.7	17.0
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		46.5	12.5	37.5	7.5	34.5	31.5	18.5
Max Q Clear Time (g_c+I1), s		23.5	7.5	21.8	3.4	11.4	19.3	4.0
Green Ext Time (p_c), s		5.8	0.2	4.2	0.0	6.3	1.8	0.2

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	636	969	24	30	672	746	5	15	2	75	1	28
Future Volume (veh/h)	636	969	24	30	672	746	5	15	2	75	1	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	662	1009	25	31	700	777	5	16	2	79	0	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	2130	53	50	1485	732	72	230	259	156	0	69
Arrive On Green	0.21	0.60	0.60	0.03	0.42	0.42	0.16	0.16	0.16	0.04	0.00	0.04
Sat Flow, veh/h	3456	3544	88	1781	3554	1585	440	1408	1585	3563	0	1585
Grp Volume(v), veh/h	662	506	528	31	700	777	21	0	2	79	0	29
Grp Sat Flow(s),veh/h/ln	1728	1777	1855	1781	1777	1585	1848	0	1585	1781	0	1585
Q Serve(g_s), s	20.6	17.5	17.5	1.9	15.7	46.0	1.1	0.0	0.1	2.4	0.0	2.0
Cycle Q Clear(g_c), s	20.6	17.5	17.5	1.9	15.7	46.0	1.1	0.0	0.1	2.4	0.0	2.0
Prop In Lane	1.00		0.05	1.00		1.00	0.24		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	729	1068	1115	50	1485	732	302	0	259	156	0	69
V/C Ratio(X)	0.91	0.47	0.47	0.63	0.47	1.06	0.07	0.00	0.01	0.51	0.00	0.42
Avail Cap(c_a), veh/h	776	1068	1115	99	1485	732	302	0	259	761	0	339
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	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	12.2	12.2	52.9	23.2	28.3	38.9	0.0	38.5	51.4	0.0	51.2
Incr Delay (d2), s/veh	14.0	1.5	1.4	11.2	0.2	49.4	0.4	0.0	0.1	2.5	0.0	4.0
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	10.1	7.0	7.3	1.0	6.5	30.3	0.5	0.0	0.0	1.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	13.7	13.7	64.1	23.4	77.7	39.4	0.0	38.6	54.0	0.0	55.2
LnGrp LOS	E	B	B	E	C	F	D	A	D	D	A	E
Approach Vol, veh/h		1696			1508			23			108	
Approach Delay, s/veh		30.4			52.2			39.3			54.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	70.6		9.3	27.7	50.5		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.1	44.4		23.5	24.7	25.8		18.0
Max Q Clear Time (g_c+I1), s	3.9	19.5		4.4	22.6	48.0		3.1
Green Ext Time (p_c), s	0.0	7.5		0.3	0.6	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	144	283	268	55
Future Volume (veh/h)	0	0	144	283	268	55
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			157	0	291	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			222		0	
Arrive On Green			0.12	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			157	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			3.6	0.0		
Cycle Q Clear(g_c), s			3.6	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			222			
V/C Ratio(X)			0.71			
Avail Cap(c_a), veh/h			748			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			19.1	0.0		
Incr Delay (d2), s/veh			4.1	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			1.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			23.2	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			157	A		
Approach Delay, s/veh			23.2			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	9.8
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	18.0
Max Q Clear Time (g_c+I1), s	5.6
Green Ext Time (p_c), s	0.6

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	531	0	854	0	1480	0	0	1341	810
Future Volume (veh/h)	0	0	0	531	0	854	0	1480	0	0	1341	810
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				369	0	1088	0	1542	0	0	1397	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				710	0	1263	0	3292	0	0	3292	
Arrive On Green				0.40	0.00	0.40	0.00	1.00	0.00	0.00	0.51	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				369	0	1088	0	1542	0	0	1397	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				15.7	0.0	31.4	0.0	0.0	0.0	0.0	13.5	0.0
Cycle Q Clear(g_c), s				15.7	0.0	31.4	0.0	0.0	0.0	0.0	13.5	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				710	0	1263	0	3292	0	0	3292	
V/C Ratio(X)				0.52	0.00	0.86	0.00	0.47	0.00	0.00	0.42	
Avail Cap(c_a), veh/h				935	0	1664	0	3292	0	0	3292	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.92	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				22.8	0.0	27.6	0.0	0.0	0.0	0.0	15.2	0.0
Incr Delay (d2), s/veh				0.6	0.0	3.8	0.0	0.4	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.6	0.0	12.1	0.0	0.1	0.0	0.0	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.4	0.0	31.4	0.0	0.4	0.0	0.0	15.6	0.0
LnGrp LOS				C	A	C	A	A	A	A	B	
Approach Vol, veh/h					1457			1542			1397	A
Approach Delay, s/veh					29.4			0.4			15.6	
Approach LOS					C			A			B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	55.7	55.7	44.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.5	38.5	52.5
Max Q Clear Time (g_c+I1), s	2.0	15.5	33.4
Green Ext Time (p_c), s	15.8	11.2	6.4

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	341	0	450	0	0	0	0	1139	570	0	1872	0
Future Volume (veh/h)	341	0	450	0	0	0	0	1139	570	0	1872	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	514	0	291				0	1174	0	0	1930	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	798	0	355				0	3502		0	4413	0
Arrive On Green	0.22	0.00	0.22				0.00	0.69	0.00	0.00	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	514	0	291				0	1174	0	0	1930	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	13.1	0.0	17.4				0.0	9.4	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.1	0.0	17.4				0.0	9.4	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	798	0	355				0	3502		0	4413	0
V/C Ratio(X)	0.64	0.00	0.82				0.00	0.34		0.00	0.44	0.00
Avail Cap(c_a), veh/h	1443	0	642				0	3502		0	4413	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.84	0.00
Uniform Delay (d), s/veh	35.2	0.0	36.9				0.0	6.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	4.7				0.0	0.3	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	7.1				0.0	3.1	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	41.6				0.0	6.7	0.0	0.0	0.3	0.0
LnGrp LOS	D	A	D				A	A		A	A	A
Approach Vol, veh/h		805						1174	A		1930	
Approach Delay, s/veh		38.0						6.7			0.3	
Approach LOS		D						A			A	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	73.1	73.1	26.9
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	50.5	50.5	40.5
Max Q Clear Time (g_c+I1), s	11.4	2.0	19.4
Green Ext Time (p_c), s	11.0	25.1	3.0

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	832	0	859	243	793	0	0	2042	294
Future Volume (veh/h)	0	0	0	832	0	859	243	793	0	0	2042	294
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				895	0	924	261	853	0	0	2196	316
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1153	0	931	297	2827	0	0	2821	524
Arrive On Green				0.33	0.00	0.33	0.22	0.74	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				895	0	924	261	853	0	0	2196	316
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				18.6	0.0	26.4	11.3	4.5	0.0	0.0	18.6	13.3
Cycle Q Clear(g_c), s				18.6	0.0	26.4	11.3	4.5	0.0	0.0	18.6	13.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1153	0	931	297	2827	0	0	2821	524
V/C Ratio(X)				0.78	0.00	0.99	0.88	0.30	0.00	0.00	0.78	0.60
Avail Cap(c_a), veh/h				1153	0	931	310	2827	0	0	2821	524
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.76	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.0	0.0	26.5	30.3	5.3	0.0	0.0	24.1	22.4
Incr Delay (d2), s/veh				3.4	0.0	27.6	18.7	0.2	0.0	0.0	2.2	5.1
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				7.7	0.0	11.8	6.0	1.4	0.0	0.0	6.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.4	0.0	54.1	49.1	5.5	0.0	0.0	26.3	27.4
LnGrp LOS				C	A	D	D	A	A	A	C	C
Approach Vol, veh/h					1819			1114			2512	
Approach Delay, s/veh					40.9			15.7			26.5	
Approach LOS					D			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		48.8			17.8	31.0		31.2				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		44.3			13.9	25.9		26.7				
Max Q Clear Time (g_c+I1), s		6.5			13.3	20.6		28.4				
Green Ext Time (p_c), s		7.2			0.0	5.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			29.1
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	0	399	0	0	0	0	891	1095	1180	1694	0
Future Volume (veh/h)	145	0	399	0	0	0	0	891	1095	1180	1694	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	151	0	416				0	928	1141	1229	1765	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	514	0	415				0	2181	1232	1476	3772	0
Arrive On Green	0.15	0.00	0.15				0.00	0.39	0.39	0.59	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	151	0	416				0	928	1141	1229	1765	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	3.1	0.0	11.9				0.0	9.7	27.5	15.8	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	11.9				0.0	9.7	27.5	15.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	514	0	415				0	2181	1232	1476	3772	0
V/C Ratio(X)	0.29	0.00	1.00				0.00	0.43	0.93	0.83	0.47	0.00
Avail Cap(c_a), veh/h	514	0	415				0	2181	1232	1476	3772	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.54	0.54	0.00
Uniform Delay (d), s/veh	30.3	0.0	34.0				0.0	17.9	23.3	14.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	44.8				0.0	0.6	13.1	2.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	6.5				0.0	4.1	11.8	3.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	0.0	78.9				0.0	18.5	36.4	17.3	0.2	0.0
LnGrp LOS	C	A	F				A	B	D	B	A	A
Approach Vol, veh/h		567						2069			2994	
Approach Delay, s/veh		66.0						28.4			7.2	
Approach LOS		E						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.0	35.6		16.4		63.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	31.1		11.9		59.1
Max Q Clear Time (g_c+I1), s	17.8	29.5		13.9		2.0
Green Ext Time (p_c), s	2.7	1.4		0.0		23.1

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	21.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	1942	13	27	402	108	1	1	214	0	0	158
Future Vol, veh/h	92	1942	13	27	402	108	1	1	214	0	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	2111	14	29	437	117	1	1	233	0	0	172

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	554	0	0	2125	0	0	2551	2930	1063	-	-	219
Stage 1	-	-	-	-	-	-	2318	2318	-	-	-	-
Stage 2	-	-	-	-	-	-	233	612	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	639	-	-	108	-	-	28	15	~ 188	0	0	669
Stage 1	-	-	-	-	-	-	22	71	-	0	0	-
Stage 2	-	-	-	-	-	-	688	482	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	639	-	-	108	-	-	15	9	~ 188	-	-	669
Mov Cap-2 Maneuver	-	-	-	-	-	-	15	9	-	-	-	-
Stage 1	-	-	-	-	-	-	19	60	-	-	-	-
Stage 2	-	-	-	-	-	-	374	352	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	2.5	277.6	12.2
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	164	639	-	-	108	-	-	669
HCM Lane V/C Ratio	1.432	0.156	-	-	0.272	-	-	0.257
HCM Control Delay (s)	277.6	11.7	-	-	50.3	-	-	12.2
HCM Lane LOS	F	B	-	-	F	-	-	B
HCM 95th %tile Q(veh)	14.8	0.6	-	-	1	-	-	1

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	79	403	456	475	18	203	332	267	0	721	228
Future Volume (veh/h)	413	79	403	456	475	18	203	332	267	0	721	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	435	83	424	480	500	19	214	349	281	0	759	240
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	521	303	514	567	628	24	448	1783	830	0	1247	352
Arrive On Green	0.15	0.16	0.16	0.16	0.18	0.18	0.25	0.52	0.52	0.00	0.22	0.22
Sat Flow, veh/h	3563	1870	3170	3456	3491	132	1781	3404	1585	0	5611	1585
Grp Volume(v), veh/h	435	83	424	480	254	265	214	349	281	0	759	240
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1847	1781	1702	1585	0	1870	1585
Q Serve(g_s), s	10.7	3.5	11.6	12.1	12.3	12.4	9.2	4.9	9.2	0.0	10.9	8.5
Cycle Q Clear(g_c), s	10.7	3.5	11.6	12.1	12.3	12.4	9.2	4.9	9.2	0.0	10.9	8.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	521	303	514	567	320	332	448	1783	830	0	1247	352
V/C Ratio(X)	0.83	0.27	0.82	0.85	0.80	0.80	0.48	0.20	0.34	0.00	0.61	0.68
Avail Cap(c_a), veh/h	614	374	634	672	395	410	448	1783	830	0	1247	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	33.1	36.5	36.5	35.3	35.3	28.7	11.4	12.4	0.0	31.5	15.0
Incr Delay (d2), s/veh	8.5	0.5	7.3	8.6	8.8	8.6	0.8	0.2	1.1	0.0	2.2	10.2
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	5.2	1.6	4.9	5.7	6.0	6.2	3.9	1.8	3.3	0.0	5.1	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	33.5	43.7	45.1	44.1	44.0	29.4	11.6	13.5	0.0	33.7	25.2
LnGrp LOS	D	C	D	D	D	D	C	B	B	A	C	C
Approach Vol, veh/h		942			999			844			999	
Approach Delay, s/veh		43.8			44.5			16.7			31.7	
Approach LOS		D			D			B			C	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		51.6	19.3	19.1	27.1	24.5	17.7	20.7
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		41.0	17.5	18.0	16.5	20.0	15.5	20.0
Max Q Clear Time (g_c+I1), s		11.2	14.1	13.6	11.2	12.9	12.7	14.4
Green Ext Time (p_c), s		4.6	0.6	0.9	0.3	3.4	0.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	588	485	2	12	1186	691	20	44	61	142	0	54
Future Volume (veh/h)	588	485	2	12	1186	691	20	44	61	142	0	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	600	495	2	12	1210	705	20	45	62	145	0	55
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1250	5	336	1480	766	113	255	317	238	0	106
Arrive On Green	0.12	0.34	0.34	0.19	0.42	0.42	0.20	0.20	0.20	0.07	0.00	0.07
Sat Flow, veh/h	3456	3630	15	1781	3554	1585	567	1275	1585	3563	0	1585
Grp Volume(v), veh/h	600	242	255	12	1210	705	65	0	62	145	0	55
Grp Sat Flow(s),veh/h/ln	1728	1777	1868	1781	1777	1585	1842	0	1585	1781	0	1585
Q Serve(g_s), s	10.5	9.3	9.3	0.5	27.1	37.3	2.6	0.0	2.9	3.6	0.0	3.0
Cycle Q Clear(g_c), s	10.5	9.3	9.3	0.5	27.1	37.3	2.6	0.0	2.9	3.6	0.0	3.0
Prop In Lane	1.00		0.01	1.00		1.00	0.31		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	612	643	336	1480	766	368	0	317	238	0	106
V/C Ratio(X)	1.49	0.40	0.40	0.04	0.82	0.92	0.18	0.00	0.20	0.61	0.00	0.52
Avail Cap(c_a), veh/h	403	612	643	336	1480	766	368	0	317	713	0	317
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	0.76	0.76	0.76	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	22.4	22.4	29.8	23.2	21.6	29.9	0.0	30.0	40.8	0.0	40.6
Incr Delay (d2), s/veh	232.6	1.9	1.8	0.0	2.9	13.2	1.0	0.0	1.4	2.5	0.0	3.9
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	17.4	4.1	4.3	0.2	11.3	17.7	1.3	0.0	1.2	1.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.3	24.3	24.2	29.9	26.1	34.8	30.9	0.0	31.3	43.4	0.0	44.5
LnGrp LOS	F	C	C	C	C	C	C	A	C	D	A	D
Approach Vol, veh/h		1097			1927			127			200	
Approach Delay, s/veh		159.9			29.3			31.1			43.7	
Approach LOS		F			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.5	35.5		10.5	15.0	42.0		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	31.0		18.0	10.5	25.5		18.0
Max Q Clear Time (g_c+I1), s	12.5	11.3		5.6	12.5	39.3		4.9
Green Ext Time (p_c), s	0.0	2.9		0.5	0.0	0.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	437	775	347	348
Future Volume (veh/h)	0	0	437	775	347	348
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			465	0	369	0
Peak Hour Factor			0.94	0.94	0.94	0.94
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			572		0	
Arrive On Green			0.31	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			465	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			12.6	0.0		
Cycle Q Clear(g_c), s			12.6	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			572			
V/C Ratio(X)			0.81			
Avail Cap(c_a), veh/h			867			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			17.6	0.0		
Incr Delay (d2), s/veh			3.6	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			5.3	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			21.2	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			465	A		
Approach Delay, s/veh			21.2			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	21.3
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	25.5
Max Q Clear Time (g_c+I1), s	14.6
Green Ext Time (p_c), s	2.2

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	690	0	1066	0	1528	0	0	1399	969
Future Volume (veh/h)	0	0	0	690	0	1066	0	1528	0	0	1399	969
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				479	0	1367	0	1592	0	0	1457	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				859	0	1528	0	2850	0	0	2850	
Arrive On Green				0.48	0.00	0.48	0.00	0.89	0.00	0.00	0.44	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				479	0	1367	0	1592	0	0	1457	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				22.9	0.0	47.1	0.0	6.7	0.0	0.0	19.6	0.0
Cycle Q Clear(g_c), s				22.9	0.0	47.1	0.0	6.7	0.0	0.0	19.6	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				859	0	1528	0	2850	0	0	2850	
V/C Ratio(X)				0.56	0.00	0.89	0.00	0.56	0.00	0.00	0.51	
Avail Cap(c_a), veh/h				1017	0	1810	0	2850	0	0	2850	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.90	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				22.0	0.0	28.3	0.0	4.2	0.0	0.0	24.1	0.0
Incr Delay (d2), s/veh				0.6	0.0	5.5	0.0	0.7	0.0	0.0	0.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.6	0.0	18.4	0.0	1.5	0.0	0.0	7.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.6	0.0	33.8	0.0	4.9	0.0	0.0	24.7	0.0
LnGrp LOS				C	A	C	A	A	A	A	C	
Approach Vol, veh/h					1846			1592			1457	A
Approach Delay, s/veh					30.9			4.9			24.7	
Approach LOS					C			A			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	57.7	57.7	62.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	42.5	42.5	68.5
Max Q Clear Time (g_c+I1), s	8.7	21.6	49.1
Green Ext Time (p_c), s	16.0	11.2	8.7

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	0	707	0	0	0	0	1351	627	0	2089	0
Future Volume (veh/h)	177	0	707	0	0	0	0	1351	627	0	2089	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	123	0	802				0	1407	0	0	2176	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	516	0	918				0	3244		0	4088	0
Arrive On Green	0.29	0.00	0.29				0.00	0.64	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	123	0	802				0	1407	0	0	2176	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	6.3	0.0	28.9				0.0	16.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	28.9				0.0	16.6	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	516	0	918				0	3244		0	4088	0
V/C Ratio(X)	0.24	0.00	0.87				0.00	0.43		0.00	0.53	0.00
Avail Cap(c_a), veh/h	751	0	1337				0	3244		0	4088	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.75	0.00
Uniform Delay (d), s/veh	32.5	0.0	40.5				0.0	11.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	4.7				0.0	0.4	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	11.8				0.0	6.1	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	45.2				0.0	11.4	0.0	0.0	0.4	0.0
LnGrp LOS	C	A	D				A	B		A	A	A
Approach Vol, veh/h		925						1407	A		2176	
Approach Delay, s/veh		43.5						11.4			0.4	
Approach LOS		D						B			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		80.7				80.7		39.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		60.4				60.4		50.6				
Max Q Clear Time (g_c+I1), s		18.6				2.0		30.9				
Green Ext Time (p_c), s		14.5				33.5		3.9				

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	785	0	967	185	1384	0	0	1989	339
Future Volume (veh/h)	0	0	0	785	0	967	185	1384	0	0	1989	339
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				801	0	987	189	1412	0	0	2030	346
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1274	0	1028	225	2568	0	0	2665	495
Arrive On Green				0.37	0.00	0.37	0.25	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				801	0	987	189	1412	0	0	2030	346
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				13.3	0.0	24.2	7.1	0.0	0.0	0.0	15.0	13.4
Cycle Q Clear(g_c), s				13.3	0.0	24.2	7.1	0.0	0.0	0.0	15.0	13.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1274	0	1028	225	2568	0	0	2665	495
V/C Ratio(X)				0.63	0.00	0.96	0.84	0.55	0.00	0.00	0.76	0.70
Avail Cap(c_a), veh/h				1274	0	1028	232	2568	0	0	2665	495
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.65	0.65	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.2	0.0	21.6	25.5	0.0	0.0	0.0	21.7	21.2
Incr Delay (d2), s/veh				1.0	0.0	19.1	16.1	0.6	0.0	0.0	2.1	8.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	0.0	9.9	3.5	0.1	0.0	0.0	4.9	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				19.2	0.0	40.7	41.6	0.6	0.0	0.0	23.8	29.1
LnGrp LOS				B	A	D	D	A	A	A	C	C
Approach Vol, veh/h					1788			1601			2376	
Approach Delay, s/veh					31.0			5.4			24.6	
Approach LOS					C			A			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.7		13.3	26.4		30.3
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	35.2		9.1	21.6		25.8
Max Q Clear Time (g_c+I1), s	2.0		9.1	17.0		26.2
Green Ext Time (p_c), s	13.5		0.0	4.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	369	0	468	0	0	0	0	1200	563	1074	1700	0
Future Volume (veh/h)	369	0	468	0	0	0	0	1200	563	1074	1700	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	384	0	488				0	1156	648	1119	1771	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	666	0	538				0	1884	1064	1399	3465	0
Arrive On Green	0.19	0.00	0.19				0.00	0.34	0.34	0.56	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	384	0	488				0	1156	648	1119	1771	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	7.1	0.0	12.0				0.0	12.1	11.9	12.5	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	12.0				0.0	12.1	11.9	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	538				0	1884	1064	1399	3465	0
V/C Ratio(X)	0.58	0.00	0.91				0.00	0.61	0.61	0.80	0.51	0.00
Avail Cap(c_a), veh/h	666	0	538				0	1884	1064	1399	3465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.61	0.61	0.00
Uniform Delay (d), s/veh	25.7	0.0	27.6				0.0	19.5	19.4	13.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	19.1				0.0	1.5	2.6	2.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.2				0.0	5.1	4.5	3.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	46.8				0.0	21.0	22.0	16.0	0.3	0.0
LnGrp LOS	C	A	D				A	C	C	B	A	A
Approach Vol, veh/h		872						1804			2890	
Approach Delay, s/veh		38.0						21.3			6.4	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	28.0		18.0		52.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	19.5	23.5		13.5		47.5
Max Q Clear Time (g_c+I1), s	14.5	14.1		14.0		2.0
Green Ext Time (p_c), s	2.2	6.7		0.0		21.3

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	19.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	643	7	448	2808	423	0	7	118	0	0	150
Future Vol, veh/h	48	643	7	448	2808	423	0	7	118	0	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	649	7	453	2836	427	0	7	119	0	0	152

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3263	0	0	656	0	0	2789	4918	328	-	-	1418
Stage 1	-	-	-	-	-	-	749	749	-	-	-	-
Stage 2	-	-	-	-	-	-	2040	4169	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	~ 27	-	-	572	-	-	20	~ 1	570	0	0	~ 108
Stage 1	-	-	-	-	-	-	297	417	-	0	0	-
Stage 2	-	-	-	-	-	-	51	~ 7	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	~ 27	-	-	572	-	-	-	0	570	-	-	~ 108
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	297	0	-	-	-	-
Stage 2	-	-	-	-	-	-	-	~ 1	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.5	3.8		$ 300.1
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	~ 27	-	-	572	-	-	108
HCM Lane V/C Ratio	-	1.796	-	-	0.791	-	-	1.403
HCM Control Delay (s)	-	$ 691.3	-	-	31	-	-	$ 300.1
HCM Lane LOS	-	F	-	-	D	-	-	F
HCM 95th %tile Q(veh)	-	5.8	-	-	7.5	-	-	10.7

Notes

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

HCS7 Two-Way Stop-Control Report

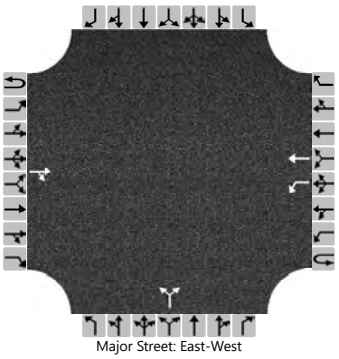
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2019
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			18	17		10	94			0		1				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11					1					
Capacity, c (veh/h)						1572					1046					
v/c Ratio						0.01					0.00					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3					8.4					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.7				8.4							
Approach LOS									A							

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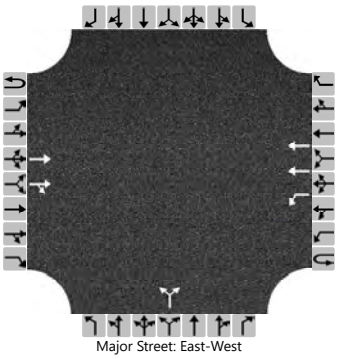
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			20	0	0	6	109			1		1				
Percent Heavy Vehicles (%)					2	2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						7					2					
Capacity, c (veh/h)						1592					942					
v/c Ratio						0.00					0.00					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3					8.8					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.4				8.8							
Approach LOS									A							

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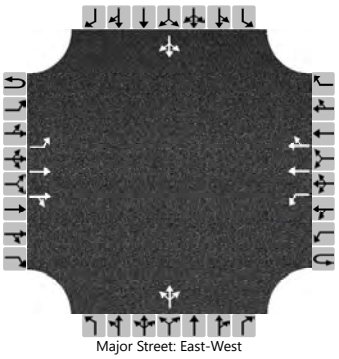
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	0	23	0	0	1	122	51		0	0	0		2	0	0
Percent Heavy Vehicles (%)	2	2			2	2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					0				2	
Capacity, c (veh/h)		1383				1588									742	
v/c Ratio		0.00				0.00									0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.0	
Control Delay (s/veh)		7.6				7.3									9.9	
Level of Service (LOS)		A				A									A	
Approach Delay (s/veh)	0.0				0.0								9.9			
Approach LOS													A			

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HCS7 Two-Way Stop-Control Report

General Information

Analyst	LSA
Agency/Co.	
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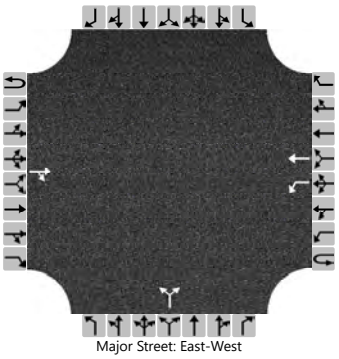
Analysis Year	2019
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			94	0		1	150			4		3				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					8					
Capacity, c (veh/h)						1490					814					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.4					9.5					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.0				9.5							
Approach LOS									A							

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Site Information

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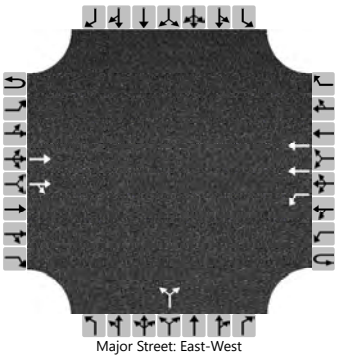
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			99	0	0	0	153			0		0				
Percent Heavy Vehicles (%)					2	2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						1481										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.4										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.0											
Approach LOS																

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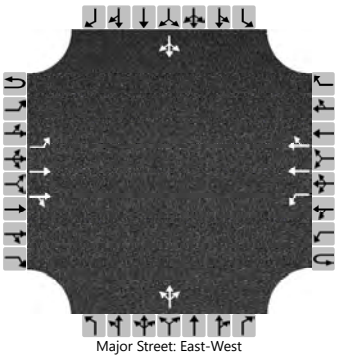
Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	0	104	0	0	0	155	0		0	0	0		43	0	1
Percent Heavy Vehicles (%)	2	2			2	2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					0				48	
Capacity, c (veh/h)		1407				1474									720	
v/c Ratio		0.00				0.00									0.07	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.2	
Control Delay (s/veh)		7.6				7.4									10.4	
Level of Service (LOS)		A				A									B	
Approach Delay (s/veh)	0.0				0.0								10.4			
Approach LOS													B			

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COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		2,880	216	134	0.08		0.05	
NBT	2.5		4,250	471	488	0.11	*	0.11	*
NBR	0.5	U	800	47	33	0.00		0.00	
SBL	2.0		2,880	620	159	0.22	*	0.06	*
SBT	3.0		5,100	811	476	0.16		0.09	
SBR	1.0	D	1,600	282	220	0.00		0.00	
EBL	2.0		2,880	140	227	0.05		0.08	*
EBT	2.5		4,250	1,212	538	0.29	*	0.13	
EBR	0.5	U	800	55	259	0.00		0.16	*
WBL	2.0		2,880	33	117	0.01	*	0.04	
WBT	3.0		5,100	424	1,915	0.08		0.38	*
WBR	1.0	U	1,600	83	701	0.00		0.02	*
N/S Critical Movements						0.33		0.17	
E/W Critical Movements						0.30		0.46	
Right Turn Critical Movement						0.00		0.18	
Clearance Interval						0.05		0.05	
ICU						0.68		0.86	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **2**
NORTH/SOUTH: **Euclid Street**
EAST/WEST: **I-405 Northbound Ramps - Newhope Street**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,600	22	203	0.01 *	0.13 *
NBT	2.5		4,250	273	332	0.06	0.08
NBR	0.5	U	800	472	272	0.48 *	0.09 *
SBL	0.0		0	0	0	0.00	0.00
SBT	2.5		4,250	788	721	0.19 *	0.17 *
SBR	1.5	U	2,400	48	228	0.00	0.00
EBL	2.0		2,880	553	413	0.19 *	0.14 *
EBT	1.5		2,550	338	79	0.13	0.03
EBR	1.5	U	2,400	522	403	0.02 *	0.00
WBL	2.0		2,880	172	459	0.06	0.16
WBT	1.5		2,550	56	475	0.02 *	0.19 *
WBR	0.5	N	800	10	18	0.00	0.00
N/S Critical Movements						0.20	0.30
E/W Critical Movements						0.21	0.33
Right Turn Critical Movement						0.50	0.09
Clearance Interval						0.05	0.05
ICU						0.96	0.77
Level of Service (LOS)						E	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NB	2.0		3,400	22	125	0.01 *	0.04 *
SB	3.0		5,100	104	196	0.02 *	0.04 *
EBL	2.0		2,880	636	588	0.22 *	0.20 *
EBT	1.5		2,550	970	490	0.38	0.19
EBR	0.5	U	800	24	2	0.00	0.00
WBL	1.0		1,600	30	12	0.02	0.01
WBT	2.0		3,400	676	1,189	0.20 *	0.35 *
WBR	1.0	P	1,600	746	691	0.27 *	0.08 *
N/S Critical Movements						0.03	0.08
E/W Critical Movements						0.42	0.55
Right Turn Critical Movement						0.27	0.08
Clearance Interval						0.05	0.05
ICU						0.77	0.76
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 4
NORTH/SOUTH: Newhope Street
EAST/WEST: Talbert Avenue

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	1	15	0.00		0.01	*
NBT	2.0		3,400	409	237	0.12	*	0.07	
NBR	1.0	P	1,600	386	100	0.09	*	0.00	
SBL	2.0		2,880	314	213	0.11	*	0.07	
SBT	1.5		2,550	134	486	0.05		0.19	*
SBR	0.5	U	800	72	161	0.00		0.00	
EBL	2.0		2,880	67	173	0.02		0.06	*
EBT	2.5		4,250	1,798	553	0.42	*	0.13	
EBR	0.5	U	800	10	11	0.00		0.00	
WBL	2.0		2,880	97	465	0.03	*	0.16	
WBT	3.5		5,950	461	2,551	0.08		0.43	*
WBR	0.5	U	800	53	177	0.00		0.00	
N/S Critical Movements						0.23		0.20	
E/W Critical Movements						0.45		0.49	
Right Turn Critical Movement						0.09		0.00	
Clearance Interval						0.05		0.05	
ICU						0.82		0.74	
Level of Service (LOS)						D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **5**
NORTH/SOUTH: **OCTA Bus Base - Hyland Avenue**
EAST/WEST: **MacArthur Boulevard**

				Existing Plus Project					
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	127	1,458	0.02	*	0.21	*
SB	3.0		5,100	18	28	0.00	*	0.01	*
EBL	1.0		1,700	13	17	0.01		0.01	*
EBT	3.0		5,100	1,875	772	0.37	*	0.15	
EBR	1.0	U	1,700	803	191	0.10	*	0.00	
WBL	1.0		1,700	60	8	0.04	*	0.00	
WBT	3.0		5,100	499	2,381	0.10		0.47	*
WBR	1.0	U	1,700	11	12	0.00		0.00	
N/S Critical Movements						0.02		0.22	
E/W Critical Movements						0.41		0.48	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.58		0.75	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	90	132	0.05	*	0.08	
NBT	1.5		2,550	122	548	0.05		0.21	*
NBR	0.5	U	850	11	61	0.00		0.00	
SBL	1.0		1,700	129	45	0.08		0.03	*
SBT	1.5		2,550	316	225	0.12	*	0.09	
SBR	0.5	U	850	100	129	0.00		0.02	*
EBL	1.0		1,700	64	93	0.04		0.05	*
EBT	1.0		1,700	275	349	0.16	*	0.21	
EBR	1.0	U	1,700	120	175	0.00		0.00	
WBL	1.0		1,700	34	183	0.02	*	0.11	
WBT	1.0		1,700	223	451	0.13		0.27	*
WBR	1.0	U	1,700	67	188	0.00		0.00	
N/S Critical Movements						0.17		0.24	
E/W Critical Movements						0.18		0.32	
Right Turn Critical Movement						0.00		0.02	
Clearance Interval						0.05		0.05	
ICU						0.40		0.63	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	331	383	0.19	*	0.23	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	94	372	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	144	437	0.08	*	0.26	*
WBR	1.0	F	1,700	299	838	0.00		0.00	
N/S Critical Movements						0.19		0.23	
E/W Critical Movements						0.08		0.26	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.32		0.54	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **8**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **MacArthur Boulevard**

				Existing Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	119	565	0.04 *	0.17 *
NBT	3.0		5,100	924	1,559	0.18	0.31
NBR	1.0	U	1,700	88	84	0.00	0.00
SBL	2.0		3,400	346	220	0.10	0.06
SBT	3.0		5,100	1,891	1,023	0.37 *	0.20 *
SBR	1.0	U	1,700	123	160	0.00	0.00
EBL	1.0		1,700	145	130	0.09	0.08 *
EBT	3.0		5,100	1,252	580	0.25 *	0.11
EBR	1.0	U	1,700	377	177	0.00	0.00
WBL	1.0		1,700	93	52	0.05 *	0.03
WBT	3.0		5,100	397	1,387	0.08	0.27 *
WBR	1.0	U	1,700	106	233	0.00	0.00
N/S Critical Movements						0.41	0.37
E/W Critical Movements						0.30	0.35
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.76	0.77
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,700	72	43	0.04 *	0.03
NBT	2.5		4,250	1,150	1,964	0.27	0.46 *
NBR	0.5	U	850	62	27	0.00	0.00
SBL	1.0		1,700	68	13	0.04	0.01 *
SBT	2.5		4,250	2,196	1,269	0.52 *	0.30
SBR	0.5	U	850	66	12	0.00	0.00
EBL	1.0		1,700	14	36	0.01 *	0.02 *
EBT	1.0		1,700	28	53	0.02	0.03
EBR	1.0	U	1,700	31	91	0.00	0.00
WBL	1.0		1,700	25	82	0.01	0.05
WBT	0.5		850	17	236	0.02 *	0.28 *
WBR	0.5	U	850	27	174	0.00	0.00
N/S Critical Movements						0.56	0.47
E/W Critical Movements						0.03	0.30
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.64	0.82
Level of Service (LOS)						B	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	Existing Plus Project							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	2.0		3,400	248	306	0.07	*	0.09	
NBT	3.0		5,100	1,230	1,787	0.24		0.35	*
NBR	1.0	U	1,700	209	309	0.00		0.00	
SBL	2.0		3,400	179	86	0.05		0.03	*
SBT	3.0		5,100	1,859	1,290	0.36	*	0.25	
SBR	1.0	U	1,700	47	79	0.00		0.00	
EB	3.0		5,100	379	528	0.07	*	0.10	*
WB	3.0		5,100	304	1,155	0.06	*	0.23	*
N/S Critical Movements						0.43		0.38	
E/W Critical Movements						0.13		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.61		0.76	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **11**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **South Coast Drive**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,400	311	373	0.09 *	0.11
NBT	3.5		5,950	1,716	2,115	0.29	0.36 *
NBR	1.5	P	2,550	259	212	0.00	0.00
SBL	2.0		3,400	72	73	0.02	0.02 *
SBT	4.0		6,800	1,947	1,716	0.29 *	0.25
SBR	1.0	U	1,700	52	62	0.00	0.00
EBL	1.0		1,700	15	26	0.01	0.02 *
EBT	0.5		850	117	71	0.14 *	0.08
EBR	1.5	U	2,550	227	382	0.00	0.00
WBL	2.0		3,400	86	401	0.03 *	0.12
WBT	2.0		3,400	218	857	0.06	0.25 *
WBR	1.0	U	1,700	53	231	0.00	0.00
N/S Critical Movements						0.38	0.38
E/W Critical Movements						0.17	0.27
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.60	0.70
Level of Service (LOS)						A	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **12**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp**

	Existing Plus Project							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	1,499	1,616	0.22	*	0.24	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,386	1,429	0.20		0.21	
SBR	1.0	F	1,700	877	1,010	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	531	690	0.21	*	0.27	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	868	1,136	0.13	*	0.17	*
N/S Critical Movements						0.22		0.24	
E/W Critical Movements						0.21		0.27	
Right Turn Critical Movement						0.13		0.17	
Clearance Interval						0.05		0.05	
ICU						0.61		0.73	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **13**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	0.0		0	0	0	0.00 *	0.00 *
NBT	3.0		5,100	1,150	1,398	0.23	0.27
NBR	1.0	F	1,700	570	627	0.00	0.00
SBL	0.0		0	0	0	0.00	0.00
SBT	4.0		6,800	1,917	2,119	0.28 *	0.31 *
SBR	0.0		0	0	0	0.00	0.00
EBL	1.5		2,550	348	218	0.14 *	0.09 *
EBT	0.0		0	0	0	0.00	0.00
EBR	1.5	U	2,550	450	707	0.04 *	0.19 *
WBL	0.0		0	0	0	0.00	0.00
WBT	0.0		0	0	0	0.00 *	0.00 *
WBR	0.0		0	0	0	0.00	0.00
N/S Critical Movements						0.28	0.31
E/W Critical Movements						0.14	0.09
Right Turn Critical Movement						0.04	0.19
Clearance Interval						0.05	0.05
ICU						0.51	0.64
Level of Service (LOS)						A	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **14**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Gisler Avenue**

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	96	139	0.06	*	0.08	*
NBT	4.5		7,650	2,081	1,995	0.27		0.26	
NBR	0.5	U	850	9	20	0.00		0.00	
SBL	1.0		1,700	74	135	0.04		0.08	
SBT	3.5		5,950	1,844	2,118	0.31	*	0.36	*
SBR	0.5	U	850	222	358	0.00		0.07	*
EB	4.0		6,800	817	530	0.12	*	0.08	*
WB	3.0		5,100	233	444	0.05	*	0.09	*
N/S Critical Movements						0.37		0.44	
E/W Critical Movements						0.17		0.17	
Right Turn Critical Movement						0.00		0.07	
Clearance Interval						0.05		0.05	
ICU						0.59		0.73	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **15**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Nutmeg Place**

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	15	43	0.01		0.03	*
NBT	3.5		5,950	2,050	1,941	0.34	*	0.33	
NBR	0.5	U	850	121	184	0.00		0.00	
SBL	2.0		3,400	131	182	0.04	*	0.05	
SBT	3.5		5,950	1,853	2,074	0.31		0.35	*
SBR	0.5	U	850	50	46	0.00		0.00	
EB	2.0		3,400	79	141	0.02	*	0.04	*
WB	2.0		3,400	141	305	0.04	*	0.09	*
N/S Critical Movements						0.38		0.38	
E/W Critical Movements						0.06		0.13	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.49		0.56	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,400	47	53	0.01	0.02 *
NBT	4.0		6,800	1,825	1,633	0.27 *	0.24
NBR	1.0	P	1,700	232	196	0.00	0.00
SBL	2.0		3,400	202	192	0.06 *	0.06
SBT	4.0		6,800	1,498	1,892	0.22	0.28 *
SBR	1.0	P	1,700	217	231	0.00	0.00
EBL	2.0		3,400	243	194	0.07	0.06 *
EBT	1.5		2,550	248	228	0.10 *	0.09
EBR	0.5	U	850	55	85	0.00	0.00
WBL	2.0		3,400	193	458	0.06 *	0.13
WBT	2.0		3,400	215	630	0.06	0.19 *
WBR	1.0	U	1,700	154	350	0.00	0.00
N/S Critical Movements						0.33	0.30
E/W Critical Movements						0.16	0.25
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.54	0.60
Level of Service (LOS)						A	A

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

				Existing Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,700	74	279	0.04	0.16
NBT	1.0		1,700	257	614	0.15 *	0.36 *
NBR	1.0	U	1,700	51	139	0.00	0.00
SBL	1.0		1,700	71	65	0.04 *	0.04 *
SBT	0.5		850	80	170	0.09	0.20
SBR	0.5	U	850	31	94	0.00	0.00
EBL	1.0		1,700	78	98	0.05 *	0.06 *
EBT	2.0		3,400	366	486	0.11	0.14
EBR	1.0	U	1,700	42	29	0.00	0.00
WBL	1.0		1,700	50	37	0.03	0.02
WBT	1.5		2,550	268	618	0.11 *	0.24 *
WBR	0.5	U	850	96	196	0.00	0.00
N/S Critical Movements						0.19	0.40
E/W Critical Movements						0.16	0.30
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.40	0.75
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **18**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **South Coast Drive**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,400	158	528	0.05	0.16
NBT	1.5		2,550	437	751	0.17 *	0.29 *
NBR	0.5	U	850	83	57	0.00	0.00
SBL	2.0		3,400	65	143	0.02 *	0.04 *
SBT	1.5		2,550	2	19	0.00	0.01
SBR	0.5	U	850	67	182	0.04 *	0.15 *
EBL	2.0		3,400	106	94	0.03	0.03 *
EBT	1.5		2,550	312	226	0.12 *	0.09
EBR	0.5	U	850	1	13	0.00	0.00
WBL	2.0		3,400	0	38	0.00 *	0.01
WBT	2.0		3,400	156	711	0.05	0.21 *
WBR	1.0	P	1,700	43	150	0.00	0.00
N/S Critical Movements						0.19	0.33
E/W Critical Movements						0.12	0.24
Right Turn Critical Movement						0.04	0.15
Clearance Interval						0.05	0.05
ICU						0.40	0.77
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	Existing Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	173	138	0.05	*	0.04	
NBT	3.0		5,100	943	1,728	0.18		0.34	*
NBR	1.0	U	1,700	160	296	0.00		0.00	
SBL	2.0		3,400	174	101	0.05		0.03	*
SBT	2.5		4,250	1,702	1,129	0.40	*	0.27	
SBR	0.5	U	850	126	87	0.00		0.00	
EBL	2.0		3,400	52	196	0.02		0.06	
EBT	1.5		2,550	270	428	0.11	*	0.17	*
EBR	0.5	U	850	64	141	0.00		0.00	
WBL	2.0		3,400	297	227	0.09	*	0.07	*
WBT	2.0		3,400	311	549	0.09		0.16	
WBR	1.0	U	1,700	105	162	0.00		0.00	
N/S Critical Movements						0.45		0.37	
E/W Critical Movements						0.20		0.24	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.70		0.66	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **21**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **South Coast Drive**

	Existing Plus Project							
Move-				Volume		V/C Ratio		
ment	Lane		Capacity	AM	PM	AM		PM	
NBL	2.0		3,400	236	198	0.07	*	0.06	*
NBT	3.0		5,100	1,212	1,776	0.24		0.35	
NBR	1.0	U	1,700	178	341	0.00		0.00	
SBL	2.0		3,400	29	52	0.01		0.02	
SBT	2.5		4,250	1,926	1,379	0.45	*	0.32	*
SBR	0.5	U	850	21	52	0.00		0.00	
EBL	1.0		1,700	8	62	0.00		0.04	
EBT	1.5		2,550	110	165	0.04	*	0.06	*
EBR	1.5	U	2,550	147	548	0.00		0.11	*
WBL	2.0		3,400	314	451	0.09	*	0.13	*
WBT	2.0		3,400	106	484	0.03		0.14	
WBR	1.0	U	1,700	58	320	0.00		0.03	*
N/S Critical Movements						0.52		0.38	
E/W Critical Movements						0.13		0.19	
Right Turn Critical Movement						0.00		0.14	
Clearance Interval						0.05		0.05	
ICU						0.70		0.76	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **22**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Northbound Ramps**

	Existing Plus Project							
Move-				Volume		V/C Ratio		
ment	Lane		Capacity	AM	PM	AM		PM	
NBL	1.0		1,700	243	185	0.14	*	0.11	*
NBT	3.0		5,100	795	1,392	0.16		0.27	
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	6.0		10,200	2,050	1,993	0.20	*	0.20	*
SBR	1.0	U	1,700	294	339	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	2.0		3,400	832	785	0.24	*	0.23	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	2.0	U	3,400	859	967	0.01	*	0.05	*
N/S Critical Movements						0.34		0.31	
E/W Critical Movements						0.24		0.23	
Right Turn Critical Movement						0.01		0.05	
Clearance Interval						0.05		0.05	
ICU						0.64		0.64	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	Existing Plus Project							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	3.5		5,950	893	1,208	0.15	*	0.20	*
NBR	1.5	U	2,550	1,095	563	0.28	*	0.02	*
SBL	3.0		5,100	1,180	1,074	0.23	*	0.21	*
SBT	3.0		5,100	1,702	1,704	0.33		0.33	
SBR	0.0		0	0	0	0.00		0.00	
EBL	2.0		3,400	145	369	0.04	*	0.11	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	2.0	U	3,400	399	468	0.07	*	0.03	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.38		0.41	
E/W Critical Movements						0.04		0.11	
Right Turn Critical Movement						0.35		0.05	
Clearance Interval						0.05		0.05	
ICU						0.82		0.62	
Level of Service (LOS)						D		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	Existing Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	141	184	0.04	0.05
NBT	3.0		5,100	1,357	1,136	0.27 *	0.22 *
NBR	1.0	P	1,700	645	367	0.01 *	0.00
SBL	2.0		3,400	250	220	0.07 *	0.06 *
SBT	4.0		6,800	1,574	1,411	0.23	0.21
SBR	1.0	U	1,700	223	331	0.00	0.00
EBL	2.0		3,400	270	276	0.08	0.08
EBT	2.0		3,400	549	414	0.16 *	0.12 *
EBR	1.0	U	1,700	160	167	0.00	0.00
WBL	2.0		3,400	336	661	0.10 *	0.19 *
WBT	3.0		5,100	286	1,144	0.06	0.22
WBR	1.0	U	1,700	151	189	0.00	0.00
N/S Critical Movements						0.34	0.28
E/W Critical Movements						0.26	0.31
Right Turn Critical Movement						0.01	0.00
Clearance Interval						0.05	0.05
ICU						0.66	0.64
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

				Existing Plus Project					
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	127	1,458	0.02	*	0.21	*
SB	3.0		5,100	18	28	0.00	*	0.01	*
EBL	1.0		1,600	13	17	0.01		0.01	*
EBT	3.0		5,100	1,875	772	0.37	*	0.15	
EBR	1.0	U	1,600	803	191	0.13	*	0.00	
WBL	1.0		1,600	60	8	0.04	*	0.01	
WBT	3.0		5,100	499	2,381	0.10		0.47	*
WBR	1.0	U	1,600	11	12	0.00		0.00	
N/S Critical Movements						0.02		0.22	
E/W Critical Movements						0.41		0.48	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.61		0.75	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	119	565	0.04	*	0.18	*
NBT	3.0		5,100	924	1,559	0.18		0.31	
NBR	1.0	U	1,600	88	84	0.00		0.00	
SBL	2.0		3,200	346	220	0.11		0.07	
SBT	3.0		5,100	1,891	1,023	0.37	*	0.20	*
SBR	1.0	U	1,600	123	160	0.00		0.00	
EBL	1.0		1,600	145	130	0.09		0.08	*
EBT	3.0		5,100	1,252	580	0.25	*	0.11	
EBR	1.0	U	1,600	377	177	0.00		0.00	
WBL	1.0		1,600	93	52	0.06	*	0.03	
WBT	3.0		5,100	397	1,387	0.08		0.27	*
WBR	1.0	U	1,600	106	233	0.00		0.00	
N/S Critical Movements						0.41		0.38	
E/W Critical Movements						0.31		0.35	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.77		0.78	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,600	72	43	0.05 *	0.03
NBT	2.5		4,250	1,150	1,964	0.27	0.46 *
NBR	0.5	U	800	62	27	0.00	0.00
SBL	1.0		1,600	68	13	0.04	0.01 *
SBT	2.5		4,250	2,196	1,269	0.52 *	0.30
SBR	0.5	U	800	66	12	0.00	0.00
EBL	1.0		1,600	14	36	0.01	0.02 *
EBT	1.0		1,700	28	53	0.02 *	0.03
EBR	1.0	U	1,600	31	91	0.00	0.01 *
WBL	1.0		1,600	25	82	0.02 *	0.05
WBT	0.5		850	17	236	0.02	0.28 *
WBR	0.5	U	800	27	174	0.00	0.00
N/S Critical Movements						0.57	0.47
E/W Critical Movements						0.04	0.30
Right Turn Critical Movement						0.00	0.01
Clearance Interval						0.05	0.05
ICU						0.66	0.83
Level of Service (LOS)						B	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	Existing Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	248	306	0.08	*	0.10	
NBT	3.0		5,100	1,230	1,787	0.24		0.35	*
NBR	1.0	U	1,600	209	309	0.00		0.00	
SBL	2.0		3,200	179	86	0.06		0.03	*
SBT	3.0		5,100	1,859	1,290	0.36	*	0.25	
SBR	1.0	U	1,600	47	79	0.00		0.00	
EB	3.0		5,100	379	528	0.07	*	0.10	*
WB	3.0		5,100	304	1,155	0.06	*	0.23	*
N/S Critical Movements						0.44		0.38	
E/W Critical Movements						0.13		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.62		0.76	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,600	74	279	0.05	0.17
NBT	1.0		1,700	257	614	0.15 *	0.36 *
NBR	1.0	U	1,600	51	139	0.00	0.00
SBL	1.0		1,600	71	65	0.04 *	0.04 *
SBT	0.5		850	80	170	0.09	0.20
SBR	0.5	U	800	31	94	0.00	0.00
EBL	1.0		1,600	78	98	0.05 *	0.06 *
EBT	2.0		3,400	366	486	0.11	0.14
EBR	1.0	U	1,600	42	29	0.00	0.00
WBL	1.0		1,600	50	37	0.03	0.02
WBT	1.5		2,550	268	618	0.11 *	0.24 *
WBR	0.5	U	800	96	196	0.00	0.00
N/S Critical Movements						0.19	0.40
E/W Critical Movements						0.16	0.30
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.40	0.75
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	150	213	0.05	*	0.07	
NBT	2.5		4,250	844	1,704	0.20		0.40	*
NBR	0.5	U	800	80	116	0.00		0.00	
SBL	2.0		3,200	383	162	0.12		0.05	*
SBT	3.0		5,100	1,617	919	0.32	*	0.18	
SBR	1.0	U	1,600	166	107	0.00		0.00	
EBL	2.0		3,200	140	291	0.04		0.09	*
EBT	3.0		5,100	1,051	744	0.21	*	0.15	
EBR	1.0	U	1,600	173	231	0.00		0.00	
WBL	2.0		3,200	190	163	0.06	*	0.05	
WBT	3.0		5,100	494	1,293	0.10		0.25	*
WBR	1.0	U	1,600	159	292	0.00		0.00	
N/S Critical Movements						0.37		0.45	
E/W Critical Movements						0.27		0.34	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.69		0.84	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,200	173	138	0.05 *	0.04
NBT	3.0		5,100	943	1,728	0.18	0.34 *
NBR	1.0	U	1,600	160	296	0.00	0.00
SBL	2.0		3,200	174	101	0.05	0.03 *
SBT	2.5		4,250	1,702	1,129	0.40 *	0.27
SBR	0.5	U	800	126	87	0.00	0.00
EBL	2.0		3,200	52	196	0.02	0.06
EBT	1.5		2,550	270	428	0.11 *	0.17 *
EBR	0.5	U	800	64	141	0.00	0.00
WBL	2.0		3,200	297	227	0.09 *	0.07 *
WBT	2.0		3,400	311	549	0.09	0.16
WBR	1.0	U	1,600	105	162	0.00	0.00
N/S Critical Movements						0.45	0.37
E/W Critical Movements						0.20	0.24
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.70	0.66
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **29**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Segerstrom Avenue**

				Existing w/Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,200	100	196	0.03 *	0.06
NBT	2.5		4,250	754	1,587	0.18	0.37 *
NBR	0.5	U	800	61	59	0.00	0.00
SBL	1.0		1,600	179	131	0.11	0.08 *
SBT	2.5		4,250	2,090	978	0.49 *	0.23
SBR	0.5	U	800	64	78	0.00	0.00
EBL	1.0		1,600	111	114	0.07	0.07 *
EBT	1.5		2,550	459	456	0.18 *	0.18
EBR	0.5	U	800	195	114	0.04 *	0.00
WBL	1.0		1,600	98	111	0.06 *	0.07
WBT	2.0		3,400	246	940	0.07	0.28 *
WBR	1.0	U	1,600	92	356	0.00	0.00
N/S Critical Movements						0.52	0.45
E/W Critical Movements						0.24	0.35
Right Turn Critical Movement						0.04	0.00
Clearance Interval						0.05	0.05
ICU						0.85	0.85
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	553	338	522	172	56	10	22	273	472	0	788	48
Future Volume (veh/h)	553	338	522	172	56	10	22	273	472	0	788	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	582	356	549	181	59	11	23	287	497	0	829	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	685	441	748	247	345	63	41	1941	904	0	2841	802
Arrive On Green	0.19	0.24	0.24	0.07	0.11	0.11	0.02	0.57	0.57	0.00	0.51	0.51
Sat Flow, veh/h	3563	1870	3170	3456	3004	545	1781	3404	1585	0	5611	1585
Grp Volume(v), veh/h	582	356	549	181	34	36	23	287	497	0	829	51
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1772	1781	1702	1585	0	1870	1585
Q Serve(g_s), s	17.3	19.8	17.6	5.6	1.9	2.0	1.4	4.4	21.6	0.0	9.4	1.8
Cycle Q Clear(g_c), s	17.3	19.8	17.6	5.6	1.9	2.0	1.4	4.4	21.6	0.0	9.4	1.8
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	685	441	748	247	204	203	41	1941	904	0	2841	802
V/C Ratio(X)	0.85	0.81	0.73	0.73	0.17	0.18	0.56	0.15	0.55	0.00	0.29	0.06
Avail Cap(c_a), veh/h	1020	638	1081	393	299	298	121	1941	904	0	2841	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72	0.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	39.7	38.8	50.1	43.9	44.0	53.2	11.1	14.8	0.0	15.7	13.9
Incr Delay (d2), s/veh	4.5	5.0	1.5	4.2	0.4	0.4	8.5	0.1	1.7	0.0	0.3	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	8.0	9.6	6.9	2.6	0.9	0.9	0.7	1.6	7.8	0.0	4.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	44.6	40.3	54.3	44.3	44.4	61.6	11.2	16.5	0.0	16.0	14.0
LnGrp LOS	D	D	D	D	D	D	E	B	B	A	B	B
Approach Vol, veh/h		1487			251			807			880	
Approach Delay, s/veh		44.1			51.5			15.9			15.9	
Approach LOS		D			D			B			B	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		67.2	12.3	30.4	7.0	60.2	25.7	17.1
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		46.5	12.5	37.5	7.5	34.5	31.5	18.5
Max Q Clear Time (g_c+I1), s		23.6	7.6	21.8	3.4	11.4	19.3	4.0
Green Ext Time (p_c), s		5.8	0.2	4.2	0.0	6.3	1.8	0.2

Intersection Summary	
HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	636	970	24	30	676	746	5	15	2	75	1	28
Future Volume (veh/h)	636	970	24	30	676	746	5	15	2	75	1	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	662	1010	25	31	704	777	5	16	2	79	0	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	2130	53	50	1485	732	72	230	259	156	0	69
Arrive On Green	0.21	0.60	0.60	0.03	0.42	0.42	0.16	0.16	0.16	0.04	0.00	0.04
Sat Flow, veh/h	3456	3544	88	1781	3554	1585	440	1408	1585	3563	0	1585
Grp Volume(v), veh/h	662	506	529	31	704	777	21	0	2	79	0	29
Grp Sat Flow(s),veh/h/ln	1728	1777	1855	1781	1777	1585	1848	0	1585	1781	0	1585
Q Serve(g_s), s	20.6	17.5	17.5	1.9	15.8	46.0	1.1	0.0	0.1	2.4	0.0	2.0
Cycle Q Clear(g_c), s	20.6	17.5	17.5	1.9	15.8	46.0	1.1	0.0	0.1	2.4	0.0	2.0
Prop In Lane	1.00		0.05	1.00		1.00	0.24		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	729	1068	1115	50	1485	732	302	0	259	156	0	69
V/C Ratio(X)	0.91	0.47	0.47	0.63	0.47	1.06	0.07	0.00	0.01	0.51	0.00	0.42
Avail Cap(c_a), veh/h	776	1068	1115	99	1485	732	302	0	259	761	0	339
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	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	12.2	12.2	52.9	23.2	28.3	38.9	0.0	38.5	51.4	0.0	51.2
Incr Delay (d2), s/veh	14.0	1.5	1.4	11.2	0.2	49.4	0.4	0.0	0.1	2.5	0.0	4.0
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	10.1	7.0	7.3	1.0	6.6	30.3	0.5	0.0	0.0	1.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	13.7	13.7	64.1	23.4	77.7	39.4	0.0	38.6	54.0	0.0	55.2
LnGrp LOS	E	B	B	E	C	F	D	A	D	D	A	E
Approach Vol, veh/h		1697			1512			23			108	
Approach Delay, s/veh		30.4			52.1			39.3			54.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	70.6		9.3	27.7	50.5		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.1	44.4		23.5	24.7	25.8		18.0
Max Q Clear Time (g_c+I1), s	3.9	19.5		4.4	22.6	48.0		3.1
Green Ext Time (p_c), s	0.0	7.6		0.3	0.6	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	144	299	331	94
Future Volume (veh/h)	0	0	144	299	331	94
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			157	0	360	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			222		0	
Arrive On Green			0.12	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			157	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			3.6	0.0		
Cycle Q Clear(g_c), s			3.6	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			222			
V/C Ratio(X)			0.71			
Avail Cap(c_a), veh/h			748			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			19.1	0.0		
Incr Delay (d2), s/veh			4.1	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			1.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			23.2	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			157	A		
Approach Delay, s/veh			23.2			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	9.8
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	18.0
Max Q Clear Time (g_c+I1), s	5.6
Green Ext Time (p_c), s	0.6

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	531	0	868	0	1499	0	0	1386	877
Future Volume (veh/h)	0	0	0	531	0	868	0	1499	0	0	1386	877
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				369	0	1102	0	1561	0	0	1444	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				717	0	1276	0	3264	0	0	3264	
Arrive On Green				0.40	0.00	0.40	0.00	1.00	0.00	0.00	0.51	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				369	0	1102	0	1561	0	0	1444	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				15.6	0.0	31.8	0.0	0.0	0.0	0.0	14.3	0.0
Cycle Q Clear(g_c), s				15.6	0.0	31.8	0.0	0.0	0.0	0.0	14.3	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				717	0	1276	0	3264	0	0	3264	
V/C Ratio(X)				0.51	0.00	0.86	0.00	0.48	0.00	0.00	0.44	
Avail Cap(c_a), veh/h				935	0	1664	0	3264	0	0	3264	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.91	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				22.5	0.0	27.3	0.0	0.0	0.0	0.0	15.6	0.0
Incr Delay (d2), s/veh				0.6	0.0	3.9	0.0	0.5	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.5	0.0	12.3	0.0	0.1	0.0	0.0	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.1	0.0	31.3	0.0	0.5	0.0	0.0	16.1	0.0
LnGrp LOS				C	A	C	A	A	A	A	B	
Approach Vol, veh/h					1471			1561			1444	A
Approach Delay, s/veh					29.2			0.5			16.1	
Approach LOS					C			A			B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	55.2	55.2	44.8
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.5	38.5	52.5
Max Q Clear Time (g_c+I1), s	2.0	16.3	33.8
Green Ext Time (p_c), s	16.1	11.4	6.4

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	348	0	450	0	0	0	0	1150	570	0	1917	0
Future Volume (veh/h)	348	0	450	0	0	0	0	1150	570	0	1917	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	520	0	292				0	1186	0	0	1976	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	796	0	354				0	3506		0	4418	0
Arrive On Green	0.22	0.00	0.22				0.00	0.69	0.00	0.00	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	520	0	292				0	1186	0	0	1976	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	13.3	0.0	17.5				0.0	9.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.3	0.0	17.5				0.0	9.5	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	796	0	354				0	3506		0	4418	0
V/C Ratio(X)	0.65	0.00	0.82				0.00	0.34		0.00	0.45	0.00
Avail Cap(c_a), veh/h	1265	0	563				0	3506		0	4418	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.83	0.00
Uniform Delay (d), s/veh	35.3	0.0	37.0				0.0	6.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	5.5				0.0	0.3	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	7.2				0.0	3.1	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	0.0	42.5				0.0	6.7	0.0	0.0	0.3	0.0
LnGrp LOS	D	A	D				A	A		A	A	A
Approach Vol, veh/h		812						1186	A		1976	
Approach Delay, s/veh		38.5						6.7			0.3	
Approach LOS		D						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		73.2				73.2		26.8				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		55.5				55.5		35.5				
Max Q Clear Time (g_c+I1), s		11.5				2.0		19.5				
Green Ext Time (p_c), s		11.5				27.3		2.8				

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	832	0	859	243	795	0	0	2050	294
Future Volume (veh/h)	0	0	0	832	0	859	243	795	0	0	2050	294
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				895	0	924	261	855	0	0	2204	316
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1153	0	931	297	2827	0	0	2821	524
Arrive On Green				0.33	0.00	0.33	0.22	0.74	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				895	0	924	261	855	0	0	2204	316
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				18.6	0.0	26.4	11.3	4.5	0.0	0.0	18.7	13.3
Cycle Q Clear(g_c), s				18.6	0.0	26.4	11.3	4.5	0.0	0.0	18.7	13.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1153	0	931	297	2827	0	0	2821	524
V/C Ratio(X)				0.78	0.00	0.99	0.88	0.30	0.00	0.00	0.78	0.60
Avail Cap(c_a), veh/h				1153	0	931	310	2827	0	0	2821	524
HCM Platoon Ratio				1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.76	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.0	0.0	26.5	30.3	5.3	0.0	0.0	24.2	22.4
Incr Delay (d2), s/veh				3.4	0.0	27.6	18.7	0.2	0.0	0.0	2.2	5.1
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				7.7	0.0	11.8	6.0	1.4	0.0	0.0	6.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.4	0.0	54.1	49.1	5.5	0.0	0.0	26.4	27.4
LnGrp LOS				C	A	D	D	A	A	A	C	C
Approach Vol, veh/h					1819			1116			2520	
Approach Delay, s/veh					40.9			15.7			26.5	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	48.8		17.8	31.0		31.2
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	44.3		13.9	25.9		26.7
Max Q Clear Time (g_c+I1), s	6.5		13.3	20.7		28.4
Green Ext Time (p_c), s	7.2		0.0	4.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	0	399	0	0	0	0	893	1095	1180	1702	0
Future Volume (veh/h)	145	0	399	0	0	0	0	893	1095	1180	1702	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	151	0	416				0	930	1141	1229	1773	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	514	0	415				0	2181	1232	1476	3772	0
Arrive On Green	0.15	0.00	0.15				0.00	0.39	0.39	0.59	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	151	0	416				0	930	1141	1229	1773	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	3.1	0.0	11.9				0.0	9.7	27.5	15.8	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	11.9				0.0	9.7	27.5	15.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	514	0	415				0	2181	1232	1476	3772	0
V/C Ratio(X)	0.29	0.00	1.00				0.00	0.43	0.93	0.83	0.47	0.00
Avail Cap(c_a), veh/h	514	0	415				0	2181	1232	1476	3772	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.53	0.53	0.00
Uniform Delay (d), s/veh	30.3	0.0	34.0				0.0	17.9	23.3	14.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	44.8				0.0	0.6	13.1	2.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	6.5				0.0	4.1	11.8	3.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	0.0	78.9				0.0	18.5	36.4	17.2	0.2	0.0
LnGrp LOS	C	A	F				A	B	D	B	A	A
Approach Vol, veh/h		567						2071			3002	
Approach Delay, s/veh		66.0						28.4			7.2	
Approach LOS		E						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.0	35.6		16.4		63.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	31.1		11.9		59.1
Max Q Clear Time (g_c+I1), s	17.8	29.5		13.9		2.0
Green Ext Time (p_c), s	2.7	1.4		0.0		23.3

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	22.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	1955	13	27	444	108	1	1	214	0	0	158
Future Vol, veh/h	92	1955	13	27	444	108	1	1	214	0	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	2125	14	29	483	117	1	1	233	0	0	172

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	600	0	0	2139	0	0	2583	2990	1070	-	-	242
Stage 1	-	-	-	-	-	-	2332	2332	-	-	-	-
Stage 2	-	-	-	-	-	-	251	658	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	608	-	-	106	-	-	27	14	~ 186	0	0	646
Stage 1	-	-	-	-	-	-	22	70	-	0	0	-
Stage 2	-	-	-	-	-	-	671	459	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	608	-	-	106	-	-	14	8	~ 186	-	-	646
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	8	-	-	-	-
Stage 1	-	-	-	-	-	-	18	59	-	-	-	-
Stage 2	-	-	-	-	-	-	358	333	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	2.4	293.6	12.6
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	160	608	-	-	106	-	-	646
HCM Lane V/C Ratio	1.467	0.164	-	-	0.277	-	-	0.266
HCM Control Delay (s)	293.6	12.1	-	-	51.5	-	-	12.6
HCM Lane LOS	F	B	-	-	F	-	-	B
HCM 95th %tile Q(veh)	15.2	0.6	-	-	1	-	-	1.1

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	413	79	403	459	475	18	203	332	272	0	721	228
Future Volume (veh/h)	413	79	403	459	475	18	203	332	272	0	721	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	435	83	424	483	500	19	214	349	286	0	759	240
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	521	305	516	567	631	24	447	1780	829	0	1247	352
Arrive On Green	0.15	0.16	0.16	0.16	0.18	0.18	0.25	0.52	0.52	0.00	0.22	0.22
Sat Flow, veh/h	3563	1870	3170	3456	3491	132	1781	3404	1585	0	5611	1585
Grp Volume(v), veh/h	435	83	424	483	254	265	214	349	286	0	759	240
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1847	1781	1702	1585	0	1870	1585
Q Serve(g_s), s	10.7	3.5	11.6	12.2	12.3	12.3	9.2	4.9	9.5	0.0	10.9	8.5
Cycle Q Clear(g_c), s	10.7	3.5	11.6	12.2	12.3	12.3	9.2	4.9	9.5	0.0	10.9	8.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	521	305	516	567	321	334	447	1780	829	0	1247	352
V/C Ratio(X)	0.83	0.27	0.82	0.85	0.79	0.79	0.48	0.20	0.35	0.00	0.61	0.68
Avail Cap(c_a), veh/h	614	384	652	653	395	410	447	1780	829	0	1247	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	33.0	36.4	36.5	35.2	35.3	28.7	11.4	12.5	0.0	31.5	15.0
Incr Delay (d2), s/veh	8.5	0.5	6.7	9.4	8.6	8.5	0.8	0.2	1.1	0.0	2.2	10.2
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	5.2	1.6	4.9	5.8	6.0	6.2	3.9	1.8	3.4	0.0	5.1	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	33.5	43.1	46.0	43.9	43.7	29.5	11.6	13.6	0.0	33.7	25.2
LnGrp LOS	D	C	D	D	D	D	C	B	B	A	C	C
Approach Vol, veh/h		942			1002			849			999	
Approach Delay, s/veh		43.5			44.9			16.8			31.7	
Approach LOS		D			D			B			C	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		51.6	19.3	19.2	27.1	24.5	17.7	20.8
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		41.0	17.0	18.5	16.5	20.0	15.5	20.0
Max Q Clear Time (g_c+I1), s		11.5	14.2	13.6	11.2	12.9	12.7	14.3
Green Ext Time (p_c), s		4.7	0.5	1.0	0.3	3.4	0.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	588	490	2	12	1189	691	20	44	61	142	0	54
Future Volume (veh/h)	588	490	2	12	1189	691	20	44	61	142	0	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	600	500	2	12	1213	705	20	45	62	145	0	55
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	403	1230	5	346	1480	766	113	255	317	238	0	106
Arrive On Green	0.12	0.34	0.34	0.19	0.42	0.42	0.20	0.20	0.20	0.07	0.00	0.07
Sat Flow, veh/h	3456	3630	15	1781	3554	1585	567	1275	1585	3563	0	1585
Grp Volume(v), veh/h	600	245	257	12	1213	705	65	0	62	145	0	55
Grp Sat Flow(s),veh/h/ln	1728	1777	1868	1781	1777	1585	1842	0	1585	1781	0	1585
Q Serve(g_s), s	10.5	9.5	9.5	0.5	27.2	37.3	2.6	0.0	2.9	3.6	0.0	3.0
Cycle Q Clear(g_c), s	10.5	9.5	9.5	0.5	27.2	37.3	2.6	0.0	2.9	3.6	0.0	3.0
Prop In Lane	1.00		0.01	1.00		1.00	0.31		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	403	602	633	346	1480	766	368	0	317	238	0	106
V/C Ratio(X)	1.49	0.41	0.41	0.03	0.82	0.92	0.18	0.00	0.20	0.61	0.00	0.52
Avail Cap(c_a), veh/h	403	602	633	346	1480	766	368	0	317	713	0	317
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	0.76	0.76	0.76	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	22.8	22.8	29.4	23.3	21.6	29.9	0.0	30.0	40.8	0.0	40.6
Incr Delay (d2), s/veh	232.6	2.0	1.9	0.0	2.9	13.2	1.0	0.0	1.4	2.5	0.0	3.9
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	17.4	4.2	4.4	0.2	11.4	17.7	1.3	0.0	1.2	1.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.3	24.8	24.7	29.4	26.2	34.8	30.9	0.0	31.3	43.4	0.0	44.5
LnGrp LOS	F	C	C	C	C	C	C	A	C	D	A	D
Approach Vol, veh/h		1102			1930			127			200	
Approach Delay, s/veh		159.6			29.3			31.1			43.7	
Approach LOS		F			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.0	35.0		10.5	15.0	42.0		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	30.5		18.0	10.5	25.5		18.0
Max Q Clear Time (g_c+I1), s	12.5	11.5		5.6	12.5	39.3		4.9
Green Ext Time (p_c), s	0.0	2.9		0.5	0.0	0.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	73.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	437	838	383	372
Future Volume (veh/h)	0	0	437	838	383	372
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			465	0	407	0
Peak Hour Factor			0.94	0.94	0.94	0.94
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			572		0	
Arrive On Green			0.31	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			465	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			12.6	0.0		
Cycle Q Clear(g_c), s			12.6	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			572			
V/C Ratio(X)			0.81			
Avail Cap(c_a), veh/h			867			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			17.6	0.0		
Incr Delay (d2), s/veh			3.6	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			5.3	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			21.2	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			465	A		
Approach Delay, s/veh			21.2			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	21.3
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	25.5
Max Q Clear Time (g_c+I1), s	14.6
Green Ext Time (p_c), s	2.2

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	690	0	1136	0	1616	0	0	1429	1010
Future Volume (veh/h)	0	0	0	690	0	1136	0	1616	0	0	1429	1010
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				479	0	1440	0	1683	0	0	1489	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				894	0	1592	0	2721	0	0	2721	
Arrive On Green				0.50	0.00	0.50	0.00	0.85	0.00	0.00	0.42	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				479	0	1440	0	1683	0	0	1489	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				22.0	0.0	49.7	0.0	10.2	0.0	0.0	20.9	0.0
Cycle Q Clear(g_c), s				22.0	0.0	49.7	0.0	10.2	0.0	0.0	20.9	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				894	0	1592	0	2721	0	0	2721	
V/C Ratio(X)				0.54	0.00	0.90	0.00	0.62	0.00	0.00	0.55	
Avail Cap(c_a), veh/h				1017	0	1810	0	2721	0	0	2721	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.88	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				20.3	0.0	27.3	0.0	6.1	0.0	0.0	26.0	0.0
Incr Delay (d2), s/veh				0.5	0.0	6.4	0.0	0.9	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.1	0.0	19.5	0.0	2.2	0.0	0.0	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.8	0.0	33.6	0.0	7.1	0.0	0.0	26.8	0.0
LnGrp LOS				C	A	C	A	A	A	A	C	
Approach Vol, veh/h					1919			1683			1489	A
Approach Delay, s/veh					30.4			7.1			26.8	
Approach LOS					C			A			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	55.2	55.2	64.8
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	42.5	42.5	68.5
Max Q Clear Time (g_c+I1), s	12.2	22.9	51.7
Green Ext Time (p_c), s	16.3	11.0	8.5

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	0	707	0	0	0	0	1398	627	0	2119	0
Future Volume (veh/h)	218	0	707	0	0	0	0	1398	627	0	2119	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	151	0	817				0	1456	0	0	2207	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	526	0	935				0	3217		0	4053	0
Arrive On Green	0.30	0.00	0.30				0.00	0.63	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	151	0	817				0	1456	0	0	2207	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	7.8	0.0	29.4				0.0	17.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	29.4				0.0	17.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	526	0	935				0	3217		0	4053	0
V/C Ratio(X)	0.29	0.00	0.87				0.00	0.45		0.00	0.54	0.00
Avail Cap(c_a), veh/h	751	0	1337				0	3217		0	4053	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.73	0.00
Uniform Delay (d), s/veh	32.6	0.0	40.2				0.0	11.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	4.8				0.0	0.5	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	12.0				0.0	6.6	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	45.0				0.0	12.0	0.0	0.0	0.4	0.0
LnGrp LOS	C	A	D				A	B		A	A	A
Approach Vol, veh/h		968						1456	A		2207	
Approach Delay, s/veh		43.1						12.0			0.4	
Approach LOS		D						B			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		80.1				80.1		39.9				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		60.4				60.4		50.6				
Max Q Clear Time (g_c+I1), s		19.7				2.0		31.4				
Green Ext Time (p_c), s		15.2				34.3		4.0				

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	785	0	967	185	1392	0	0	1993	339
Future Volume (veh/h)	0	0	0	785	0	967	185	1392	0	0	1993	339
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				801	0	987	189	1420	0	0	2034	346
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1259	0	1016	225	2590	0	0	2702	502
Arrive On Green				0.36	0.00	0.36	0.25	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				801	0	987	189	1420	0	0	2034	346
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				13.4	0.0	24.4	7.1	0.0	0.0	0.0	15.0	13.4
Cycle Q Clear(g_c), s				13.4	0.0	24.4	7.1	0.0	0.0	0.0	15.0	13.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1259	0	1016	225	2590	0	0	2702	502
V/C Ratio(X)				0.64	0.00	0.97	0.84	0.55	0.00	0.00	0.75	0.69
Avail Cap(c_a), veh/h				1259	0	1016	232	2590	0	0	2702	502
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.64	0.64	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.4	0.0	21.9	25.5	0.0	0.0	0.0	21.5	20.9
Incr Delay (d2), s/veh				1.1	0.0	21.5	15.9	0.5	0.0	0.0	2.0	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
%ile BackOfQ(50%),veh/ln				5.1	0.0	10.3	3.5	0.1	0.0	0.0	4.9	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				19.5	0.0	43.4	41.4	0.5	0.0	0.0	23.4	28.4
LnGrp LOS				B	A	D	D	A	A	A	C	C
Approach Vol, veh/h					1788			1609			2380	
Approach Delay, s/veh					32.7			5.3			24.2	
Approach LOS					C			A			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	40.0		13.3	26.7		30.0
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	35.5		9.1	21.9		25.5
Max Q Clear Time (g_c+I1), s	2.0		9.1	17.0		26.4
Green Ext Time (p_c), s	13.6		0.0	4.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	369	0	468	0	0	0	0	1208	563	1074	1704	0
Future Volume (veh/h)	369	0	468	0	0	0	0	1208	563	1074	1704	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	384	0	488				0	1161	651	1119	1775	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	666	0	538				0	1884	1064	1399	3465	0
Arrive On Green	0.19	0.00	0.19				0.00	0.34	0.34	0.56	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	384	0	488				0	1161	651	1119	1775	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	7.1	0.0	12.0				0.0	12.1	12.0	12.5	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	12.0				0.0	12.1	12.0	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	538				0	1884	1064	1399	3465	0
V/C Ratio(X)	0.58	0.00	0.91				0.00	0.62	0.61	0.80	0.51	0.00
Avail Cap(c_a), veh/h	666	0	538				0	1884	1064	1399	3465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.61	0.61	0.00
Uniform Delay (d), s/veh	25.7	0.0	27.6				0.0	19.5	19.4	13.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	19.1				0.0	1.5	2.6	2.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.2				0.0	5.2	4.5	3.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	46.8				0.0	21.0	22.1	16.0	0.3	0.0
LnGrp LOS	C	A	D				A	C	C	B	A	A
Approach Vol, veh/h		872						1812			2894	
Approach Delay, s/veh		38.0						21.4			6.4	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	28.0		18.0		52.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	19.5	23.5		13.5		47.5
Max Q Clear Time (g_c+I1), s	14.5	14.1		14.0		2.0
Green Ext Time (p_c), s	2.2	6.7		0.0		21.4

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	20.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	688	7	448	2839	423	0	7	118	0	0	150
Future Vol, veh/h	48	688	7	448	2839	423	0	7	118	0	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	695	7	453	2868	427	0	7	119	0	0	152

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3295	0	0	702	0	0	2848	4996	351	-	-	1434
Stage 1	-	-	-	-	-	-	795	795	-	-	-	-
Stage 2	-	-	-	-	-	-	2053	4201	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	~ 26	-	-	544	-	-	18	~ 1	551	0	0	~ 106
Stage 1	-	-	-	-	-	-	276	398	-	0	0	-
Stage 2	-	-	-	-	-	-	50	~ 7	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	~ 26	-	-	544	-	-	-	0	551	-	-	~ 106
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	276	0	-	-	-	-
Stage 2	-	-	-	-	-	-	-	~ 1	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.2	4.4		$ 312.2
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	~ 26	-	-	544	-	-	106
HCM Lane V/C Ratio	-	1.865	-	-	0.832	-	-	1.429
HCM Control Delay (s)	-	$ 730.5	-	-	36.3	-	-	$ 312.2
HCM Lane LOS	-	F	-	-	E	-	-	F
HCM 95th %tile Q(veh)	-	5.9	-	-	8.5	-	-	10.9

Notes

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

HCS7 Two-Way Stop-Control Report

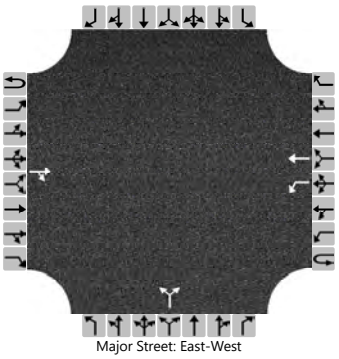
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2019
Time Analyzed	Exist Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			18	0		43	93			0		133				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					145					
Capacity, c (veh/h)						1597					1058					
v/c Ratio						0.03					0.14					
95% Queue Length, Q_{95} (veh)						0.1					0.5					
Control Delay (s/veh)						7.3					8.9					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.3				8.9							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

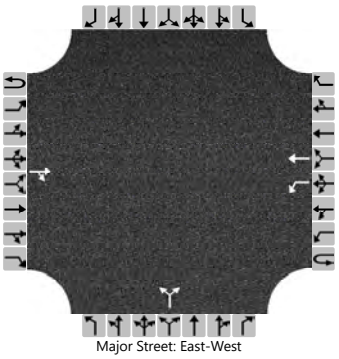
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2019
Time Analyzed	Exist Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			152	0		43	142			0		133				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					145					
Capacity, c (veh/h)						1413					879					
v/c Ratio						0.03					0.16					
95% Queue Length, Q_{95} (veh)						0.1					0.6					
Control Delay (s/veh)						7.6					9.9					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.8				9.9							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

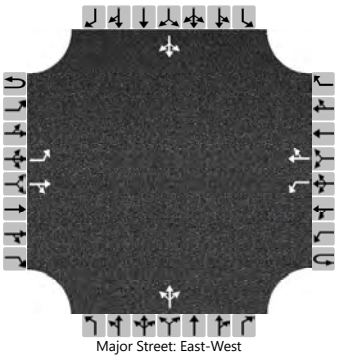
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2019
Time Analyzed	Exist Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		0	286	0		45	193	51		0	0	136		2	0	0
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				49					148				2	
Capacity, c (veh/h)		1299				1250					729				360	
v/c Ratio		0.00				0.04					0.20				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.8				0.0	
Control Delay (s/veh)		7.8				8.0					11.2				15.0	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.0				1.2				11.2				15.0			
Approach LOS									B				C			

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HCS7 Two-Way Stop-Control Report

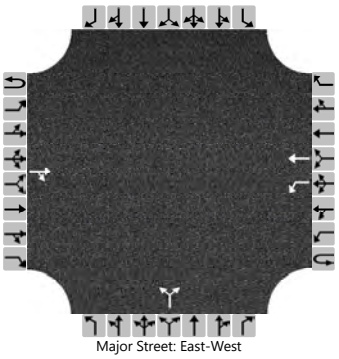
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2019
Time Analyzed	Exist Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			94	0		136	150			0		85				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148					92					
Capacity, c (veh/h)						1490					953					
v/c Ratio						0.10					0.10					
95% Queue Length, Q_{95} (veh)						0.3					0.3					
Control Delay (s/veh)						7.7					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					3.7				9.2							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

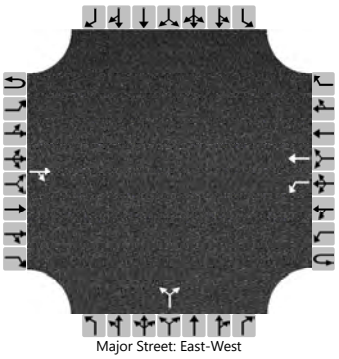
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2019
Time Analyzed	Exist Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			181	0		136	288			0		85				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148					92					
Capacity, c (veh/h)						1376					844					
v/c Ratio						0.11					0.11					
95% Queue Length, Q_{95} (veh)						0.4					0.4					
Control Delay (s/veh)						7.9					9.8					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.5				9.8							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

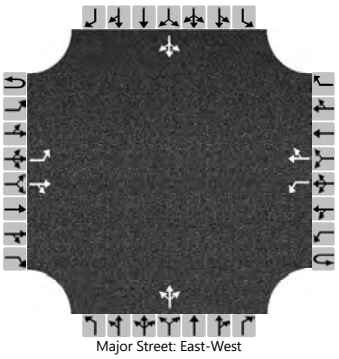
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2019
Time Analyzed	Exist Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		0	270	0		140	425	0		0	0	87		43	0	1
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				152					95				48	
Capacity, c (veh/h)		1099				1268					746				246	
v/c Ratio		0.00				0.12					0.13				0.19	
95% Queue Length, Q_{95} (veh)		0.0				0.4					0.4				0.7	
Control Delay (s/veh)		8.3				8.2					10.5				23.1	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.0				2.0				10.5				23.1			
Approach LOS									B				C			

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	Future Short-Term Cumulative (2027) Baseline						
Move-				Volume		V/C Ratio	
ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		2,880	233	145	0.08	0.05
NBT	2.5		4,250	510	528	0.12 *	0.12 *
NBR	0.5	U	800	50	31	0.00	0.00
SBL	2.0		2,880	664	152	0.23 *	0.05 *
SBT	3.0		5,100	876	515	0.17	0.10
SBR	1.0	D	1,600	305	238	0.00	0.00
EBL	2.0		2,880	151	245	0.05	0.09 *
EBT	2.5		4,250	1,349	572	0.32 *	0.13
EBR	0.5	U	800	59	280	0.00	0.18 *
WBL	2.0		2,880	31	124	0.01 *	0.04
WBT	3.0		5,100	449	2,100	0.09	0.41 *
WBR	1.0	U	1,600	71	744	0.00	0.01 *
N/S Critical Movements						0.35	0.17
E/W Critical Movements						0.33	0.50
Right Turn Critical Movement						0.00	0.19
Clearance Interval						0.05	0.05
ICU						0.73	0.91
Level of Service (LOS)						C	E

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 2
NORTH/SOUTH: Euclid Street
EAST/WEST: I-405 Northbound Ramps - Newhope Street

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		2,880	24	219	0.01	*	0.08	*
NBT	2.5		4,250	295	359	0.07		0.08	
NBR	0.5	U	800	509	288	0.52	*	0.15	*
SBL	0.0		0	0	0	0.00		0.00	
SBT	2.5		4,250	851	780	0.20	*	0.18	*
SBR	1.5	U	2,400	52	246	0.00		0.00	
EBL	2.0		2,880	598	447	0.21	*	0.16	*
EBT	1.5		2,550	366	86	0.14		0.03	
EBR	1.5	U	2,400	564	435	0.02	*	0.00	
WBL	2.0		2,880	181	493	0.06		0.17	
WBT	1.5		2,550	60	513	0.02	*	0.20	*
WBR	0.5	N	800	11	19	0.00		0.00	
N/S Critical Movements						0.21		0.26	
E/W Critical Movements						0.23		0.36	
Right Turn Critical Movement						0.54		0.15	
Clearance Interval						0.05		0.05	
ICU						1.03		0.82	
Level of Service (LOS)						F		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	23	136	0.01	*	0.04	*
SB	3.0		5,100	112	211	0.02	*	0.04	*
EBL	3.0		3,450	687	635	0.20		0.18	*
EBT	1.5		2,550	1,046	524	0.41	*	0.21	
EBR	0.5	U	800	26	2	0.00		0.00	
WBL	1.0		1,600	32	13	0.02	*	0.01	
WBT	2.0		3,400	726	1,281	0.21		0.38	*
WBR	1.0	F	1,600	807	748	0.00		0.00	
N/S Critical Movements						0.03		0.08	
E/W Critical Movements						0.43		0.56	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.51		0.69	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 4
NORTH/SOUTH: Newhope Street
EAST/WEST: Talbert Avenue

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	1.0		1,600	1	16	0.00		0.01	*
NBT	2.0		3,400	443	257	0.13	*	0.08	
NBR	1.0	P	1,600	416	103	0.09	*	0.00	
SBL	2.0		2,880	339	230	0.12	*	0.08	
SBT	1.5		2,550	145	526	0.06		0.21	*
SBR	0.5	U	800	78	174	0.00		0.00	
EBL	2.0		2,880	72	187	0.03		0.06	*
EBT	2.5		4,250	1,977	564	0.47	*	0.13	
EBR	0.5	U	800	11	12	0.00		0.00	
WBL	2.0		2,880	100	499	0.03	*	0.17	
WBT	3.5		5,950	466	2,771	0.08		0.47	*
WBR	0.5	U	800	57	191	0.00		0.00	
N/S Critical Movements						0.25		0.22	
E/W Critical Movements						0.50		0.53	
Right Turn Critical Movement						0.09		0.00	
Clearance Interval						0.05		0.05	
ICU						0.89		0.80	
Level of Service (LOS)						D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	92	1,541	0.01	*	0.23	*
SB	3.0		5,100	20	30	0.00	*	0.01	*
EBL	1.0		1,700	14	18	0.01		0.01	*
EBT	3.0		5,100	2,074	850	0.41	*	0.17	
EBR	1.0	U	1,700	853	157	0.10	*	0.00	
WBL	1.0		1,700	68	28	0.04	*	0.02	
WBT	3.0		5,100	555	2,620	0.11		0.51	*
WBR	1.0	U	1,700	12	13	0.00		0.00	
N/S Critical Movements						0.01		0.24	
E/W Critical Movements						0.45		0.52	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.61		0.81	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	80	75	0.05	*	0.04	
NBT	1.5		2,550	132	592	0.05		0.23	*
NBR	0.5	U	850	12	66	0.00		0.00	
SBL	1.0		1,700	139	49	0.08		0.03	*
SBT	1.5		2,550	344	262	0.13	*	0.10	
SBR	0.5	U	850	84	78	0.00		0.00	
EBL	1.0		1,700	11	57	0.01	*	0.03	
EBT	1.0		1,700	35	215	0.02		0.13	*
EBR	1.0	U	1,700	19	123	0.00		0.00	
WBL	1.0		1,700	42	230	0.02		0.14	*
WBT	1.0		1,700	162	177	0.10	*	0.10	
WBR	1.0	U	1,700	72	203	0.00		0.00	
N/S Critical Movements						0.18		0.26	
E/W Critical Movements						0.11		0.27	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.34		0.58	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	291	380	0.17	*	0.22	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	67	427	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	181	623	0.11	*	0.37	*
WBR	1.0	F	1,700	312	840	0.00		0.00	
N/S Critical Movements						0.17		0.22	
E/W Critical Movements						0.11		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.33		0.64	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		3,400	184	655	0.05	*	0.19	*
NBT	3.0		5,100	998	1,722	0.20		0.34	
NBR	1.0	U	1,700	99	93	0.00		0.00	
SBL	2.0		3,400	374	239	0.11		0.07	
SBT	3.0		5,100	2,090	1,104	0.41	*	0.22	*
SBR	1.0	U	1,700	134	173	0.00		0.00	
EBL	1.0		1,700	157	141	0.09		0.08	*
EBT	3.0		5,100	1,358	640	0.27	*	0.13	
EBR	1.0	U	1,700	450	222	0.00		0.00	
WBL	1.0		1,700	101	59	0.06	*	0.03	
WBT	3.0		5,100	444	1,504	0.09		0.29	*
WBR	1.0	U	1,700	115	253	0.00		0.00	
N/S Critical Movements						0.46		0.41	
E/W Critical Movements						0.33		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.84		0.83	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	89	48	0.05	*	0.03	
NBT	2.5		4,250	1,302	2,202	0.31		0.52	*
NBR	0.5	U	850	71	31	0.00		0.00	
SBL	1.0		1,700	73	14	0.04		0.01	*
SBT	2.5		4,250	2,454	1,401	0.58	*	0.33	
SBR	0.5	U	850	76	13	0.00		0.00	
EBL	1.0		1,700	15	41	0.01		0.02	*
EBT	1.0		1,700	30	57	0.02	*	0.03	
EBR	1.0	U	1,700	33	103	0.00		0.01	*
WBL	1.0		1,700	27	92	0.02	*	0.05	
WBT	0.5		850	18	255	0.02		0.30	*
WBR	0.5	U	850	29	188	0.00		0.00	
N/S Critical Movements						0.63		0.53	
E/W Critical Movements						0.04		0.32	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.72		0.91	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 10
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Sunflower Avenue

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		3,400	231	164	0.07	*	0.05	
NBT	3.0		5,100	1,416	1,967	0.28		0.39	*
NBR	1.0	U	1,700	529	390	0.03	*	0.00	
SBL	2.0		3,400	260	105	0.08		0.03	*
SBT	3.0		5,100	2,034	1,446	0.40	*	0.28	
SBR	1.0	U	1,700	41	57	0.00		0.00	
EB	3.0		5,100	196	434	0.04	*	0.09	*
WB	3.0		5,100	347	1,405	0.07	*	0.28	*
N/S Critical Movements						0.47		0.42	
E/W Critical Movements						0.11		0.37	
Right Turn Critical Movement						0.03		0.00	
Clearance Interval						0.05		0.05	
ICU						0.66		0.84	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 11
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
	Future Short-Term Cumulative (2027) Baseline						
NBL	2.0		3,400	401	416	0.12 *	0.12 *
NBT	3.5		5,950	2,205	2,202	0.37	0.37
NBR	1.5	P	2,550	413	253	0.00	0.00
SBL	2.0		3,400	78	79	0.02	0.02
SBT	4.0		6,800	2,023	1,962	0.30 *	0.29 *
SBR	1.0	U	1,700	65	69	0.00	0.00
EBL	1.0		1,700	18	37	0.01	0.02 *
EBT	0.5		850	62	60	0.07 *	0.07
EBR	1.5	U	2,550	253	453	0.00	0.02 *
WBL	2.0		3,400	114	562	0.03 *	0.17
WBT	2.0		3,400	262	991	0.08	0.29 *
WBR	1.0	U	1,700	57	249	0.00	0.00
N/S Critical Movements						0.42	0.41
E/W Critical Movements						0.10	0.31
Right Turn Critical Movement						0.00	0.02
Clearance Interval						0.05	0.05
ICU						0.57	0.79
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	1,961	1,717	0.29	*	0.25	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,475	1,660	0.22		0.24	
SBR	1.0	F	1,700	918	1,254	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	573	745	0.22	*	0.29	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	1,148	1,209	0.23	*	0.18	*
N/S Critical Movements						0.29		0.25	
E/W Critical Movements						0.22		0.29	
Right Turn Critical Movement						0.23		0.18	
Clearance Interval						0.05		0.05	
ICU						0.79		0.77	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00	*	0.00	*
NBT	3.0		5,100	1,382	1,489	0.27		0.29	
NBR	1.0	F	1,700	640	692	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	4.0		6,800	2,049	2,405	0.30	*	0.35	*
SBR	0.0		0	0	0	0.00		0.00	
EBL	1.5		2,550	579	228	0.23	*	0.09	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	1.5	U	2,550	494	788	0.00		0.22	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.30		0.35	
E/W Critical Movements						0.23		0.09	
Right Turn Critical Movement						0.00		0.22	
Clearance Interval						0.05		0.05	
ICU						0.58		0.71	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 14
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Gisler Avenue

Move-ment	Future Short-Term Cumulative (2027) Baseline								
				Volume		V/C Ratio			
	Lane		Capacity	AM	PM	AM		PM	
NBL	1.0		1,700	104	150	0.06	*	0.09	*
NBT	4.5		7,650	2,343	2,141	0.31		0.28	
NBR	0.5	U	850	10	22	0.00		0.00	
SBL	1.0		1,700	80	146	0.05		0.09	
SBT	3.5		5,950	1,972	2,366	0.33	*	0.40	*
SBR	0.5	U	850	246	449	0.00		0.13	*
EB	4.0		6,800	949	580	0.14	*	0.09	*
WB	3.0		5,100	253	480	0.05	*	0.09	*
N/S Critical Movements						0.39		0.49	
E/W Critical Movements						0.19		0.18	
Right Turn Critical Movement						0.00		0.13	
Clearance Interval						0.05		0.05	
ICU						0.63		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 15
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Nutmeg Place

Move-ment	Future Short-Term Cumulative (2027) Baseline								
				Volume		V/C Ratio			
	Lane		Capacity	AM	PM	AM		PM	
NBL	1.0		1,700	16	46	0.01		0.03	*
NBT	3.5		5,950	2,316	2,088	0.39	*	0.35	
NBR	0.5	U	850	139	203	0.00		0.00	
SBL	2.0		3,400	137	194	0.04	*	0.06	
SBT	3.5		5,950	1,985	2,326	0.33		0.39	*
SBR	0.5	U	850	54	50	0.00		0.00	
EB	2.0		3,400	85	152	0.03	*	0.04	*
WB	2.0		3,400	153	333	0.05	*	0.10	*
N/S Critical Movements						0.43		0.42	
E/W Critical Movements						0.08		0.14	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.56		0.61	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		3,400	51	57	0.02		0.02	*
NBT	4.0		6,800	2,045	1,766	0.30	*	0.26	
NBR	1.0	P	1,700	252	214	0.00		0.00	
SBL	2.0		3,400	205	202	0.06	*	0.06	
SBT	4.0		6,800	1,610	2,106	0.24		0.31	*
SBR	1.0	P	1,700	240	285	0.00		0.00	
EBL	2.0		3,400	300	217	0.09		0.06	*
EBT	1.5		2,550	268	246	0.11	*	0.10	
EBR	0.5	U	850	59	92	0.00		0.00	
WBL	2.0		3,400	209	497	0.06	*	0.15	
WBT	2.0		3,400	232	680	0.07		0.20	*
WBR	1.0	U	1,700	164	367	0.00		0.00	
N/S Critical Movements						0.36		0.33	
E/W Critical Movements						0.17		0.26	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.58		0.64	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
	Future Short-Term Cumulative (2027) Baseline						
NBL	1.0		1,700	80	301	0.05	0.18
NBT	1.0		1,700	278	663	0.16 *	0.39 *
NBR	1.0	U	1,700	55	150	0.00	0.00
SBL	1.0		1,700	77	70	0.05 *	0.04 *
SBT	0.5		850	86	184	0.10	0.22
SBR	0.5	U	850	28	84	0.00	0.00
EBL	1.0		1,700	67	96	0.04 *	0.06 *
EBT	2.0		3,400	369	652	0.11	0.19
EBR	1.0	U	1,700	45	31	0.00	0.00
WBL	1.0		1,700	54	40	0.03	0.02
WBT	1.5		2,550	442	643	0.17 *	0.25 *
WBR	0.5	U	850	104	212	0.00	0.00
N/S Critical Movements						0.21	0.43
E/W Critical Movements						0.21	0.31
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.47	0.79
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		3,400	171	570	0.05		0.17	
NBT	1.5		2,550	472	811	0.19	*	0.32	*
NBR	0.5	U	850	90	62	0.00		0.00	
SBL	2.0		3,400	70	154	0.02	*	0.05	*
SBT	1.5		2,550	2	21	0.00		0.01	
SBR	0.5	U	850	69	185	0.04	*	0.15	*
EBL	2.0		3,400	102	95	0.03		0.03	*
EBT	1.5		2,550	302	243	0.12	*	0.10	
EBR	0.5	U	850	1	14	0.00		0.00	
WBL	2.0		3,400	0	41	0.00	*	0.01	
WBT	2.0		3,400	181	733	0.05		0.22	*
WBR	1.0	P	1,700	46	162	0.00		0.00	
N/S Critical Movements						0.21		0.37	
E/W Critical Movements						0.12		0.25	
Right Turn Critical Movement						0.04		0.15	
Clearance Interval						0.05		0.05	
ICU						0.42		0.82	
Level of Service (LOS)						A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 20
NORTH/SOUTH: Fairview Road
EAST/WEST: Sunflower Avenue

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		3,400	254	161	0.07	*	0.05	
NBT	3.0		5,100	1,080	1,912	0.21		0.37	*
NBR	1.0	U	1,700	178	323	0.00		0.00	
SBL	2.0		3,400	194	112	0.06		0.03	*
SBT	2.5		4,250	1,900	1,267	0.45	*	0.30	
SBR	0.5	U	850	165	82	0.00		0.00	
EBL	2.0		3,400	43	232	0.01		0.07	
EBT	1.5		2,550	268	505	0.11	*	0.20	*
EBR	0.5	U	850	80	217	0.00		0.02	*
WBL	2.0		3,400	323	249	0.10	*	0.07	*
WBT	2.0		3,400	392	570	0.12		0.17	
WBR	1.0	U	1,700	115	179	0.00		0.00	
N/S Critical Movements						0.52		0.40	
E/W Critical Movements						0.21		0.27	
Right Turn Critical Movement						0.00		0.02	
Clearance Interval						0.05		0.05	
ICU						0.78		0.74	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 21
NORTH/SOUTH: Fairview Road
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	2.0		3,400	262	207	0.08	*	0.06	*
NBT	3.0		5,100	1,442	1,975	0.28		0.39	
NBR	1.0	U	1,700	192	368	0.00		0.00	
SBL	2.0		3,400	31	56	0.01		0.02	
SBT	2.5		4,250	2,150	1,605	0.51	*	0.38	*
SBR	0.5	U	850	28	57	0.00		0.00	
EBL	1.0		1,700	10	71	0.01		0.04	
EBT	1.5		2,550	92	170	0.04	*	0.07	*
EBR	1.5	U	2,550	152	597	0.00		0.12	*
WBL	2.0		3,400	339	487	0.10	*	0.14	*
WBT	2.0		3,400	115	494	0.03		0.15	
WBR	1.0	U	1,700	63	346	0.00		0.05	*
N/S Critical Movements						0.59		0.44	
E/W Critical Movements						0.14		0.21	
Right Turn Critical Movement						0.00		0.17	
Clearance Interval						0.05		0.05	
ICU						0.78		0.87	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 22
NORTH/SOUTH: Fairview Road
EAST/WEST: I-405 Northbound Ramps

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Baseline								
NBL	1.0		1,700	262	200	0.15	*	0.12	*
NBT	3.0		5,100	996	1,549	0.20		0.30	
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	6.0		10,200	2,272	2,269	0.22	*	0.22	*
SBR	1.0	U	1,700	321	369	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	2.0		3,400	899	848	0.26	*	0.25	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	2.0	U	3,400	929	1,048	0.01	*	0.06	*
N/S Critical Movements						0.37		0.34	
E/W Critical Movements						0.26		0.25	
Right Turn Critical Movement						0.01		0.06	
Clearance Interval						0.05		0.05	
ICU						0.69		0.70	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 23
NORTH/SOUTH: Fairview Road
EAST/WEST: I-405 Southbound Ramps

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
	Future Short-Term Cumulative (2027) Baseline						
NBL	0.0		0	0	0	0.00	0.00
NBT	3.5		5,950	1,101	1,346	0.19 *	0.23 *
NBR	1.5	U	2,550	1,183	608	0.28 *	0.01 *
SBL	3.0		5,100	1,277	1,162	0.25 *	0.23 *
SBT	3.0		5,100	1,894	1,955	0.37	0.38
SBR	0.0		0	0	0	0.00	0.00
EBL	2.0		3,400	159	403	0.05 *	0.12 *
EBT	0.0		0	0	0	0.00	0.00
EBR	2.0	U	3,400	431	505	0.08 *	0.03 *
WBL	0.0		0	0	0	0.00	0.00
WBT	0.0		0	0	0	0.00 *	0.00 *
WBR	0.0		0	0	0	0.00	0.00
N/S Critical Movements						0.44	0.46
E/W Critical Movements						0.05	0.12
Right Turn Critical Movement						0.36	0.04
Clearance Interval						0.05	0.05
ICU						0.90	0.67
Level of Service (LOS)						D	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	Future Short-Term Cumulative (2027) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	152	199	0.04	0.06
NBT	3.0		5,100	1,525	1,243	0.30 *	0.24 *
NBR	1.0	P	1,700	698	398	0.00	0.00
SBL	2.0		3,400	277	255	0.08 *	0.08 *
SBT	4.0		6,800	1,719	1,577	0.25	0.23
SBR	1.0	U	1,700	248	369	0.00	0.00
EBL	2.0		3,400	307	303	0.09	0.09
EBT	2.0		3,400	596	451	0.18 *	0.13 *
EBR	1.0	U	1,700	173	180	0.00	0.00
WBL	2.0		3,400	364	716	0.11 *	0.21 *
WBT	3.0		5,100	313	1,239	0.06	0.24
WBR	1.0	U	1,700	186	207	0.00	0.00
N/S Critical Movements						0.38	0.32
E/W Critical Movements						0.29	0.34
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.72	0.71
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	92	1,541	0.01	*	0.23	*
SB	3.0		5,100	20	30	0.00	*	0.01	*
EBL	1.0		1,600	14	18	0.01		0.01	*
EBT	3.0		5,100	2,074	850	0.41	*	0.17	
EBR	1.0	U	1,600	853	157	0.13	*	0.00	
WBL	1.0		1,600	68	28	0.04	*	0.02	
WBT	3.0		5,100	555	2,620	0.11		0.51	*
WBR	1.0	U	1,600	12	13	0.00		0.00	
N/S Critical Movements						0.01		0.24	
E/W Critical Movements						0.45		0.52	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.64		0.81	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	184	655	0.06	*	0.20	*
NBT	3.0		5,100	998	1,722	0.20		0.34	
NBR	1.0	U	1,600	99	93	0.00		0.00	
SBL	2.0		3,200	374	239	0.12		0.07	
SBT	3.0		5,100	2,090	1,104	0.41	*	0.22	*
SBR	1.0	U	1,600	134	173	0.00		0.00	
EBL	1.0		1,600	157	141	0.10		0.09	*
EBT	3.0		5,100	1,358	640	0.27	*	0.13	
EBR	1.0	U	1,600	450	222	0.00		0.00	
WBL	1.0		1,600	101	59	0.06	*	0.04	
WBT	3.0		5,100	444	1,504	0.09		0.29	*
WBR	1.0	U	1,600	115	253	0.00		0.00	
N/S Critical Movements						0.47		0.42	
E/W Critical Movements						0.33		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.85		0.85	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	89	48	0.06	*	0.03	
NBT	2.5		4,250	1,302	2,202	0.31		0.52	*
NBR	0.5	U	800	71	31	0.00		0.00	
SBL	1.0		1,600	73	14	0.05		0.01	*
SBT	2.5		4,250	2,454	1,401	0.58	*	0.33	
SBR	0.5	U	800	76	13	0.00		0.00	
EBL	1.0		1,600	15	41	0.01		0.03	*
EBT	1.0		1,700	30	57	0.02	*	0.03	
EBR	1.0	U	1,600	33	103	0.00		0.01	*
WBL	1.0		1,600	27	92	0.02	*	0.06	
WBT	0.5		850	18	255	0.02		0.30	*
WBR	0.5	U	800	29	188	0.00		0.00	
N/S Critical Movements						0.64		0.53	
E/W Critical Movements						0.04		0.33	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.73		0.92	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

Move-ment	Future Short-Term Cumulative (2027) Baseline								
				Volume		V/C Ratio			
	Lane		Capacity	AM	PM	AM		PM	
NBL	2.0		3,200	231	164	0.07	*	0.05	
NBT	3.0		5,100	1,416	1,967	0.28		0.39	*
NBR	1.0	U	1,600	529	390	0.05	*	0.00	
SBL	2.0		3,200	260	105	0.08		0.03	*
SBT	3.0		5,100	2,034	1,446	0.40	*	0.28	
SBR	1.0	U	1,600	41	57	0.00		0.00	
EB	3.0		5,100	196	434	0.04	*	0.09	*
WB	3.0		5,100	347	1,405	0.07	*	0.28	*
N/S Critical Movements						0.47		0.42	
E/W Critical Movements						0.11		0.37	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.68		0.84	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Baseline							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	1.0		1,600	80	301	0.05		0.19	
NBT	1.0		1,700	278	663	0.16	*	0.39	*
NBR	1.0	U	1,600	55	150	0.00		0.00	
SBL	1.0		1,600	77	70	0.05	*	0.04	*
SBT	0.5		850	86	184	0.10		0.22	
SBR	0.5	U	800	28	84	0.00		0.00	
EBL	1.0		1,600	67	96	0.04	*	0.06	*
EBT	2.0		3,400	369	652	0.11		0.19	
EBR	1.0	U	1,600	45	31	0.00		0.00	
WBL	1.0		1,600	54	40	0.03		0.03	
WBT	1.5		2,550	442	643	0.17	*	0.25	*
WBR	0.5	U	800	104	212	0.00		0.00	
N/S Critical Movements						0.21		0.43	
E/W Critical Movements						0.21		0.31	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.47		0.79	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	165	230	0.05	*	0.07	
NBT	2.5		4,250	957	1,904	0.23		0.45	*
NBR	0.5	U	800	88	133	0.00		0.00	
SBL	2.0		3,200	415	178	0.13		0.06	*
SBT	3.0		5,100	1,836	1,023	0.36	*	0.20	
SBR	1.0	U	1,600	182	116	0.00		0.00	
EBL	2.0		3,200	151	317	0.05		0.10	*
EBT	3.0		5,100	1,140	815	0.22	*	0.16	
EBR	1.0	U	1,600	187	252	0.00		0.00	
WBL	2.0		3,200	212	181	0.07	*	0.06	
WBT	3.0		5,100	544	1,402	0.11		0.27	*
WBR	1.0	U	1,600	174	317	0.00		0.00	
N/S Critical Movements						0.41		0.51	
E/W Critical Movements						0.29		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.75		0.93	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	254	161	0.08	*	0.05	
NBT	3.0		5,100	1,080	1,912	0.21		0.37	*
NBR	1.0	U	1,600	178	323	0.00		0.00	
SBL	2.0		3,200	194	112	0.06		0.04	*
SBT	2.5		4,250	1,900	1,267	0.45	*	0.30	
SBR	0.5	U	800	165	82	0.00		0.00	
EBL	2.0		3,200	43	232	0.01		0.07	
EBT	1.5		2,550	268	505	0.11	*	0.20	*
EBR	0.5	U	800	80	217	0.00		0.04	*
WBL	2.0		3,200	323	249	0.10	*	0.08	*
WBT	2.0		3,400	392	570	0.12		0.17	
WBR	1.0	U	1,600	115	179	0.00		0.00	
N/S Critical Movements						0.53		0.41	
E/W Critical Movements						0.21		0.28	
Right Turn Critical Movement						0.00		0.04	
Clearance Interval						0.05		0.05	
ICU						0.79		0.78	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 29
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Segerstrom Avenue

	Future Short-Term Cumulative NP (2027)								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	109	216	0.03	*	0.07	
NBT	2.5		4,250	818	1,748	0.19		0.41	*
NBR	0.5	U	800	66	64	0.00		0.00	
SBL	1.0		1,600	193	141	0.12		0.09	*
SBT	2.5		4,250	2,298	1,056	0.54	*	0.25	
SBR	0.5	U	800	69	84	0.00		0.00	
EBL	1.0		1,600	120	123	0.08		0.08	*
EBT	1.5		2,550	496	492	0.19	*	0.19	
EBR	0.5	U	800	217	124	0.05	*	0.00	
WBL	1.0		1,600	107	120	0.07	*	0.08	
WBT	2.0		3,400	266	1,015	0.08		0.30	*
WBR	1.0	U	1,600	99	384	0.00		0.00	
N/S Critical Movements						0.57		0.50	
E/W Critical Movements						0.26		0.38	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.93		0.93	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	598	366	564	181	60	11	24	295	509	0	851	52
Future Volume (veh/h)	598	366	564	181	60	11	24	295	509	0	851	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	629	385	594	191	63	12	25	311	536	0	896	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	729	467	791	253	354	66	81	1922	895	0	2825	798
Arrive On Green	0.20	0.25	0.25	0.07	0.12	0.12	0.02	0.56	0.56	0.00	0.50	0.50
Sat Flow, veh/h	3563	1870	3170	3456	2993	555	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	629	385	594	191	37	38	25	311	536	0	896	55
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1771	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	20.5	23.3	20.8	6.5	2.2	2.3	0.9	5.3	26.7	0.0	11.3	2.1
Cycle Q Clear(g_c), s	20.5	23.3	20.8	6.5	2.2	2.3	0.9	5.3	26.7	0.0	11.3	2.1
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	729	467	791	253	210	209	81	1922	895	0	2825	798
V/C Ratio(X)	0.86	0.82	0.75	0.75	0.17	0.18	0.31	0.16	0.60	0.00	0.32	0.07
Avail Cap(c_a), veh/h	1084	647	1096	418	289	288	158	1922	895	0	2825	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	42.5	41.6	54.6	47.6	47.7	57.6	12.5	17.2	0.0	17.6	15.3
Incr Delay (d2), s/veh	4.9	6.1	1.9	4.5	0.4	0.4	1.5	0.1	2.1	0.0	0.3	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	9.5	11.5	8.3	3.0	1.0	1.1	0.4	2.0	9.9	0.0	4.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	48.7	43.5	59.1	48.0	48.1	59.1	12.6	19.3	0.0	17.9	15.5
LnGrp LOS	D	D	D	E	D	D	E	B	B	A	B	B
Approach Vol, veh/h		1608			266			872			951	
Approach Delay, s/veh		47.7			56.0			18.0			17.8	
Approach LOS		D			E			B			B	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		72.3	13.3	34.5	7.3	64.9	29.1	18.7
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		50.5	14.5	41.5	5.5	40.5	36.5	19.5
Max Q Clear Time (g_c+I1), s		28.7	8.5	25.3	2.9	13.3	22.5	4.3
Green Ext Time (p_c), s		6.3	0.3	4.6	0.0	7.3	2.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	687	1046	26	32	726	807	5	16	2	81	1	30
Future Volume (veh/h)	687	1046	26	32	726	807	5	16	2	81	1	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	747	1137	28	35	789	0	5	17	2	89	0	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1976	1740	43	297	938		63	214	238	152	0	68
Arrive On Green	0.39	0.49	0.49	0.17	0.26	0.00	0.15	0.15	0.15	0.04	0.00	0.04
Sat Flow, veh/h	5023	3544	87	1781	3554	1585	420	1429	1585	3563	0	1585
Grp Volume(v), veh/h	747	570	595	35	789	0	22	0	2	89	0	33
Grp Sat Flow(s),veh/h/ln	1674	1777	1855	1781	1777	1585	1849	0	1585	1781	0	1585
Q Serve(g_s), s	12.7	28.9	28.9	2.0	25.2	0.0	1.2	0.0	0.1	2.9	0.0	2.4
Cycle Q Clear(g_c), s	12.7	28.9	28.9	2.0	25.2	0.0	1.2	0.0	0.1	2.9	0.0	2.4
Prop In Lane	1.00		0.05	1.00		1.00	0.23		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1976	872	910	297	938		277	0	238	152	0	68
V/C Ratio(X)	0.38	0.65	0.65	0.12	0.84		0.08	0.00	0.01	0.59	0.00	0.49
Avail Cap(c_a), veh/h	1976	872	910	297	1185		277	0	238	549	0	244
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	0.87	0.87	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	22.9	22.9	42.5	41.8	0.0	43.9	0.0	43.4	56.4	0.0	56.2
Incr Delay (d2), s/veh	0.1	3.8	3.6	0.2	4.0	0.0	0.6	0.0	0.1	3.5	0.0	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	5.1	12.7	13.3	0.9	11.5	0.0	0.6	0.0	0.1	1.4	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	26.7	26.6	42.7	45.8	0.0	44.4	0.0	43.5	59.9	0.0	61.5
LnGrp LOS	C	C	C	D	D		D	A	D	E	A	E
Approach Vol, veh/h		1912			824	A		24			122	
Approach Delay, s/veh		26.4			45.6			44.4			60.4	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.5	63.4		9.6	51.7	36.2		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.6	58.9		18.5	25.5	40.0		18.0
Max Q Clear Time (g_c+I1), s	4.0	30.9		4.9	14.7	27.2		3.2
Green Ext Time (p_c), s	0.0	9.2		0.3	2.3	4.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	181	312	291	67
Future Volume (veh/h)	0	0	181	312	291	67
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			197	0	316	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			277		0	
Arrive On Green			0.15	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			197	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			4.5	0.0		
Cycle Q Clear(g_c), s			4.5	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			277			
V/C Ratio(X)			0.71			
Avail Cap(c_a), veh/h			748			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			18.3	0.0		
Incr Delay (d2), s/veh			3.4	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			2.0	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			21.7	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			197	A		
Approach Delay, s/veh			21.7			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	11.2
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	18.0
Max Q Clear Time (g_c+I1), s	6.5
Green Ext Time (p_c), s	0.8

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	573	0	1148	0	1961	0	0	1475	918
Future Volume (veh/h)	0	0	0	573	0	1148	0	1961	0	0	1475	918
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				398	0	1409	0	2043	0	0	1536	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				832	0	1482	0	2848	0	0	2848	
Arrive On Green				0.47	0.00	0.47	0.00	0.89	0.00	0.00	0.44	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				398	0	1409	0	2043	0	0	1536	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				15.3	0.0	42.6	0.0	10.0	0.0	0.0	17.5	0.0
Cycle Q Clear(g_c), s				15.3	0.0	42.6	0.0	10.0	0.0	0.0	17.5	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				832	0	1482	0	2848	0	0	2848	
V/C Ratio(X)				0.48	0.00	0.95	0.00	0.72	0.00	0.00	0.54	
Avail Cap(c_a), veh/h				846	0	1506	0	2848	0	0	2848	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.84	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.3	0.0	25.5	0.0	3.8	0.0	0.0	20.4	0.0
Incr Delay (d2), s/veh				0.4	0.0	13.2	0.0	1.3	0.0	0.0	0.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	17.8	0.0	1.7	0.0	0.0	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.7	0.0	38.8	0.0	5.1	0.0	0.0	21.1	0.0
LnGrp LOS				B	A	D	A	A	A	A	C	
Approach Vol, veh/h					1807			2043			1536	A
Approach Delay, s/veh					34.4			5.1			21.1	
Approach LOS					C			A			C	

Timer - Assigned Phs	2		6		8
Phs Duration (G+Y+Rc), s	48.8		48.8		51.2
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	43.5		43.5		47.5
Max Q Clear Time (g_c+I1), s	12.0		19.5		44.6
Green Ext Time (p_c), s	21.0		12.8		2.1

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	579	0	494	0	0	0	0	1382	640	0	2049	0
Future Volume (veh/h)	579	0	494	0	0	0	0	1382	640	0	2049	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	755	0	339				0	1425	0	0	2112	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	918	0	409				0	3330		0	4196	0
Arrive On Green	0.26	0.00	0.26				0.00	0.65	0.00	0.00	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	755	0	339				0	1425	0	0	2112	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	20.0	0.0	20.2				0.0	13.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.0	0.0	20.2				0.0	13.5	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	918	0	409				0	3330		0	4196	0
V/C Ratio(X)	0.82	0.00	0.83				0.00	0.43		0.00	0.50	0.00
Avail Cap(c_a), veh/h	1229	0	547				0	3330		0	4196	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.79	0.00
Uniform Delay (d), s/veh	35.0	0.0	35.0				0.0	8.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	7.9				0.0	0.4	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	8.5				0.0	4.6	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	0.0	42.9				0.0	8.8	0.0	0.0	0.3	0.0
LnGrp LOS	D	A	D				A	A		A	A	A
Approach Vol, veh/h		1094						1425	A		2112	
Approach Delay, s/veh		39.8						8.8			0.3	
Approach LOS		D						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		69.7				69.7		30.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		15.5				2.0		22.2				
Green Ext Time (p_c), s		14.7				30.7		3.6				

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	899	0	929	262	996	0	0	2272	321
Future Volume (veh/h)	0	0	0	899	0	929	262	996	0	0	2272	321
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				977	0	1010	285	1083	0	0	2470	349
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1153	0	931	310	2827	0	0	2761	513
Arrive On Green				0.33	0.00	0.33	0.35	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				977	0	1010	285	1083	0	0	2470	349
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				21.0	0.0	26.7	12.3	0.0	0.0	0.0	22.1	15.3
Cycle Q Clear(g_c), s				21.0	0.0	26.7	12.3	0.0	0.0	0.0	22.1	15.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1153	0	931	310	2827	0	0	2761	513
V/C Ratio(X)				0.85	0.00	1.08	0.92	0.38	0.00	0.00	0.89	0.68
Avail Cap(c_a), veh/h				1153	0	931	310	2827	0	0	2761	513
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.60	0.60	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	26.7	25.6	0.0	0.0	0.0	25.7	23.5
Incr Delay (d2), s/veh				6.0	0.0	55.2	22.0	0.2	0.0	0.0	5.0	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				9.1	0.0	15.5	5.9	0.1	0.0	0.0	7.7	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.8	0.0	81.9	47.6	0.2	0.0	0.0	30.8	30.6
LnGrp LOS				C	A	F	D	A	A	A	C	C
Approach Vol, veh/h					1987			1368			2819	
Approach Delay, s/veh					56.8			10.1			30.7	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	48.8		18.4	30.4		31.2
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	44.3		13.9	25.9		26.7
Max Q Clear Time (g_c+I1), s	2.0		14.3	24.1		28.7
Green Ext Time (p_c), s	10.0		0.0	1.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	0	431	0	0	0	0	1101	1183	1277	1894	0
Future Volume (veh/h)	159	0	431	0	0	0	0	1101	1183	1277	1894	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	171	0	463				0	1184	1272	1373	2037	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	514	0	415				0	2181	1232	1476	3772	0
Arrive On Green	0.15	0.00	0.15				0.00	0.39	0.39	0.59	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	171	0	463				0	1184	1272	1373	2037	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	3.5	0.0	11.9				0.0	13.1	31.1	19.9	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	11.9				0.0	13.1	31.1	19.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	514	0	415				0	2181	1232	1476	3772	0
V/C Ratio(X)	0.33	0.00	1.12				0.00	0.54	1.03	0.93	0.54	0.00
Avail Cap(c_a), veh/h	514	0	415				0	2181	1232	1476	3772	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.34	0.34	0.00
Uniform Delay (d), s/veh	30.5	0.0	34.0				0.0	18.9	24.5	15.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	79.5				0.0	1.0	34.3	4.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	8.5				0.0	5.5	16.6	4.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	113.5				0.0	19.9	58.7	20.1	0.2	0.0
LnGrp LOS	C	A	F				A	B	F	C	A	A
Approach Vol, veh/h		634						2456			3410	
Approach Delay, s/veh		91.2						40.0			8.2	
Approach LOS		F						D			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.0	35.6		16.4		63.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	31.1		11.9		59.1
Max Q Clear Time (g_c+I1), s	21.9	33.1		13.9		2.0
Green Ext Time (p_c), s	1.0	0.0		0.0		29.7

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	97.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	2146	14	30	449	117	2	2	321	0	0	169
Future Vol, veh/h	99	2146	14	30	449	117	2	2	321	0	0	169
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	2333	15	33	488	127	2	2	349	0	0	184

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	615	0	0	2348	0	0	2818	3238	1174	-	-	244
Stage 1	-	-	-	-	-	-	2557	2557	-	-	-	-
Stage 2	-	-	-	-	-	-	261	681	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	598	-	-	83	-	-	19	9	~ 159	0	0	645
Stage 1	-	-	-	-	-	-	15	53	-	0	0	-
Stage 2	-	-	-	-	-	-	662	448	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	598	-	-	83	-	-	8	4	~ 159	-	-	645
Mov Cap-2 Maneuver	-	-	-	-	-	-	8	4	-	-	-	-
Stage 1	-	-	-	-	-	-	12	43	-	-	-	-
Stage 2	-	-	-	-	-	-	285	270	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	3.7	$ 988.4	12.8
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	117	598	-	-	83	-	-	645
HCM Lane V/C Ratio	3.019	0.18	-	-	0.393	-	-	0.285
HCM Control Delay (s)	$ 988.4	12.3	-	-	74	-	-	12.8
HCM Lane LOS	F	B	-	-	F	-	-	B
HCM 95th %tile Q(veh)	33.5	0.7	-	-	1.6	-	-	1.2

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	86	435	493	513	19	219	359	288	0	780	246
Future Volume (veh/h)	447	86	435	493	513	19	219	359	288	0	780	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	471	91	458	519	540	20	231	378	303	0	821	259
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	552	316	535	599	654	24	761	1856	864	0	1613	456
Arrive On Green	0.15	0.17	0.17	0.17	0.19	0.19	0.22	0.55	0.55	0.00	0.29	0.29
Sat Flow, veh/h	3563	1870	3170	3456	3495	129	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	471	91	458	519	274	286	231	378	303	0	821	259
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1847	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	15.4	5.1	16.8	17.5	17.8	17.8	6.7	6.8	12.9	0.0	14.7	11.3
Cycle Q Clear(g_c), s	15.4	5.1	16.8	17.5	17.8	17.8	6.7	6.8	12.9	0.0	14.7	11.3
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	552	316	535	599	333	346	761	1856	864	0	1613	456
V/C Ratio(X)	0.85	0.29	0.86	0.87	0.82	0.83	0.30	0.20	0.35	0.00	0.51	0.57
Avail Cap(c_a), veh/h	757	397	674	792	407	423	761	1856	864	0	1613	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	43.6	48.5	48.2	46.9	46.9	39.1	14.0	15.3	0.0	35.7	16.7
Incr Delay (d2), s/veh	7.0	0.5	8.8	7.9	10.9	10.7	0.2	0.2	1.1	0.0	1.2	5.1
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	7.4	2.4	7.3	8.2	8.9	9.2	2.9	2.7	4.8	0.0	6.9	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	44.1	57.2	56.1	57.8	57.6	39.3	14.2	16.4	0.0	36.8	21.8
LnGrp LOS	E	D	E	E	E	E	D	B	B	A	D	C
Approach Vol, veh/h		1020			1079			912			1080	
Approach Delay, s/veh		55.7			56.9			21.3			33.2	
Approach LOS		E			E			C			C	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		69.9	25.3	24.8	30.9	39.0	23.1	27.0
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		53.5	27.5	25.5	14.5	34.5	25.5	27.5
Max Q Clear Time (g_c+I1), s		14.9	19.5	18.8	8.7	16.7	17.4	19.8
Green Ext Time (p_c), s		5.3	1.3	1.4	0.4	6.4	1.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	635	524	2	13	1281	748	22	48	66	153	0	58
Future Volume (veh/h)	635	524	2	13	1281	748	22	48	66	153	0	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	690	570	2	14	1392	0	24	52	72	166	0	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	737	1846	6	223	1729		87	189	238	238	0	106
Arrive On Green	0.15	0.51	0.51	0.12	0.49	0.00	0.15	0.15	0.15	0.07	0.00	0.07
Sat Flow, veh/h	5023	3632	13	1781	3554	1585	581	1260	1585	3563	0	1585
Grp Volume(v), veh/h	690	279	293	14	1392	0	76	0	72	166	0	63
Grp Sat Flow(s),veh/h/ln	1674	1777	1868	1781	1777	1585	1841	0	1585	1781	0	1585
Q Serve(g_s), s	16.3	11.0	11.0	0.8	39.7	0.0	4.4	0.0	4.9	5.5	0.0	4.6
Cycle Q Clear(g_c), s	16.3	11.0	11.0	0.8	39.7	0.0	4.4	0.0	4.9	5.5	0.0	4.6
Prop In Lane	1.00		0.01	1.00		1.00	0.32		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	737	903	950	223	1729		276	0	238	238	0	106
V/C Ratio(X)	0.94	0.31	0.31	0.06	0.80		0.28	0.00	0.30	0.70	0.00	0.60
Avail Cap(c_a), veh/h	737	903	950	223	1729		276	0	238	534	0	238
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	0.83	0.83	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	17.2	17.2	46.3	26.0	0.0	45.2	0.0	45.4	54.8	0.0	54.4
Incr Delay (d2), s/veh	19.4	0.9	0.8	0.1	2.4	0.0	2.5	0.0	3.3	3.7	0.0	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	8.1	4.7	4.9	0.4	16.9	0.0	2.2	0.0	2.1	2.6	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	18.1	18.0	46.4	28.4	0.0	47.7	0.0	48.7	58.5	0.0	59.7
LnGrp LOS	E	B	B	D	C		D	A	D	E	A	E
Approach Vol, veh/h		1262			1406	A		148			229	
Approach Delay, s/veh		46.5			28.6			48.2			58.8	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.5	65.5		12.5	22.1	62.9		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.0	61.0		18.0	17.6	48.4		18.0
Max Q Clear Time (g_c+I1), s	2.8	13.0		7.5	18.3	41.7		6.9
Green Ext Time (p_c), s	0.0	3.9		0.5	0.0	4.8		0.4

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	623	840	380	427
Future Volume (veh/h)	0	0	623	840	380	427
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			663	0	404	0
Peak Hour Factor			0.94	0.94	0.94	0.94
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			753		0	
Arrive On Green			0.40	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			663	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			18.0	0.0		
Cycle Q Clear(g_c), s			18.0	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			753			
V/C Ratio(X)			0.88			
Avail Cap(c_a), veh/h			867			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			15.2	0.0		
Incr Delay (d2), s/veh			9.4	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			8.4	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			24.6	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			663	A		
Approach Delay, s/veh			24.6			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	26.6
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	25.5
Max Q Clear Time (g_c+I1), s	20.0
Green Ext Time (p_c), s	2.1

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	745	0	1209	0	1717	0	0	1660	1254
Future Volume (veh/h)	0	0	0	745	0	1209	0	1717	0	0	1660	1254
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				517	0	1536	0	1789	0	0	1729	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				939	0	1671	0	2560	0	0	2560	
Arrive On Green				0.53	0.00	0.53	0.00	0.80	0.00	0.00	0.40	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				517	0	1536	0	1789	0	0	1729	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				23.2	0.0	53.3	0.0	15.4	0.0	0.0	26.6	0.0
Cycle Q Clear(g_c), s				23.2	0.0	53.3	0.0	15.4	0.0	0.0	26.6	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				939	0	1671	0	2560	0	0	2560	
V/C Ratio(X)				0.55	0.00	0.92	0.00	0.70	0.00	0.00	0.68	
Avail Cap(c_a), veh/h				1017	0	1810	0	2560	0	0	2560	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.85	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.9	0.0	26.0	0.0	8.9	0.0	0.0	29.7	0.0
Incr Delay (d2), s/veh				0.5	0.0	7.7	0.0	1.4	0.0	0.0	1.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.5	0.0	21.0	0.0	3.1	0.0	0.0	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				19.4	0.0	33.7	0.0	10.3	0.0	0.0	31.2	0.0
LnGrp LOS				B	A	C	A	B	A	A	C	
Approach Vol, veh/h					2053			1789			1729	A
Approach Delay, s/veh					30.1			10.3			31.2	
Approach LOS					C			B			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	52.2	52.2	67.8
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	42.5	42.5	68.5
Max Q Clear Time (g_c+I1), s	17.4	28.6	55.3
Green Ext Time (p_c), s	15.6	9.9	7.9

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	0	788	0	0	0	0	1489	692	0	2405	0
Future Volume (veh/h)	228	0	788	0	0	0	0	1489	692	0	2405	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	159	0	906				0	1551	0	0	2505	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	576	0	1025				0	3073		0	3872	0
Arrive On Green	0.32	0.00	0.32				0.00	0.60	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	159	0	906				0	1551	0	0	2505	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	8.0	0.0	32.5				0.0	20.8	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	32.5				0.0	20.8	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	576	0	1025				0	3073		0	3872	0
V/C Ratio(X)	0.28	0.00	0.88				0.00	0.50		0.00	0.65	0.00
Avail Cap(c_a), veh/h	751	0	1337				0	3073		0	3872	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.61	0.00
Uniform Delay (d), s/veh	30.2	0.0	38.5				0.0	13.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	6.0				0.0	0.6	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	13.3				0.0	7.9	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	0.0	44.4				0.0	14.3	0.0	0.0	0.5	0.0
LnGrp LOS	C	A	D				A	B		A	A	A
Approach Vol, veh/h		1065						1551	A		2505	
Approach Delay, s/veh		42.3						14.3			0.5	
Approach LOS		D						B			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.7				76.7		43.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		60.4				60.4		50.6				
Max Q Clear Time (g_c+I1), s		22.8				2.0		34.5				
Green Ext Time (p_c), s		16.1				41.4		4.3				

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	848	0	1048	200	1549	0	0	2269	369
Future Volume (veh/h)	0	0	0	848	0	1048	200	1549	0	0	2269	369
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				865	0	1069	204	1581	0	0	2315	377
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1274	0	1028	232	2568	0	0	2632	489
Arrive On Green				0.37	0.00	0.37	0.26	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				865	0	1069	204	1581	0	0	2315	377
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				14.8	0.0	25.8	7.7	0.0	0.0	0.0	18.0	15.1
Cycle Q Clear(g_c), s				14.8	0.0	25.8	7.7	0.0	0.0	0.0	18.0	15.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1274	0	1028	232	2568	0	0	2632	489
V/C Ratio(X)				0.68	0.00	1.04	0.88	0.62	0.00	0.00	0.88	0.77
Avail Cap(c_a), veh/h				1274	0	1028	232	2568	0	0	2632	489
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.53	0.53	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.6	0.0	22.1	25.4	0.0	0.0	0.0	23.0	22.0
Incr Delay (d2), s/veh				1.5	0.0	38.9	18.4	0.6	0.0	0.0	4.6	11.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.7	0.0	13.2	3.9	0.1	0.0	0.0	6.1	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.1	0.0	61.0	43.8	0.6	0.0	0.0	27.6	33.1
LnGrp LOS				C	A	F	D	A	A	A	C	C
Approach Vol, veh/h					1934			1785			2692	
Approach Delay, s/veh					42.7			5.5			28.4	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.7		13.6	26.1		30.3
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	35.2		9.1	21.6		25.8
Max Q Clear Time (g_c+I1), s	2.0		9.7	20.0		27.8
Green Ext Time (p_c), s	15.7		0.0	1.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	403	0	505	0	0	0	0	1346	608	1162	1955	0
Future Volume (veh/h)	403	0	505	0	0	0	0	1346	608	1162	1955	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	420	0	526				0	1278	716	1210	2036	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	666	0	538				0	1884	1064	1399	3465	0
Arrive On Green	0.19	0.00	0.19				0.00	0.34	0.34	0.56	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	420	0	526				0	1278	716	1210	2036	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	7.8	0.0	13.1				0.0	13.7	13.6	14.4	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	13.1				0.0	13.7	13.6	14.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	538				0	1884	1064	1399	3465	0
V/C Ratio(X)	0.63	0.00	0.98				0.00	0.68	0.67	0.86	0.59	0.00
Avail Cap(c_a), veh/h	666	0	538				0	1884	1064	1399	3465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.45	0.45	0.00
Uniform Delay (d), s/veh	26.0	0.0	28.1				0.0	20.0	20.0	14.4	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	33.0				0.0	2.0	3.4	2.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	6.6				0.0	5.9	5.1	3.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	61.1				0.0	22.0	23.3	17.2	0.3	0.0
LnGrp LOS	C	A	E				A	C	C	B	A	A
Approach Vol, veh/h		946						1994			3246	
Approach Delay, s/veh		46.3						22.5			6.6	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	28.0		18.0		52.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	19.5	23.5		13.5		47.5
Max Q Clear Time (g_c+I1), s	16.4	15.7		15.1		2.0
Green Ext Time (p_c), s	1.6	6.1		0.0		26.3

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	68.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	709	8	484	3082	457	0	7	130	0	0	263
Future Vol, veh/h	52	709	8	484	3082	457	0	7	130	0	0	263
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	716	8	489	3113	462	0	7	131	0	0	266

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3575	0	0	724	0	0	3049	5379	362	-	-	1557
Stage 1	-	-	-	-	-	-	826	826	-	-	-	-
Stage 2	-	-	-	-	-	-	2223	4553	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	~ 19	-	-	531	-	-	14	0	542	0	0	~ 87
Stage 1	-	-	-	-	-	-	263	385	-	0	0	-
Stage 2	-	-	-	-	-	-	38	~ 4	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	~ 19	-	-	531	-	-	-	0	542	-	-	~ 87
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	263	0	-	-	-	-
Stage 2	-	-	-	-	-	-	-	0	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	82.4	6		$ 1028.4
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	~ 19	-	-	531	-	-	87
HCM Lane V/C Ratio	-	2.764	-	-	0.921	-	-	3.054
HCM Control Delay (s)	$ 1218.6	-	-	-	49.9	-	-	$ 1028.4
HCM Lane LOS	-	F	-	-	E	-	-	F
HCM 95th %tile Q(veh)	-	7	-	-	11.2	-	-	26.1

Notes

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

HCS7 Two-Way Stop-Control Report

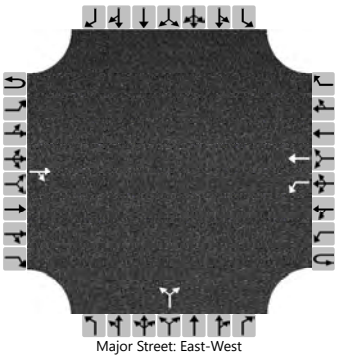
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2027
Time Analyzed	Cumul AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			19	17		10	101			0		1				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11					1					
Capacity, c (veh/h)						1571					1045					
v/c Ratio						0.01					0.00					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3					8.4					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.7				8.4							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

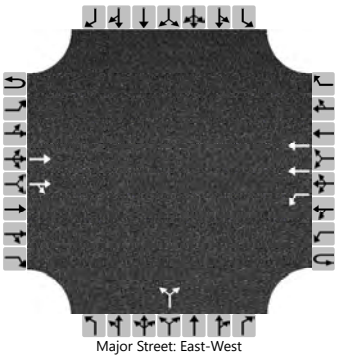
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2027
Time Analyzed	Cumul AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			22	0	0	6	117			1		1				
Percent Heavy Vehicles (%)					2	2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						7					2					
Capacity, c (veh/h)						1589					938					
v/c Ratio						0.00					0.00					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3					8.8					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.4				8.8							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

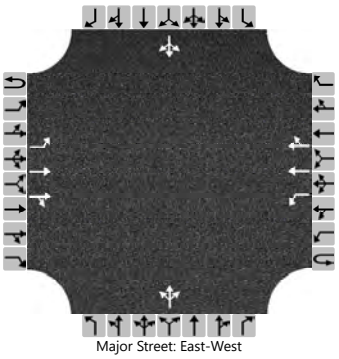
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2027
Time Analyzed	Cumul AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	0	25	0	0	1	130	55		0	0	0		2	0	0
Percent Heavy Vehicles (%)	2	2			2	2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					0				2	
Capacity, c (veh/h)		1368				1585									731	
v/c Ratio		0.00				0.00									0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.0	
Control Delay (s/veh)		7.6				7.3									9.9	
Level of Service (LOS)		A				A									A	
Approach Delay (s/veh)	0.0				0.0								9.9			
Approach LOS													A			

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HCS7 Two-Way Stop-Control Report

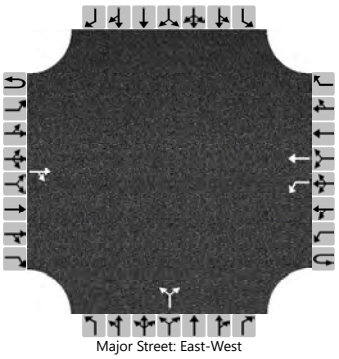
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2027
Time Analyzed	Cumul PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			102	0		0	162			4		3				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					8					
Capacity, c (veh/h)						1479					803					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.4					9.5					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.0				9.5							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

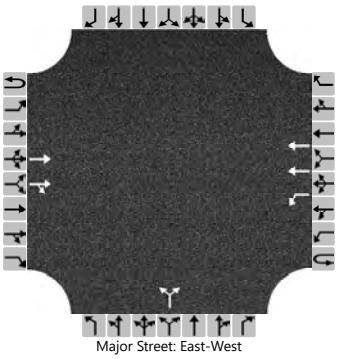
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2027
Time Analyzed	Cumul PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			107	0	0	0	165			0		0				
Percent Heavy Vehicles (%)					2	2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						1470										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.4										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.0											
Approach LOS																

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HCS7 Two-Way Stop-Control Report

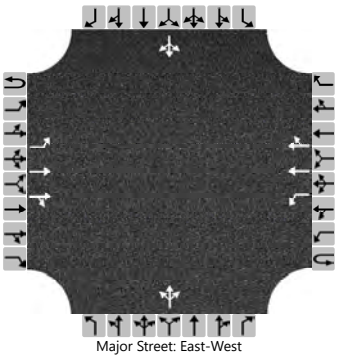
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2027
Time Analyzed	Cumul PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	0	112	0	0	0	167	0		0	0	0		46	0	1
Percent Heavy Vehicles (%)	2	2			2	2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					0				51	
Capacity, c (veh/h)		1391				1463									705	
v/c Ratio		0.00				0.00									0.07	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.2	
Control Delay (s/veh)		7.6				7.5									10.5	
Level of Service (LOS)		A				A									B	
Approach Delay (s/veh)	0.0				0.0								10.5			
Approach LOS													B			

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COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM	V/C Ratio PM
NBL	2.0		2,880	233	145	0.0503	0.08	0.05
NBT	2.5		4,250	510	528	0.1242	0.12 *	0.12 *
NBR	0.5	U	800	51	35	0	0.00	0.00
SBL	2.0		2,880	669	170	0.059	0.23 *	0.06 *
SBT	3.0		5,100	876	515	0.101	0.17	0.10
SBR	1.0	D	1,600	305	238	0	0.00	0.00
EBL	2.0		2,880	151	245	0.0851	0.05	0.09 *
EBT	2.5		4,250	1,355	590	0.1388	0.32 *	0.14
EBR	0.5	U	800	59	280	0.1734	0.00	0.17 *
WBL	2.0		2,880	35	126	0.0438	0.01 *	0.04
WBT	3.0		5,100	466	2,113	0.4143	0.09	0.41 *
WBR	1.0	U	1,600	88	756	0.0139	0.00	0.01 *
N/S Critical Movements							0.35	0.18
E/W Critical Movements							0.33	0.50
Right Turn Critical Movement							0.00	0.18
Clearance Interval							0.05	0.05
ICU							0.73	0.91
Level of Service (LOS)							C	E

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **2**
NORTH/SOUTH: **Euclid Street**
EAST/WEST: **I-405 Northbound Ramps - Newhope Street**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	2.0		2,880	24	219	0.076	0.01	*	0.08	*
NBT	2.5		4,250	295	359	0.0845	0.07		0.08	
NBR	0.5	U	800	510	293	0.1526	0.52	*	0.15	*
SBL	0.0		0	0	0	0	0.00		0.00	
SBT	2.5		4,250	851	780	0.1835	0.20	*	0.18	*
SBR	1.5	U	2,400	52	246	0	0.00		0.00	
EBL	2.0		2,880	598	447	0.1552	0.21	*	0.16	*
EBT	1.5		2,550	366	86	0.0337	0.14		0.03	
EBR	1.5	U	2,400	564	435	0	0.02	*	0.00	
WBL	2.0		2,880	185	496	0.1722	0.06		0.17	
WBT	1.5		2,550	60	513	0.2012	0.02	*	0.20	*
WBR	0.5	N	800	11	19	0	0.00		0.00	
N/S Critical Movements							0.21		0.26	
E/W Critical Movements							0.23		0.36	
Right Turn Critical Movement							0.54		0.15	
Clearance Interval							0.05		0.05	
ICU							1.03		0.82	
Level of Service (LOS)							F		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM
NB	2.0		3,400	23	136	0.04	0.01	*	0.04 *
SB	3.0		5,100	112	211	0.0414	0.02	*	0.04 *
EBL	3.0		3,450	687	635	0.1841	0.20		0.18 *
EBT	1.5		2,550	1,047	529	0.2075	0.41	*	0.21
EBR	0.5	U	800	26	2	0	0.00		0.00
WBL	1.0		1,600	32	13	0.0081	0.02	*	0.01
WBT	2.0		3,400	730	1,284	0.3776	0.21		0.38 *
WBR	1.0	F	1,600	807	748	0	0.00		0.00
N/S Critical Movements							0.03		0.08
E/W Critical Movements							0.43		0.56
Right Turn Critical Movement							0.00		0.00
Clearance Interval							0.05		0.05
ICU							0.51		0.69
Level of Service (LOS)							A		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 4
NORTH/SOUTH: Newhope Street
EAST/WEST: Talbert Avenue

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	1.0		1,600	1	16	0.01	0.00		0.01	*
NBT	2.0		3,400	443	257	0.0756	0.13	*	0.08	
NBR	1.0	P	1,600	417	108	0	0.09	*	0.00	
SBL	2.0		2,880	339	230	0.0799	0.12	*	0.08	
SBT	1.5		2,550	145	526	0.2063	0.06		0.21	*
SBR	0.5	U	800	78	174	0	0.00		0.00	
EBL	2.0		2,880	72	187	0.0649	0.03		0.06	*
EBT	2.5		4,250	1,988	604	0.1421	0.47	*	0.14	
EBR	0.5	U	800	11	12	0	0.00		0.00	
WBL	2.0		2,880	104	502	0.1743	0.04	*	0.17	
WBT	3.5		5,950	504	2,799	0.4704	0.08		0.47	*
WBR	0.5	U	800	57	191	0	0.00		0.00	
N/S Critical Movements							0.25		0.22	
E/W Critical Movements							0.51		0.53	
Right Turn Critical Movement							0.09		0.00	
Clearance Interval							0.05		0.05	
ICU							0.90		0.80	
Level of Service (LOS)							D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	133	1,572	0.2312	0.02	*	0.23	*
SB	3.0		5,100	20	30	0.0059	0.00	*	0.01	*
EBL	1.0		1,700	14	18	0.0106	0.01		0.01	*
EBT	3.0		5,100	2,074	850	0.1667	0.41	*	0.17	
EBR	1.0	U	1,700	866	203	0	0.10	*	0.00	
WBL	1.0		1,700	68	28	0.0165	0.04	*	0.02	
WBT	3.0		5,100	555	2,620	0.5137	0.11		0.51	*
WBR	1.0	U	1,700	12	13	0	0.00		0.00	
N/S Critical Movements							0.02		0.24	
E/W Critical Movements							0.45		0.52	
Right Turn Critical Movement							0.10		0.00	
Clearance Interval							0.05		0.05	
ICU							0.62		0.81	
Level of Service (LOS)							B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	1.0		1,700	96	138	0.0812	0.06	*	0.08
NBT	1.5		2,550	132	592	0.2322	0.05		0.23 *
NBR	0.5	U	850	12	66	0	0.00		0.00
SBL	1.0		1,700	139	49	0.0288	0.08		0.03 *
SBT	1.5		2,550	344	262	0.1027	0.13	*	0.10
SBR	0.5	U	850	106	135	0.0133	0.00		0.01 *
EBL	1.0		1,700	65	97	0.0571	0.04	*	0.06
EBT	1.0		1,700	279	369	0.2171	0.16		0.22 *
EBR	1.0	U	1,700	121	184	0	0.00		0.00
WBL	1.0		1,700	42	230	0.1353	0.02		0.14 *
WBT	1.0		1,700	239	467	0.2747	0.14	*	0.27
WBR	1.0	U	1,700	72	203	0	0.00		0.00
N/S Critical Movements							0.19		0.26
E/W Critical Movements							0.18		0.36
Right Turn Critical Movement							0.00		0.01
Clearance Interval							0.05		0.05
ICU							0.42		0.68
Level of Service (LOS)							A		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0	0.00		0.00	
SBL	1.0		1,700	354	416	0.2447	0.21	*	0.24	*
SBT	0.0		0	0	0	0	0.00		0.00	
SBR	1.0	F	1,700	106	451	0	0.00		0.00	
EBL	0.0		0	0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0	0.00		0.00	
WBT	1.0		1,700	181	623	0.3665	0.11	*	0.37	*
WBR	1.0	F	1,700	328	903	0	0.00		0.00	
N/S Critical Movements							0.21		0.24	
E/W Critical Movements							0.11		0.37	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.37		0.66	
Level of Service (LOS)							A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	2.0		3,400	184	655	0.1926	0.05	*	0.19	*
NBT	3.0		5,100	1,021	1,734	0.34	0.20		0.34	
NBR	1.0	U	1,700	99	93	0	0.00		0.00	
SBL	2.0		3,400	374	239	0.0703	0.11		0.07	
SBT	3.0		5,100	2,092	1,127	0.221	0.41	*	0.22	*
SBR	1.0	U	1,700	134	173	0	0.00		0.00	
EBL	1.0		1,700	157	141	0.0829	0.09		0.08	*
EBT	3.0		5,100	1,358	640	0.1255	0.27	*	0.13	
EBR	1.0	U	1,700	450	222	0	0.00		0.00	
WBL	1.0		1,700	101	59	0.0347	0.06	*	0.03	
WBT	3.0		5,100	444	1,504	0.2949	0.09		0.29	*
WBR	1.0	U	1,700	115	253	0	0.00		0.00	
N/S Critical Movements							0.46		0.41	
E/W Critical Movements							0.33		0.37	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.84		0.83	
Level of Service (LOS)							D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	1.0		1,700	82	48	0.0282	0.05	*	0.03
NBT	2.5		4,250	1,326	2,219	0.5221	0.31		0.52 *
NBR	0.5	U	850	71	31	0	0.00		0.00
SBL	1.0		1,700	73	14	0.0082	0.04		0.01 *
SBT	2.5		4,250	2,463	1,427	0.3358	0.58	*	0.34
SBR	0.5	U	850	72	13	0	0.00		0.00
EBL	1.0		1,700	15	40	0.0235	0.01		0.02 *
EBT	1.0		1,700	30	57	0.0335	0.02	*	0.03
EBR	1.0	U	1,700	33	101	0.0047	0.00		0.00
WBL	1.0		1,700	27	92	0.0541	0.02	*	0.05
WBT	0.5		850	18	255	0.3	0.02		0.30 *
WBR	0.5	U	850	29	188	0	0.00		0.00
N/S Critical Movements							0.63		0.53
E/W Critical Movements							0.04		0.32
Right Turn Critical Movement							0.00		0.00
Clearance Interval							0.05		0.05
ICU							0.72		0.90
Level of Service (LOS)							C		D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 10
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Sunflower Avenue

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM	
NBL	2.0		3,400	270	321	0.0944	0.08	*	0.09	
NBT	3.0		5,100	1,409	1,967	0.3857	0.28		0.39	*
NBR	1.0	U	1,700	529	390	0	0.03	*	0.00	
SBL	2.0		3,400	260	105	0.0309	0.08		0.03	*
SBT	3.0		5,100	2,034	1,444	0.2831	0.40	*	0.28	
SBR	1.0	U	1,700	51	83	0	0.00		0.00	
EB	3.0		5,100	396	566	0.111	0.08	*	0.11	*
WB	3.0		5,100	364	1,471	0.2884	0.07	*	0.29	*
N/S Critical Movements							0.48		0.42	
E/W Critical Movements							0.15		0.40	
Right Turn Critical Movement							0.03		0.00	
Clearance Interval							0.05		0.05	
ICU							0.71		0.87	
Level of Service (LOS)							C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 11
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: South Coast Drive

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	401	416	0.1224	0.12	*	0.12	*
NBT	3.5		5,950	2,237	2,359	0.3965	0.38		0.40	
NBR	1.5	P	2,550	413	253	0	0.00		0.00	
SBL	2.0		3,400	78	79	0.0232	0.02		0.02	
SBT	4.0		6,800	2,135	2,033	0.299	0.31	*	0.30	*
SBR	1.0	U	1,700	65	69	0	0.00		0.00	
EBL	1.0		1,700	18	37	0.0218	0.01		0.02	*
EBT	0.5		850	125	96	0.1129	0.15	*	0.11	
EBR	1.5	U	2,550	253	453	0	0.00		0.00	
WBL	2.0		3,400	114	562	0.1653	0.03	*	0.17	
WBT	2.0		3,400	278	1,054	0.31	0.08		0.31	*
WBR	1.0	U	1,700	57	249	0	0.00		0.00	
N/S Critical Movements							0.43		0.42	
E/W Critical Movements							0.18		0.33	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.66		0.80	
Level of Service (LOS)							B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	Future Short-Term Cumulative (2027) Baseline Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00		0.00	
NBT	4.0		6,800	1,980	1,805	0.2654	0.29	*	0.27	*
NBR	0.0		0	0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,520	1,690	0.2485	0.22		0.25	
SBR	1.0	F	1,700	985	1,295	0	0.00		0.00	
EBL	0.0		0	0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0	0.00		0.00	
WBL	1.5		2,550	573	745	0.2922	0.22	*	0.29	*
WBT	0.0		0	0	0	0	0.00		0.00	
WBR	1.5	U	2,550	1,162	1,279	0.2094	0.23	*	0.21	*
N/S Critical Movements							0.29		0.27	
E/W Critical Movements							0.22		0.29	
Right Turn Critical Movement							0.23		0.21	
Clearance Interval							0.05		0.05	
ICU							0.79		0.82	
Level of Service (LOS)							C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00	*	0.00	*
NBT	3.0		5,100	1,393	1,536	0.3012	0.27		0.30	
NBR	1.0	F	1,700	640	692	0	0.00		0.00	
SBL	0.0		0	0	0	0	0.00		0.00	
SBT	4.0		6,800	2,094	2,435	0.3581	0.31	*	0.36	*
SBR	0.0		0	0	0	0	0.00		0.00	
EBL	1.5		2,550	586	269	0.1055	0.23	*	0.11	*
EBT	0.0		0	0	0	0	0.00		0.00	
EBR	1.5	U	2,550	494	788	0.2035	0.00		0.20	*
WBL	0.0		0	0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0	0.00		0.00	
N/S Critical Movements							0.31		0.36	
E/W Critical Movements							0.23		0.11	
Right Turn Critical Movement							0.00		0.20	
Clearance Interval							0.05		0.05	
ICU							0.59		0.72	
Level of Service (LOS)							A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 14
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Gisler Avenue

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM	
NBL	1.0		1,700	104	150	0.0882	0.06	*	0.09	*
NBT	4.5		7,650	2,356	2,184	0.2855	0.31		0.29	
NBR	0.5	U	850	10	22	0	0.00		0.00	
SBL	1.0		1,700	80	146	0.0859	0.05		0.09	
SBT	3.5		5,950	2,013	2,394	0.4024	0.34	*	0.40	*
SBR	0.5	U	850	250	451	0.1282	0.00		0.13	*
EB	4.0		6,800	949	584	0.0859	0.14	*	0.09	*
WB	3.0		5,100	252	480	0.0941	0.05	*	0.09	*
N/S Critical Movements							0.40		0.49	
E/W Critical Movements							0.19		0.18	
Right Turn Critical Movement							0.00		0.13	
Clearance Interval							0.05		0.05	
ICU							0.64		0.85	
Level of Service (LOS)							B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 15
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Nutmeg Place

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM
NBL	1.0		1,700	16	46	0.0271	0.01		0.03 *
NBT	3.5		5,950	2,326	2,125	0.3571	0.39	*	0.36
NBR	0.5	U	850	139	203	0	0.00		0.00
SBL	2.0		3,400	141	196	0.0576	0.04	*	0.06
SBT	3.5		5,950	2,021	2,349	0.3948	0.34		0.39 *
SBR	0.5	U	850	54	50	0	0.00		0.00
EB	2.0		3,400	85	152	0.0447	0.03	*	0.04 *
WB	2.0		3,400	154	337	0.0991	0.05	*	0.10 *
N/S Critical Movements							0.43		0.42
E/W Critical Movements							0.08		0.14
Right Turn Critical Movement							0.00		0.00
Clearance Interval							0.05		0.05
ICU							0.56		0.61
Level of Service (LOS)							A		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	2.0		3,400	51	57	0.0168	0.02		0.02 *
NBT	4.0		6,800	2,051	1,791	0.2634	0.30	*	0.26
NBR	1.0	P	1,700	252	214	0	0.00		0.00
SBL	2.0		3,400	217	208	0.0612	0.06	*	0.06
SBT	4.0		6,800	1,634	2,121	0.3119	0.24		0.31 *
SBR	1.0	P	1,700	240	285	0	0.00		0.00
EBL	2.0		3,400	300	217	0.0638	0.09		0.06 *
EBT	1.5		2,550	268	246	0.0965	0.11	*	0.10
EBR	0.5	U	850	59	92	0	0.00		0.00
WBL	2.0		3,400	209	497	0.1462	0.06	*	0.15
WBT	2.0		3,400	232	680	0.2	0.07		0.20 *
WBR	1.0	U	1,700	167	378	0	0.00		0.00
N/S Critical Movements							0.36		0.33
E/W Critical Movements							0.17		0.26
Right Turn Critical Movement							0.00		0.00
Clearance Interval							0.05		0.05
ICU							0.58		0.64
Level of Service (LOS)							A		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	80	301	0.1771	0.05		0.18	
NBT	1.0		1,700	278	663	0.39	0.16	*	0.39	*
NBR	1.0	U	1,700	55	150	0	0.00		0.00	
SBL	1.0		1,700	77	70	0.0412	0.05	*	0.04	*
SBT	0.5		850	86	184	0.2165	0.10		0.22	
SBR	0.5	U	850	33	100	0	0.00		0.00	
EBL	1.0		1,700	83	105	0.0618	0.05	*	0.06	*
EBT	2.0		3,400	418	683	0.2009	0.12		0.20	
EBR	1.0	U	1,700	45	31	0	0.00		0.00	
WBL	1.0		1,700	54	40	0.0235	0.03		0.02	
WBT	1.5		2,550	454	693	0.2718	0.18	*	0.27	*
WBR	0.5	U	850	104	212	0	0.00		0.00	
N/S Critical Movements							0.21		0.43	
E/W Critical Movements							0.23		0.33	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.49		0.81	
Level of Service (LOS)							A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	2.0		3,400	171	570	0.1676	0.05		0.17	
NBT	1.5		2,550	472	811	0.318	0.19	*	0.32	*
NBR	0.5	U	850	90	62	0	0.00		0.00	
SBL	2.0		3,400	70	154	0.0453	0.02	*	0.05	*
SBT	1.5		2,550	2	21	0.0082	0.00		0.01	
SBR	0.5	U	850	72	196	0.163	0.04	*	0.16	*
EBL	2.0		3,400	114	101	0.0297	0.03		0.03	*
EBT	1.5		2,550	338	264	0.1035	0.13	*	0.10	
EBR	0.5	U	850	1	14	0	0.00		0.00	
WBL	2.0		3,400	0	41	0.0121	0.00	*	0.01	
WBT	2.0		3,400	191	769	0.2262	0.06		0.23	*
WBR	1.0	P	1,700	46	162	0	0.00		0.00	
N/S Critical Movements							0.21		0.37	
E/W Critical Movements							0.13		0.26	
Right Turn Critical Movement							0.04		0.16	
Clearance Interval							0.05		0.05	
ICU							0.43		0.84	
Level of Service (LOS)							A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 20
NORTH/SOUTH: Fairview Road
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	2.0		3,400	254	161	0.0474	0.07	*	0.05
NBT	3.0		5,100	1,080	1,912	0.3749	0.21		0.37 *
NBR	1.0	U	1,700	178	323	0	0.00		0.00
SBL	2.0		3,400	194	112	0.0329	0.06		0.03 *
SBT	2.5		4,250	1,900	1,267	0.2981	0.45	*	0.30
SBR	0.5	U	850	169	99	0	0.00		0.00
EBL	2.0		3,400	60	243	0.0715	0.02		0.07
EBT	1.5		2,550	300	526	0.2063	0.12	*	0.21 *
EBR	0.5	U	850	80	217	0.0135	0.00		0.01 *
WBL	2.0		3,400	323	249	0.0732	0.10	*	0.07 *
WBT	2.0		3,400	402	602	0.1771	0.12		0.18
WBR	1.0	U	1,700	115	179	0	0.00		0.00
N/S Critical Movements							0.52		0.40
E/W Critical Movements							0.22		0.28
Right Turn Critical Movement							0.00		0.01
Clearance Interval							0.05		0.05
ICU							0.79		0.74
Level of Service (LOS)							C		C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 21
NORTH/SOUTH: Fairview Road
EAST/WEST: South Coast Drive

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	264	215	0.0632	0.08	*	0.06	*
NBT	3.0		5,100	1,442	1,975	0.3873	0.28		0.39	
NBR	1.0	U	1,700	192	368	0	0.00		0.00	
SBL	2.0		3,400	31	56	0.0165	0.01		0.02	
SBT	2.5		4,250	2,150	1,605	0.3776	0.51	*	0.38	*
SBR	0.5	U	850	28	57	0	0.00		0.00	
EBL	1.0		1,700	10	71	0.0418	0.01		0.04	
EBT	1.5		2,550	119	186	0.0729	0.05	*	0.07	*
EBR	1.5	U	2,550	160	601	0.1153	0.00		0.12	*
WBL	2.0		3,400	339	487	0.1432	0.10	*	0.14	*
WBT	2.0		3,400	123	522	0.1535	0.04		0.15	
WBR	1.0	U	1,700	63	346	0.0376	0.00		0.04	*
N/S Critical Movements							0.59		0.44	
E/W Critical Movements							0.15		0.21	
Right Turn Critical Movement							0.00		0.16	
Clearance Interval							0.05		0.05	
ICU							0.79		0.86	
Level of Service (LOS)							C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 22
NORTH/SOUTH: Fairview Road
EAST/WEST: I-405 Northbound Ramps

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM	
NBL	1.0		1,700	262	200	0.1176	0.15	*	0.12	*
NBT	3.0		5,100	998	1,557	0.3053	0.20		0.31	
NBR	0.0		0	0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0	0.00		0.00	
SBT	6.0		10,200	2,280	2,273	0.2228	0.22	*	0.22	*
SBR	1.0	U	1,700	321	369	0	0.00		0.00	
EBL	0.0		0	0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0	0.00		0.00	
WBL	2.0		3,400	899	848	0.2494	0.26	*	0.25	*
WBT	0.0		0	0	0	0	0.00		0.00	
WBR	2.0	U	3,400	929	1,048	0.0588	0.01	*	0.06	*
N/S Critical Movements							0.37		0.34	
E/W Critical Movements							0.26		0.25	
Right Turn Critical Movement							0.01		0.06	
Clearance Interval							0.05		0.05	
ICU							0.69		0.70	
Level of Service (LOS)							B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00		0.00	
NBT	3.5		5,950	1,103	1,354	0.2276	0.19	*	0.23	*
NBR	1.5	U	2,550	1,183	608	0.0109	0.28	*	0.01	*
SBL	3.0		5,100	1,277	1,162	0.2278	0.25	*	0.23	*
SBT	3.0		5,100	1,902	1,959	0.3841	0.37		0.38	
SBR	0.0		0	0	0	0	0.00		0.00	
EBL	2.0		3,400	159	403	0.1185	0.05	*	0.12	*
EBT	0.0		0	0	0	0	0.00		0.00	
EBR	2.0	U	3,400	431	505	0.03	0.08	*	0.03	*
WBL	0.0		0	0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0	0.00		0.00	
N/S Critical Movements							0.44		0.46	
E/W Critical Movements							0.05		0.12	
Right Turn Critical Movement							0.36		0.04	
Clearance Interval							0.05		0.05	
ICU							0.90		0.67	
Level of Service (LOS)							D		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 24
NORTH/SOUTH: Fairview Road
EAST/WEST: Baker Street

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	152	199	0.0585	0.04		0.06	
NBT	3.0		5,100	1,526	1,247	0.2445	0.30	*	0.24	*
NBR	1.0	P	1,700	698	398	0	0.00		0.00	
SBL	2.0		3,400	281	257	0.0756	0.08	*	0.08	*
SBT	4.0		6,800	1,723	1,579	0.2322	0.25		0.23	
SBR	1.0	U	1,700	248	369	0	0.00		0.00	
EBL	2.0		3,400	307	303	0.0891	0.09		0.09	
EBT	2.0		3,400	596	451	0.1326	0.18	*	0.13	*
EBR	1.0	U	1,700	173	180	0	0.00		0.00	
WBL	2.0		3,400	364	716	0.2106	0.11	*	0.21	*
WBT	3.0		5,100	313	1,239	0.2429	0.06		0.24	
WBR	1.0	U	1,700	187	211	0	0.00		0.00	
N/S Critical Movements							0.38		0.32	
E/W Critical Movements							0.29		0.34	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.72		0.71	
Level of Service (LOS)							C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	133	1,572	0.02	*	0.23	*
SB	3.0		5,100	20	30	0.00	*	0.01	*
EBL	1.0		1,600	14	18	0.01		0.01	*
EBT	3.0		5,100	2,074	850	0.41	*	0.17	
EBR	1.0	U	1,600	866	203	0.13	*	0.00	
WBL	1.0		1,600	68	28	0.04	*	0.02	
WBT	3.0		5,100	555	2,620	0.11		0.51	*
WBR	1.0	U	1,600	12	13	0.00		0.00	
N/S Critical Movements						0.02		0.24	
E/W Critical Movements						0.45		0.52	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.65		0.81	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	184	655	0.06	*	0.20	*
NBT	3.0		5,100	1,021	1,734	0.20		0.34	
NBR	1.0	U	1,600	99	93	0.00		0.00	
SBL	2.0		3,200	374	239	0.12		0.07	
SBT	3.0		5,100	2,092	1,127	0.41	*	0.22	*
SBR	1.0	U	1,600	134	173	0.00		0.00	
EBL	1.0		1,600	157	141	0.10		0.09	*
EBT	3.0		5,100	1,358	640	0.27	*	0.13	
EBR	1.0	U	1,600	450	222	0.00		0.00	
WBL	1.0		1,600	101	59	0.06	*	0.04	
WBT	3.0		5,100	444	1,504	0.09		0.29	*
WBR	1.0	U	1,600	115	253	0.00		0.00	
N/S Critical Movements						0.47		0.42	
E/W Critical Movements						0.33		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.85		0.85	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	82	48	0.05	*	0.03	
NBT	2.5		4,250	1,326	2,219	0.31		0.52	*
NBR	0.5	U	800	71	31	0.00		0.00	
SBL	1.0		1,600	73	14	0.05		0.01	*
SBT	2.5		4,250	2,463	1,427	0.58	*	0.34	
SBR	0.5	U	800	72	13	0.00		0.00	
EBL	1.0		1,600	15	40	0.01		0.03	*
EBT	1.0		1,700	30	57	0.02	*	0.03	
EBR	1.0	U	1,600	33	101	0.00		0.01	*
WBL	1.0		1,600	27	92	0.02	*	0.06	
WBT	0.5		850	18	255	0.02		0.30	*
WBR	0.5	U	800	29	188	0.00		0.00	
N/S Critical Movements						0.63		0.53	
E/W Critical Movements						0.04		0.33	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.72		0.92	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Plus Project								
				Volume		V/C Ratio			
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	2.0		3,200	270	321	0.08	*	0.10	
NBT	3.0		5,100	1,409	1,967	0.28		0.39	*
NBR	1.0	U	1,600	529	390	0.05	*	0.00	
SBL	2.0		3,200	260	105	0.08		0.03	*
SBT	3.0		5,100	2,034	1,444	0.40	*	0.28	
SBR	1.0	U	1,600	51	83	0.00		0.00	
EB	3.0		5,100	396	566	0.08	*	0.11	*
WB	3.0		5,100	364	1,471	0.07	*	0.29	*
N/S Critical Movements						0.48		0.42	
E/W Critical Movements						0.15		0.40	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.73		0.87	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	80	301	0.05		0.19	
NBT	1.0		1,700	278	663	0.16	*	0.39	*
NBR	1.0	U	1,600	55	150	0.00		0.00	
SBL	1.0		1,600	77	70	0.05	*	0.04	*
SBT	0.5		850	86	184	0.10		0.22	
SBR	0.5	U	800	33	100	0.00		0.00	
EBL	1.0		1,600	83	105	0.05	*	0.07	*
EBT	2.0		3,400	418	683	0.12		0.20	
EBR	1.0	U	1,600	45	31	0.00		0.00	
WBL	1.0		1,600	54	40	0.03		0.03	
WBT	1.5		2,550	454	693	0.18	*	0.27	*
WBR	0.5	U	800	104	212	0.00		0.00	
N/S Critical Movements						0.21		0.43	
E/W Critical Movements						0.23		0.34	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.49		0.82	
Level of Service (LOS)						A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	165	230	0.05	*	0.07	
NBT	2.5		4,250	974	1,914	0.23		0.45	*
NBR	0.5	U	800	88	133	0.00		0.00	
SBL	2.0		3,200	415	178	0.13		0.06	*
SBT	3.0		5,100	1,840	1,040	0.36	*	0.20	
SBR	1.0	U	1,600	182	116	0.00		0.00	
EBL	2.0		3,200	151	317	0.05		0.10	*
EBT	3.0		5,100	1,140	815	0.22	*	0.16	
EBR	1.0	U	1,600	187	252	0.00		0.00	
WBL	2.0		3,200	212	181	0.07	*	0.06	
WBT	3.0		5,100	544	1,402	0.11		0.27	*
WBR	1.0	U	1,600	174	317	0.00		0.00	
N/S Critical Movements						0.41		0.51	
E/W Critical Movements						0.29		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.75		0.93	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	254	161	0.08	*	0.05	
NBT	3.0		5,100	1,080	1,912	0.21		0.37	*
NBR	1.0	U	1,600	178	323	0.00		0.00	
SBL	2.0		3,200	194	112	0.06		0.04	*
SBT	2.5		4,250	1,900	1,267	0.45	*	0.30	
SBR	0.5	U	800	169	99	0.00		0.00	
EBL	2.0		3,200	60	243	0.02		0.08	
EBT	1.5		2,550	300	526	0.12	*	0.21	*
EBR	0.5	U	800	80	217	0.00		0.03	*
WBL	2.0		3,200	323	249	0.10	*	0.08	*
WBT	2.0		3,400	402	602	0.12		0.18	
WBR	1.0	U	1,600	115	179	0.00		0.00	
N/S Critical Movements						0.53		0.41	
E/W Critical Movements						0.22		0.29	
Right Turn Critical Movement						0.00		0.03	
Clearance Interval						0.05		0.05	
ICU						0.80		0.78	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **29**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Segerstrom Avenue**

				Future Short-Term Cumulative P (2027)				
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	109	216	0.03	*	0.07	
NBT	2.5		4,250	838	1,761	0.20		0.41	*
NBR	0.5	U	800	66	64	0.00		0.00	
SBL	1.0		1,600	193	141	0.12		0.09	*
SBT	2.5		4,250	2,303	1,078	0.54	*	0.25	
SBR	0.5	U	800	69	84	0.00		0.00	
EBL	1.0		1,600	120	123	0.08		0.08	*
EBT	1.5		2,550	496	492	0.19	*	0.19	
EBR	0.5	U	800	216	124	0.05	*	0.00	
WBL	1.0		1,600	106	120	0.07	*	0.08	
WBT	2.0		3,400	266	1,015	0.08		0.30	*
WBR	1.0	U	1,600	99	384	0.00		0.00	
N/S Critical Movements						0.57		0.50	
E/W Critical Movements						0.26		0.38	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.93		0.93	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	598	366	564	185	60	11	24	295	510	0	851	52
Future Volume (veh/h)	598	366	564	185	60	11	24	295	510	0	851	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	629	385	594	195	63	12	25	311	537	0	896	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	729	465	789	258	356	66	81	1920	894	0	2822	797
Arrive On Green	0.20	0.25	0.25	0.07	0.12	0.12	0.02	0.56	0.56	0.00	0.50	0.50
Sat Flow, veh/h	3563	1870	3170	3456	2993	555	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	629	385	594	195	37	38	25	311	537	0	896	55
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1771	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	20.5	23.4	20.8	6.6	2.2	2.3	0.9	5.3	26.8	0.0	11.3	2.1
Cycle Q Clear(g_c), s	20.5	23.4	20.8	6.6	2.2	2.3	0.9	5.3	26.8	0.0	11.3	2.1
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	729	465	789	258	211	210	81	1920	894	0	2822	797
V/C Ratio(X)	0.86	0.83	0.75	0.76	0.17	0.18	0.31	0.16	0.60	0.00	0.32	0.07
Avail Cap(c_a), veh/h	1084	631	1070	446	289	288	158	1920	894	0	2822	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	42.6	41.7	54.4	47.6	47.6	57.6	12.6	17.3	0.0	17.6	15.4
Incr Delay (d2), s/veh	4.9	6.6	2.1	4.5	0.4	0.4	1.5	0.1	2.1	0.0	0.3	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	9.5	11.6	8.3	3.1	1.0	1.1	0.4	2.0	10.0	0.0	4.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	49.3	43.7	58.9	48.0	48.0	59.1	12.7	19.3	0.0	17.9	15.5
LnGrp LOS	D	D	D	E	D	D	E	B	B	A	B	B
Approach Vol, veh/h		1608			270			873			951	
Approach Delay, s/veh		47.9			55.9			18.1			17.8	
Approach LOS		D			E			B			B	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		72.2	13.5	34.4	7.3	64.8	29.1	18.8
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		50.5	15.5	40.5	5.5	40.5	36.5	19.5
Max Q Clear Time (g_c+I1), s		28.8	8.6	25.4	2.9	13.3	22.5	4.3
Green Ext Time (p_c), s		6.3	0.3	4.5	0.0	7.3	2.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	687	1047	26	32	730	807	5	16	2	81	1	30
Future Volume (veh/h)	687	1047	26	32	730	807	5	16	2	81	1	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	747	1138	28	35	793	0	5	17	2	89	0	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1971	1740	43	297	942		63	214	238	152	0	68
Arrive On Green	0.39	0.49	0.49	0.17	0.27	0.00	0.15	0.15	0.15	0.04	0.00	0.04
Sat Flow, veh/h	5023	3544	87	1781	3554	1585	420	1429	1585	3563	0	1585
Grp Volume(v), veh/h	747	570	596	35	793	0	22	0	2	89	0	33
Grp Sat Flow(s),veh/h/ln	1674	1777	1855	1781	1777	1585	1849	0	1585	1781	0	1585
Q Serve(g_s), s	12.7	28.9	28.9	2.0	25.3	0.0	1.2	0.0	0.1	2.9	0.0	2.4
Cycle Q Clear(g_c), s	12.7	28.9	28.9	2.0	25.3	0.0	1.2	0.0	0.1	2.9	0.0	2.4
Prop In Lane	1.00		0.05	1.00		1.00	0.23		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1971	872	910	297	942		277	0	238	152	0	68
V/C Ratio(X)	0.38	0.65	0.65	0.12	0.84		0.08	0.00	0.01	0.59	0.00	0.49
Avail Cap(c_a), veh/h	1971	872	910	297	1185		277	0	238	549	0	244
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	0.89	0.89	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	22.9	22.9	42.5	41.7	0.0	43.9	0.0	43.4	56.4	0.0	56.2
Incr Delay (d2), s/veh	0.1	3.8	3.7	0.2	4.1	0.0	0.6	0.0	0.1	3.5	0.0	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	5.1	12.7	13.3	0.9	11.6	0.0	0.6	0.0	0.1	1.4	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	26.7	26.6	42.7	45.9	0.0	44.4	0.0	43.5	59.9	0.0	61.5
LnGrp LOS	C	C	C	D	D		D	A	D	E	A	E
Approach Vol, veh/h		1913			828	A		24			122	
Approach Delay, s/veh		26.4			45.7			44.4			60.4	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.5	63.4		9.6	51.6	36.3		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.6	58.9		18.5	25.5	40.0		18.0
Max Q Clear Time (g_c+I1), s	4.0	30.9		4.9	14.7	27.3		3.2
Green Ext Time (p_c), s	0.0	9.3		0.3	2.3	4.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	181	328	354	106
Future Volume (veh/h)	0	0	181	328	354	106
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			197	0	385	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			277		0	
Arrive On Green			0.15	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			197	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			4.5	0.0		
Cycle Q Clear(g_c), s			4.5	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			277			
V/C Ratio(X)			0.71			
Avail Cap(c_a), veh/h			748			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			18.3	0.0		
Incr Delay (d2), s/veh			3.4	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			2.0	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			21.7	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			197	A		
Approach Delay, s/veh			21.7			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	11.2
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	18.0
Max Q Clear Time (g_c+I1), s	6.5
Green Ext Time (p_c), s	0.8

Intersection Summary	
HCM 6th Ctrl Delay	21.7
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	573	0	1162	0	1980	0	0	1520	985
Future Volume (veh/h)	0	0	0	573	0	1162	0	1980	0	0	1520	985
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				398	0	1423	0	2062	0	0	1583	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				836	0	1488	0	2835	0	0	2835	
Arrive On Green				0.47	0.00	0.47	0.00	0.88	0.00	0.00	0.44	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				398	0	1423	0	2062	0	0	1583	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				15.3	0.0	43.2	0.0	10.6	0.0	0.0	18.3	0.0
Cycle Q Clear(g_c), s				15.3	0.0	43.2	0.0	10.6	0.0	0.0	18.3	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				836	0	1488	0	2835	0	0	2835	
V/C Ratio(X)				0.48	0.00	0.96	0.00	0.73	0.00	0.00	0.56	
Avail Cap(c_a), veh/h				846	0	1506	0	2835	0	0	2835	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.84	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.1	0.0	25.5	0.0	4.0	0.0	0.0	20.8	0.0
Incr Delay (d2), s/veh				0.4	0.0	14.1	0.0	1.4	0.0	0.0	0.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	18.2	0.0	1.8	0.0	0.0	6.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.5	0.0	39.6	0.0	5.4	0.0	0.0	21.6	0.0
LnGrp LOS				B	A	D	A	A	A	A	C	
Approach Vol, veh/h					1821			2062			1583	A
Approach Delay, s/veh					35.0			5.4			21.6	
Approach LOS					D			A			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	48.6	48.6	51.4
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	43.5	43.5	47.5
Max Q Clear Time (g_c+I1), s	12.6	20.3	45.2
Green Ext Time (p_c), s	21.0	13.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	586	0	494	0	0	0	0	1393	640	0	2094	0
Future Volume (veh/h)	586	0	494	0	0	0	0	1393	640	0	2094	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	762	0	339				0	1436	0	0	2159	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	915	0	407				0	3335		0	4202	0
Arrive On Green	0.26	0.00	0.26				0.00	0.65	0.00	0.00	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	762	0	339				0	1436	0	0	2159	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	20.2	0.0	20.2				0.0	13.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.2	0.0	20.2				0.0	13.6	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	915	0	407				0	3335		0	4202	0
V/C Ratio(X)	0.83	0.00	0.83				0.00	0.43		0.00	0.51	0.00
Avail Cap(c_a), veh/h	1193	0	531				0	3335		0	4202	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.78	0.00
Uniform Delay (d), s/veh	35.1	0.0	35.1				0.0	8.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.0	0.0	8.6				0.0	0.4	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	8.6				0.0	4.6	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	0.0	43.7				0.0	8.8	0.0	0.0	0.4	0.0
LnGrp LOS	D	A	D				A	A		A	A	A
Approach Vol, veh/h		1101						1436	A		2159	
Approach Delay, s/veh		40.5						8.8			0.4	
Approach LOS		D						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		69.8				69.8		30.2				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		57.5				57.5		33.5				
Max Q Clear Time (g_c+I1), s		15.6				2.0		22.2				
Green Ext Time (p_c), s		15.0				32.2		3.5				

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	899	0	929	262	998	0	0	2280	321
Future Volume (veh/h)	0	0	0	899	0	929	262	998	0	0	2280	321
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				977	0	1010	285	1085	0	0	2478	349
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1153	0	931	310	2827	0	0	2761	513
Arrive On Green				0.33	0.00	0.33	0.35	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				977	0	1010	285	1085	0	0	2478	349
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				21.0	0.0	26.7	12.3	0.0	0.0	0.0	22.2	15.3
Cycle Q Clear(g_c), s				21.0	0.0	26.7	12.3	0.0	0.0	0.0	22.2	15.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1153	0	931	310	2827	0	0	2761	513
V/C Ratio(X)				0.85	0.00	1.08	0.92	0.38	0.00	0.00	0.90	0.68
Avail Cap(c_a), veh/h				1153	0	931	310	2827	0	0	2761	513
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.60	0.60	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				24.8	0.0	26.7	25.6	0.0	0.0	0.0	25.8	23.5
Incr Delay (d2), s/veh				6.0	0.0	55.2	22.0	0.2	0.0	0.0	5.1	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				9.1	0.0	15.5	5.9	0.1	0.0	0.0	7.7	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.8	0.0	81.9	47.6	0.2	0.0	0.0	30.9	30.6
LnGrp LOS				C	A	F	D	A	A	A	C	C
Approach Vol, veh/h					1987			1370			2827	
Approach Delay, s/veh					56.8			10.1			30.9	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	48.8		18.4	30.4		31.2
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	44.3		13.9	25.9		26.7
Max Q Clear Time (g_c+I1), s	2.0		14.3	24.2		28.7
Green Ext Time (p_c), s	10.0		0.0	1.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	0	431	0	0	0	0	1103	1183	1277	1902	0
Future Volume (veh/h)	159	0	431	0	0	0	0	1103	1183	1277	1902	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	171	0	463				0	1186	1272	1373	2045	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	514	0	415				0	2181	1232	1476	3772	0
Arrive On Green	0.15	0.00	0.15				0.00	0.39	0.39	0.59	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	171	0	463				0	1186	1272	1373	2045	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	3.5	0.0	11.9				0.0	13.1	31.1	19.9	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	11.9				0.0	13.1	31.1	19.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	514	0	415				0	2181	1232	1476	3772	0
V/C Ratio(X)	0.33	0.00	1.12				0.00	0.54	1.03	0.93	0.54	0.00
Avail Cap(c_a), veh/h	514	0	415				0	2181	1232	1476	3772	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.34	0.34	0.00
Uniform Delay (d), s/veh	30.5	0.0	34.0				0.0	19.0	24.5	15.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	79.5				0.0	1.0	34.3	4.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	8.5				0.0	5.6	16.6	4.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	113.5				0.0	19.9	58.7	20.1	0.2	0.0
LnGrp LOS	C	A	F				A	B	F	C	A	A
Approach Vol, veh/h		634						2458			3418	
Approach Delay, s/veh		91.2						40.0			8.2	
Approach LOS		F						D			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.0	35.6		16.4		63.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	31.1		11.9		59.1
Max Q Clear Time (g_c+I1), s	21.9	33.1		13.9		2.0
Green Ext Time (p_c), s	1.0	0.0		0.0		29.9

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	97.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	99	2159	14	30	491	117	2	2	321	0	0	169
Future Vol, veh/h	99	2159	14	30	491	117	2	2	321	0	0	169
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	2347	15	33	534	127	2	2	349	0	0	184

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	661	0	0	2362	0	0	2851	3298	1181	-	-	267
Stage 1	-	-	-	-	-	-	2571	2571	-	-	-	-
Stage 2	-	-	-	-	-	-	280	727	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	569	-	-	82	-	-	18	8	~ 157	0	0	623
Stage 1	-	-	-	-	-	-	15	52	-	0	0	-
Stage 2	-	-	-	-	-	-	645	427	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	569	-	-	82	-	-	8	4	~ 157	-	-	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	8	4	-	-	-	-
Stage 1	-	-	-	-	-	-	12	42	-	-	-	-
Stage 2	-	-	-	-	-	-	272	255	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	3.5	$ 1000.5	13.2
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	116	569	-	-	82	-	-	623
HCM Lane V/C Ratio	3.045	0.189	-	-	0.398	-	-	0.295
HCM Control Delay (s)	$ 1000.5	12.8	-	-	75.3	-	-	13.2
HCM Lane LOS	F	B	-	-	F	-	-	B
HCM 95th %tile Q(veh)	33.6	0.7	-	-	1.6	-	-	1.2

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	86	435	496	513	19	219	359	293	0	780	246
Future Volume (veh/h)	447	86	435	496	513	19	219	359	293	0	780	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	471	91	458	522	540	20	231	378	308	0	821	259
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	552	316	535	602	657	24	758	1853	863	0	1613	456
Arrive On Green	0.15	0.17	0.17	0.17	0.19	0.19	0.22	0.54	0.54	0.00	0.29	0.29
Sat Flow, veh/h	3563	1870	3170	3456	3495	129	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	471	91	458	522	274	286	231	378	308	0	821	259
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1847	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	15.4	5.1	16.8	17.6	17.8	17.8	6.7	6.8	13.2	0.0	14.7	11.3
Cycle Q Clear(g_c), s	15.4	5.1	16.8	17.6	17.8	17.8	6.7	6.8	13.2	0.0	14.7	11.3
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	552	316	535	602	334	347	758	1853	863	0	1613	456
V/C Ratio(X)	0.85	0.29	0.86	0.87	0.82	0.82	0.30	0.20	0.36	0.00	0.51	0.57
Avail Cap(c_a), veh/h	757	397	674	792	407	423	758	1853	863	0	1613	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	43.6	48.5	48.2	46.8	46.8	39.2	14.0	15.5	0.0	35.7	16.7
Incr Delay (d2), s/veh	7.0	0.5	8.8	8.0	10.6	10.4	0.2	0.2	1.1	0.0	1.2	5.1
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	7.4	2.4	7.3	8.2	8.8	9.2	2.9	2.7	5.0	0.0	6.9	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	44.1	57.2	56.2	57.4	57.2	39.4	14.2	16.5	0.0	36.8	21.8
LnGrp LOS	E	D	E	E	E	E	D	B	B	A	D	C
Approach Vol, veh/h		1020			1082			917			1080	
Approach Delay, s/veh		55.7			56.8			21.3			33.2	
Approach LOS		E			E			C			C	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		69.8	25.4	24.8	30.8	39.0	23.1	27.1
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		53.5	27.5	25.5	14.5	34.5	25.5	27.5
Max Q Clear Time (g_c+I1), s		15.2	19.6	18.8	8.7	16.7	17.4	19.8
Green Ext Time (p_c), s		5.3	1.3	1.4	0.4	6.4	1.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	635	529	2	13	1284	748	22	48	66	153	0	58
Future Volume (veh/h)	635	529	2	13	1284	748	22	48	66	153	0	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	690	575	2	14	1396	0	24	52	72	166	0	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	737	1831	6	230	1729		87	189	238	238	0	106
Arrive On Green	0.15	0.50	0.50	0.13	0.49	0.00	0.15	0.15	0.15	0.07	0.00	0.07
Sat Flow, veh/h	5023	3632	13	1781	3554	1585	581	1260	1585	3563	0	1585
Grp Volume(v), veh/h	690	281	296	14	1396	0	76	0	72	166	0	63
Grp Sat Flow(s),veh/h/ln	1674	1777	1868	1781	1777	1585	1841	0	1585	1781	0	1585
Q Serve(g_s), s	16.3	11.2	11.2	0.8	39.9	0.0	4.4	0.0	4.9	5.5	0.0	4.6
Cycle Q Clear(g_c), s	16.3	11.2	11.2	0.8	39.9	0.0	4.4	0.0	4.9	5.5	0.0	4.6
Prop In Lane	1.00		0.01	1.00		1.00	0.32		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	737	896	942	230	1729		276	0	238	238	0	106
V/C Ratio(X)	0.94	0.31	0.31	0.06	0.81		0.28	0.00	0.30	0.70	0.00	0.60
Avail Cap(c_a), veh/h	737	896	942	230	1729		276	0	238	534	0	238
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	0.83	0.83	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	17.5	17.5	45.9	26.0	0.0	45.2	0.0	45.4	54.8	0.0	54.4
Incr Delay (d2), s/veh	19.4	0.9	0.9	0.1	2.5	0.0	2.5	0.0	3.3	3.7	0.0	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	8.1	4.8	5.0	0.4	17.0	0.0	2.2	0.0	2.1	2.6	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	18.4	18.4	46.0	28.5	0.0	47.7	0.0	48.7	58.5	0.0	59.7
LnGrp LOS	E	B	B	D	C		D	A	D	E	A	E
Approach Vol, veh/h		1267			1410	A		148			229	
Approach Delay, s/veh		46.5			28.7			48.2			58.8	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.0	65.0		12.5	22.1	62.9		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.5	60.5		18.0	17.6	48.4		18.0
Max Q Clear Time (g_c+I1), s	2.8	13.2		7.5	18.3	41.9		6.9
Green Ext Time (p_c), s	0.0	3.9		0.5	0.0	4.7		0.4

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	623	903	416	451
Future Volume (veh/h)	0	0	623	903	416	451
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			663	0	443	0
Peak Hour Factor			0.94	0.94	0.94	0.94
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			753		0	
Arrive On Green			0.40	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			663	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			18.0	0.0		
Cycle Q Clear(g_c), s			18.0	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			753			
V/C Ratio(X)			0.88			
Avail Cap(c_a), veh/h			867			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			15.2	0.0		
Incr Delay (d2), s/veh			9.4	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			8.4	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			24.6	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			663	A		
Approach Delay, s/veh			24.6			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	26.6
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	25.5
Max Q Clear Time (g_c+I1), s	20.0
Green Ext Time (p_c), s	2.1

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	745	0	1279	0	1805	0	0	1690	1295
Future Volume (veh/h)	0	0	0	745	0	1279	0	1805	0	0	1690	1295
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				517	0	1609	0	1880	0	0	1760	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				968	0	1723	0	2454	0	0	2454	
Arrive On Green				0.54	0.00	0.54	0.00	0.76	0.00	0.00	0.38	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				517	0	1609	0	1880	0	0	1760	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				22.4	0.0	56.5	0.0	20.0	0.0	0.0	27.9	0.0
Cycle Q Clear(g_c), s				22.4	0.0	56.5	0.0	20.0	0.0	0.0	27.9	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				968	0	1723	0	2454	0	0	2454	
V/C Ratio(X)				0.53	0.00	0.93	0.00	0.77	0.00	0.00	0.72	
Avail Cap(c_a), veh/h				1017	0	1810	0	2454	0	0	2454	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.83	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				17.6	0.0	25.4	0.0	11.2	0.0	0.0	31.6	0.0
Incr Delay (d2), s/veh				0.5	0.0	9.3	0.0	2.0	0.0	0.0	1.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.1	0.0	22.4	0.0	3.9	0.0	0.0	11.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.1	0.0	34.7	0.0	13.1	0.0	0.0	33.4	0.0
LnGrp LOS				B	A	C	A	B	A	A	C	
Approach Vol, veh/h					2126			1880			1760	A
Approach Delay, s/veh					30.6			13.1			33.4	
Approach LOS					C			B			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	50.3	50.3	69.7
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	42.5	42.5	68.5
Max Q Clear Time (g_c+I1), s	22.0	29.9	58.5
Green Ext Time (p_c), s	14.3	9.3	6.8

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	0	788	0	0	0	0	1536	692	0	2435	0
Future Volume (veh/h)	269	0	788	0	0	0	0	1536	692	0	2435	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	187	0	921				0	1600	0	0	2536	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	585	0	1041				0	3046		0	3839	0
Arrive On Green	0.33	0.00	0.33				0.00	0.60	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	187	0	921				0	1600	0	0	2536	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	9.5	0.0	33.0				0.0	22.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.5	0.0	33.0				0.0	22.1	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	585	0	1041				0	3046		0	3839	0
V/C Ratio(X)	0.32	0.00	0.88				0.00	0.53		0.00	0.66	0.00
Avail Cap(c_a), veh/h	751	0	1337				0	3046		0	3839	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.59	0.00
Uniform Delay (d), s/veh	30.2	0.0	38.1				0.0	14.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	6.1				0.0	0.7	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	13.5				0.0	8.4	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	44.2				0.0	14.9	0.0	0.0	0.5	0.0
LnGrp LOS	C	A	D				A	B		A	A	A
Approach Vol, veh/h		1108						1600	A		2536	
Approach Delay, s/veh		41.9						14.9			0.5	
Approach LOS		D						B			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.1				76.1		43.9				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		60.4				60.4		50.6				
Max Q Clear Time (g_c+I1), s		24.1				2.0		35.0				
Green Ext Time (p_c), s		16.6				42.1		4.4				

Intersection Summary	
HCM 6th Ctrl Delay	13.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	848	0	1048	200	1557	0	0	2273	369
Future Volume (veh/h)	0	0	0	848	0	1048	200	1557	0	0	2273	369
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				865	0	1069	204	1589	0	0	2319	377
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1274	0	1028	232	2568	0	0	2632	489
Arrive On Green				0.37	0.00	0.37	0.26	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				865	0	1069	204	1589	0	0	2319	377
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				14.8	0.0	25.8	7.7	0.0	0.0	0.0	18.1	15.1
Cycle Q Clear(g_c), s				14.8	0.0	25.8	7.7	0.0	0.0	0.0	18.1	15.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1274	0	1028	232	2568	0	0	2632	489
V/C Ratio(X)				0.68	0.00	1.04	0.88	0.62	0.00	0.00	0.88	0.77
Avail Cap(c_a), veh/h				1274	0	1028	232	2568	0	0	2632	489
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.53	0.53	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.6	0.0	22.1	25.4	0.0	0.0	0.0	23.0	22.0
Incr Delay (d2), s/veh				1.5	0.0	38.9	18.4	0.6	0.0	0.0	4.7	11.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.7	0.0	13.2	3.9	0.1	0.0	0.0	6.2	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.1	0.0	61.0	43.8	0.6	0.0	0.0	27.6	33.1
LnGrp LOS				C	A	F	D	A	A	A	C	C
Approach Vol, veh/h					1934			1793			2696	
Approach Delay, s/veh					42.7			5.5			28.4	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.7		13.6	26.1		30.3
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	35.2		9.1	21.6		25.8
Max Q Clear Time (g_c+I1), s	2.0		9.7	20.1		27.8
Green Ext Time (p_c), s	15.8		0.0	1.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	403	0	505	0	0	0	0	1354	608	1162	1959	0
Future Volume (veh/h)	403	0	505	0	0	0	0	1354	608	1162	1959	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	420	0	526				0	1282	718	1210	2041	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	666	0	538				0	1884	1064	1399	3465	0
Arrive On Green	0.19	0.00	0.19				0.00	0.34	0.34	0.56	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	420	0	526				0	1282	718	1210	2041	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	7.8	0.0	13.1				0.0	13.8	13.6	14.4	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	13.1				0.0	13.8	13.6	14.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	538				0	1884	1064	1399	3465	0
V/C Ratio(X)	0.63	0.00	0.98				0.00	0.68	0.67	0.86	0.59	0.00
Avail Cap(c_a), veh/h	666	0	538				0	1884	1064	1399	3465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.45	0.45	0.00
Uniform Delay (d), s/veh	26.0	0.0	28.1				0.0	20.0	20.0	14.4	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	33.0				0.0	2.0	3.4	2.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	6.6				0.0	5.9	5.2	3.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	61.1				0.0	22.0	23.4	17.2	0.3	0.0
LnGrp LOS	C	A	E				A	C	C	B	A	A
Approach Vol, veh/h		946						2000			3251	
Approach Delay, s/veh		46.3						22.5			6.6	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	28.0		18.0		52.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	29.5	23.5		13.5		47.5
Max Q Clear Time (g_c+I1), s	16.4	15.8		15.1		2.0
Green Ext Time (p_c), s	1.6	6.1		0.0		26.4

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCS7 Two-Way Stop-Control Report

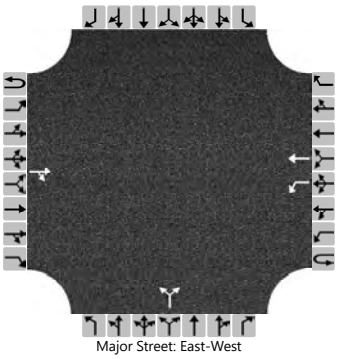
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2027
Time Analyzed	Cumul Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			19	0		43	100			0		133				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					145					
Capacity, c (veh/h)						1595					1057					
v/c Ratio						0.03					0.14					
95% Queue Length, Q_{95} (veh)						0.1					0.5					
Control Delay (s/veh)						7.3					8.9					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.2				8.9							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

General Information

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Agency/Co.	
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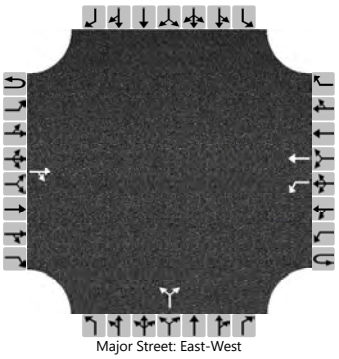
Analysis Year	2027
Time Analyzed	Cumul Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			154	0		43	150			0		133				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					145					
Capacity, c (veh/h)						1410					877					
v/c Ratio						0.03					0.16					
95% Queue Length, Q_{95} (veh)						0.1					0.6					
Control Delay (s/veh)						7.6					9.9					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.7				9.9							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

General Information

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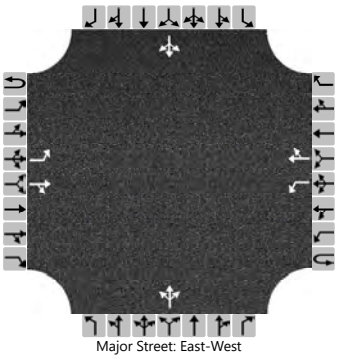
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		0	288	0		45	201	55		0	0	136		2	0	0
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				49					148				2	
Capacity, c (veh/h)		1284				1247					727				357	
v/c Ratio		0.00				0.04					0.20				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.8				0.0	
Control Delay (s/veh)		7.8				8.0					11.2				15.2	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.0				1.2				11.2				15.2			
Approach LOS									B				C			

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HCS7 Two-Way Stop-Control Report

General Information

Analyst	LSA
Agency/Co.	
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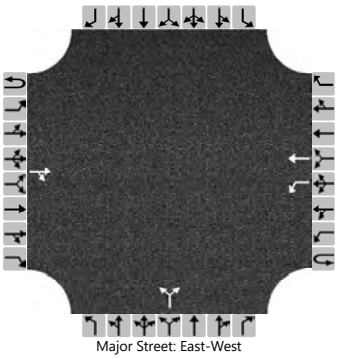
Analysis Year	2027
Time Analyzed	Cumul Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			102	0		136	162			0		85				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148					92					
Capacity, c (veh/h)						1479					942					
v/c Ratio						0.10					0.10					
95% Queue Length, Q_{95} (veh)						0.3					0.3					
Control Delay (s/veh)						7.7					9.2					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					3.5				9.2							
Approach LOS									A							

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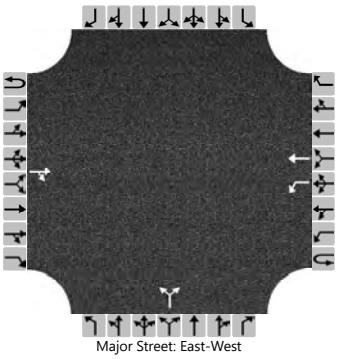
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			189	0		136	300			0		85				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148					92					
Capacity, c (veh/h)						1366					835					
v/c Ratio						0.11					0.11					
95% Queue Length, Q_{95} (veh)						0.4					0.4					
Control Delay (s/veh)						8.0					9.8					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.5				9.8							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

General Information

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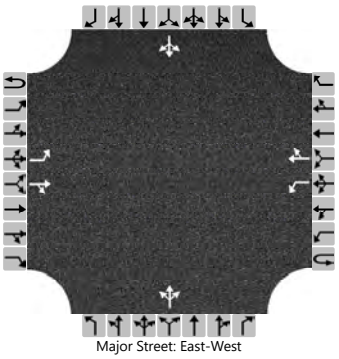
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		0	278	0		140	437	0		0	0	87		46	0	1
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				152					95				51	
Capacity, c (veh/h)		1087				1259					737				241	
v/c Ratio		0.00				0.12					0.13				0.21	
95% Queue Length, Q_{95} (veh)		0.0				0.4					0.4				0.8	
Control Delay (s/veh)		8.3				8.3					10.6				23.9	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.0				2.0				10.6				23.9			
Approach LOS									B				C			

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	General Plan Build Out (2040) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		2,880	245	152	0.08		0.05	
NBT	2.5		4,250	536	557	0.13	*	0.13	*
NBR	0.5	U	800	53	34	0.00		0.00	
SBL	2.0		2,880	697	160	0.24	*	0.06	*
SBT	3.0		5,100	1,027	656	0.20		0.13	
SBR	1.0	D	1,600	320	250	0.00		0.00	
EBL	2.0		2,880	159	257	0.06		0.09	*
EBT	2.5		4,250	1,416	601	0.33	*	0.14	
EBR	0.5	U	800	71	281	0.00		0.17	*
WBL	2.0		2,880	42	171	0.01	*	0.06	
WBT	3.0		5,100	471	2,205	0.09		0.43	*
WBR	1.0	U	1,600	75	781	0.00		0.01	*
N/S Critical Movements						0.37		0.19	
E/W Critical Movements						0.34		0.52	
Right Turn Critical Movement						0.00		0.18	
Clearance Interval						0.05		0.05	
ICU						0.76		0.94	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **2**
NORTH/SOUTH: **Euclid Street**
EAST/WEST: **I-405 Northbound Ramps - Newhope Street**

				General Plan Build Out (2040) Baseline			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		2,880	48	239	0.02 *	0.08 *
NBT	2.5		4,250	310	377	0.07	0.09
NBR	0.5	U	800	562	423	0.56 *	0.31 *
SBL	0.0		0	0	0	0.00	0.00
SBT	2.5		4,250	876	910	0.21 *	0.21 *
SBR	1.5	U	2,400	107	320	0.00	0.00
EBL	2.0		2,880	628	469	0.22 *	0.16 *
EBT	1.5		2,550	374	105	0.15	0.04
EBR	1.5	U	2,400	592	457	0.02 *	0.00
WBL	2.0		2,880	272	518	0.09	0.18
WBT	1.5		2,550	181	539	0.07 *	0.21 *
WBR	0.5	N	800	15	19	0.00	0.00
N/S Critical Movements						0.23	0.29
E/W Critical Movements						0.29	0.37
Right Turn Critical Movement						0.58	0.31
Clearance Interval						0.05	0.05
ICU						1.15	1.02
Level of Service (LOS)						F	F

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	25	145	0.01	*	0.04	*
SB	3.0		5,100	134	326	0.03	*	0.06	*
EBL	3.0		3,450	721	667	0.21	*	0.19	*
EBT	1.5		2,550	1,074	599	0.42		0.23	
EBR	0.5	U	800	27	2	0.00		0.00	
WBL	1.0		1,600	34	14	0.02		0.01	
WBT	2.0		3,400	879	1,345	0.26	*	0.40	*
WBR	1.0	F	1,600	847	785	0.00		0.00	
N/S Critical Movements						0.04		0.10	
E/W Critical Movements						0.47		0.59	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.56		0.74	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **4**
NORTH/SOUTH: **Newhope Street**
EAST/WEST: **Talbert Avenue**

	General Plan Build Out (2040) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	2	24	0.00		0.02	*
NBT	2.0		3,400	531	364	0.16	*	0.11	
NBR	1.0	P	1,600	437	108	0.08	*	0.00	
SBL	2.0		2,880	356	242	0.12	*	0.08	
SBT	1.5		2,550	293	562	0.11		0.22	*
SBR	0.5	U	800	128	199	0.02	*	0.00	
EBL	2.0		2,880	79	196	0.03		0.07	*
EBT	2.5		4,250	2,076	592	0.49	*	0.14	
EBR	0.5	U	800	20	12	0.00		0.00	
WBL	2.0		2,880	105	524	0.04	*	0.18	
WBT	3.5		5,950	489	2,910	0.08		0.49	*
WBR	0.5	U	800	60	201	0.00		0.00	
N/S Critical Movements						0.28		0.24	
E/W Critical Movements						0.53		0.56	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.96		0.85	
Level of Service (LOS)						E		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	97	1,618	0.01	*	0.24	*
SB	3.0		5,100	20	31	0.00	*	0.01	*
EBL	1.0		1,700	14	19	0.01		0.01	*
EBT	3.0		5,100	2,178	893	0.43	*	0.18	
EBR	1.0	U	1,700	895	165	0.10	*	0.00	
WBL	1.0		1,700	71	29	0.04	*	0.02	
WBT	3.0		5,100	583	2,751	0.11		0.54	*
WBR	1.0	U	1,700	12	14	0.00		0.00	
N/S Critical Movements						0.01		0.25	
E/W Critical Movements						0.47		0.55	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.63		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	84	79	0.05	*	0.05	
NBT	1.5		2,550	139	622	0.05		0.24	*
NBR	0.5	U	850	12	69	0.00		0.00	
SBL	1.0		1,700	146	51	0.09		0.03	*
SBT	1.5		2,550	361	275	0.14	*	0.11	
SBR	0.5	U	850	88	82	0.00		0.00	
EBL	1.0		1,700	12	60	0.01	*	0.04	
EBT	1.5		2,550	37	226	0.01		0.09	*
EBR	0.5	U	850	21	141	0.00		0.04	*
WBL	1.0		1,700	42	242	0.02		0.14	*
WBT	1.5		2,550	181	181	0.07	*	0.07	
WBR	0.5	U	850	76	213	0.00		0.09	*
N/S Critical Movements						0.19		0.27	
E/W Critical Movements						0.08		0.23	
Right Turn Critical Movement						0.00		0.13	
Clearance Interval						0.05		0.05	
ICU						0.32		0.68	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	306	399	0.18	*	0.23	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	70	448	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	190	654	0.11	*	0.38	*
WBR	1.0	F	1,700	328	882	0.00		0.00	
N/S Critical Movements						0.18		0.23	
E/W Critical Movements						0.11		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.34		0.66	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	193	688	0.06 *	0.20 *
NBT	3.0		5,100	1,048	1,808	0.21	0.35
NBR	1.0	U	1,700	100	98	0.00	0.00
SBL	2.0		3,400	393	251	0.12	0.07
SBT	3.0		5,100	2,194	1,159	0.43 *	0.23 *
SBR	1.0	U	1,700	141	182	0.00	0.00
EBL	1.0		1,700	165	148	0.10	0.09 *
EBT	3.0		5,100	1,426	672	0.28 *	0.13
EBR	1.0	U	1,700	473	233	0.00	0.00
WBL	1.0		1,700	106	62	0.06 *	0.04
WBT	3.0		5,100	466	1,579	0.09	0.31 *
WBR	1.0	U	1,700	121	266	0.00	0.00
N/S Critical Movements						0.49	0.43
E/W Critical Movements						0.34	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.88	0.88
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	93	49	0.05	*	0.03	
NBT	2.5		4,250	1,367	2,312	0.32		0.54	*
NBR	0.5	U	850	75	33	0.00		0.00	
SBL	1.0		1,700	77	15	0.05		0.01	*
SBT	2.5		4,250	2,577	1,471	0.61	*	0.35	
SBR	0.5	U	850	80	14	0.00		0.00	
EBL	1.0		1,700	22	43	0.01		0.03	*
EBT	1.0		1,700	36	60	0.02	*	0.04	
EBR	1.0	U	1,700	51	112	0.00		0.01	*
WBL	1.0		1,700	28	97	0.02	*	0.06	
WBT	0.5		850	19	268	0.02		0.32	*
WBR	0.5	U	850	30	197	0.00		0.00	
N/S Critical Movements						0.66		0.55	
E/W Critical Movements						0.04		0.35	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.75		0.96	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	248	172	0.07	*	0.05	
NBT	3.0		5,100	1,486	2,065	0.29		0.40	*
NBR	1.0	U	1,700	555	410	0.04	*	0.00	
SBL	2.0		3,400	273	110	0.08		0.03	*
SBT	3.0		5,100	2,136	1,518	0.42	*	0.30	
SBR	1.0	U	1,700	45	60	0.00		0.00	
EB	3.0		5,100	206	456	0.04	*	0.09	*
WB	3.0		5,100	372	1,475	0.07	*	0.29	*
N/S Critical Movements						0.49		0.43	
E/W Critical Movements						0.11		0.38	
Right Turn Critical Movement						0.04		0.00	
Clearance Interval						0.05		0.05	
ICU						0.69		0.86	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 11
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: South Coast Drive

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	421	437	0.12 *	0.13 *
NBT	3.5		5,950	2,314	2,312	0.39	0.39
NBR	1.5	P	2,550	434	275	0.00	0.00
SBL	2.0		3,400	103	83	0.03	0.02
SBT	4.0		6,800	2,124	2,060	0.31 *	0.30 *
SBR	1.0	U	1,700	68	72	0.00	0.00
EBL	1.0		1,700	19	39	0.01	0.02 *
EBT	0.5		850	65	63	0.08 *	0.07
EBR	1.5	U	2,550	266	476	0.00	0.02 *
WBL	2.0		3,400	134	724	0.04 *	0.21
WBT	2.0		3,400	285	1,041	0.08	0.31 *
WBR	1.0	U	1,700	103	261	0.00	0.00
N/S Critical Movements						0.43	0.43
E/W Critical Movements						0.12	0.33
Right Turn Critical Movement						0.00	0.02
Clearance Interval						0.05	0.05
ICU						0.60	0.83
Level of Service (LOS)						A	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	General Plan Build Out (2040) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	2,059	1,803	0.30	*	0.27	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,549	1,743	0.23		0.26	
SBR	1.0	F	1,700	964	1,317	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	602	782	0.24	*	0.31	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	1,205	1,269	0.24	*	0.19	*
N/S Critical Movements						0.30		0.27	
E/W Critical Movements						0.24		0.31	
Right Turn Critical Movement						0.24		0.19	
Clearance Interval						0.05		0.05	
ICU						0.83		0.82	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	0.0		0	0	0	0.00 *	0.00 *
NBT	3.0		5,100	1,451	1,563	0.28	0.31
NBR	1.0	F	1,700	672	727	0.00	0.00
SBL	0.0		0	0	0	0.00	0.00
SBT	4.0		6,800	2,151	2,525	0.32 *	0.37 *
SBR	0.0		0	0	0	0.00	0.00
EBL	1.5		2,550	608	239	0.24 *	0.09 *
EBT	0.0		0	0	0	0.00	0.00
EBR	1.5	U	2,550	519	827	0.00	0.23 *
WBL	0.0		0	0	0	0.00	0.00
WBT	0.0		0	0	0	0.00 *	0.00 *
WBR	0.0		0	0	0	0.00	0.00
N/S Critical Movements						0.32	0.37
E/W Critical Movements						0.24	0.09
Right Turn Critical Movement						0.00	0.23
Clearance Interval						0.05	0.05
ICU						0.61	0.74
Level of Service (LOS)						B	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **14**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Gisler Avenue**

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	124	158	0.07	*	0.09	*
NBT	4.5		7,650	2,460	2,248	0.32		0.29	
NBR	0.5	U	850	11	23	0.00		0.00	
SBL	1.0		1,700	84	153	0.05		0.09	
SBT	3.5		5,950	2,071	2,484	0.35	*	0.42	*
SBR	0.5	U	850	258	471	0.00		0.14	*
EB	4.0		6,800	1,020	609	0.15	*	0.09	*
WB	3.0		5,100	270	504	0.05	*	0.10	*
N/S Critical Movements						0.42		0.51	
E/W Critical Movements						0.20		0.19	
Right Turn Critical Movement						0.00		0.14	
Clearance Interval						0.05		0.05	
ICU						0.67		0.89	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **15**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Nutmeg Place**

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	17	48	0.01		0.03	*
NBT	3.5		5,950	2,432	2,192	0.41	*	0.37	
NBR	0.5	U	850	146	213	0.00		0.00	
SBL	2.0		3,400	144	204	0.04	*	0.06	
SBT	3.5		5,950	2,084	2,442	0.35		0.41	*
SBR	0.5	U	850	57	53	0.00		0.00	
EB	2.0		3,400	89	160	0.03	*	0.05	*
WB	2.0		3,400	161	350	0.05	*	0.10	*
N/S Critical Movements						0.45		0.44	
E/W Critical Movements						0.08		0.15	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.58		0.64	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	51	65	0.02	0.02 *
NBT	4.0		6,800	2,147	1,854	0.32 *	0.27
NBR	1.0	P	1,700	265	225	0.00	0.00
SBL	2.0		3,400	215	212	0.06 *	0.06
SBT	4.0		6,800	1,691	2,211	0.25	0.33 *
SBR	1.0	P	1,700	252	299	0.00	0.00
EBL	2.0		3,400	315	228	0.09	0.07 *
EBT	1.5		2,550	269	258	0.11 *	0.10
EBR	0.5	U	850	70	100	0.00	0.00
WBL	2.0		3,400	219	497	0.06 *	0.15
WBT	2.0		3,400	244	701	0.07	0.21 *
WBR	1.0	U	1,700	172	385	0.00	0.00
N/S Critical Movements						0.38	0.35
E/W Critical Movements						0.17	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.60	0.68
Level of Service (LOS)						A	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	88	341	0.05		0.20	
NBT	1.0		1,700	285	696	0.17	*	0.41	*
NBR	1.0	U	1,700	58	155	0.00		0.00	
SBL	1.0		1,700	81	74	0.05	*	0.04	*
SBT	0.5		850	110	207	0.13		0.24	
SBR	0.5	U	850	28	88	0.00		0.00	
EBL	1.0		1,700	98	101	0.06	*	0.06	*
EBT	2.0		3,400	387	685	0.11		0.20	
EBR	1.0	U	1,700	91	41	0.00		0.00	
WBL	1.0		1,700	66	48	0.04		0.03	
WBT	1.5		2,550	464	675	0.18	*	0.26	*
WBR	0.5	U	850	109	223	0.00		0.00	
N/S Critical Movements						0.22		0.45	
E/W Critical Movements						0.24		0.32	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.51		0.82	
Level of Service (LOS)						A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	General Plan Build Out (2040) Baseline								
NBL	2.0		3,400	212	626	0.06		0.18	
NBT	1.5		2,550	487	852	0.19	*	0.33	*
NBR	0.5	U	850	95	65	0.00		0.00	
SBL	2.0		3,400	74	163	0.02	*	0.05	*
SBT	1.5		2,550	2	23	0.00		0.01	
SBR	0.5	U	850	88	244	0.05	*	0.22	*
EBL	2.0		3,400	129	102	0.04		0.03	*
EBT	1.5		2,550	320	255	0.13	*	0.10	
EBR	0.5	U	850	1	14	0.00		0.00	
WBL	2.0		3,400	0	43	0.00	*	0.01	
WBT	2.0		3,400	247	770	0.07		0.23	*
WBR	1.0	P	1,700	61	170	0.00		0.00	
N/S Critical Movements						0.21		0.38	
E/W Critical Movements						0.13		0.26	
Right Turn Critical Movement						0.05		0.22	
Clearance Interval						0.05		0.05	
ICU						0.44		0.91	
Level of Service (LOS)						A		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

				General Plan Build Out (2040) Baseline			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	267	169	0.08 *	0.05
NBT	3.0		5,100	1,134	2,008	0.22	0.39 *
NBR	1.0	U	1,700	188	327	0.00	0.00
SBL	2.0		3,400	213	118	0.06	0.03 *
SBT	2.5		4,250	1,995	1,330	0.47 *	0.31
SBR	0.5	U	850	173	86	0.00	0.00
EBL	2.0		3,400	45	244	0.01	0.07
EBT	1.5		2,550	281	530	0.11 *	0.21 *
EBR	0.5	U	850	84	228	0.00	0.02 *
WBL	2.0		3,400	333	276	0.10 *	0.08 *
WBT	2.0		3,400	412	599	0.12	0.18
WBR	1.0	U	1,700	115	188	0.00	0.00
N/S Critical Movements						0.55	0.42
E/W Critical Movements						0.21	0.29
Right Turn Critical Movement						0.00	0.02
Clearance Interval						0.05	0.05
ICU						0.81	0.78
Level of Service (LOS)						D	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **21**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **South Coast Drive**

				General Plan Build Out (2040) Baseline			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	297	217	0.09 *	0.06 *
NBT	3.0		5,100	1,514	2,074	0.30	0.41
NBR	1.0	U	1,700	232	386	0.00	0.00
SBL	2.0		3,400	43	59	0.01	0.02
SBT	2.5		4,250	2,258	1,685	0.53 *	0.40 *
SBR	0.5	U	850	31	60	0.00	0.00
EBL	1.0		1,700	11	75	0.01	0.04
EBT	1.5		2,550	125	179	0.05 *	0.07 *
EBR	1.5	U	2,550	160	627	0.00	0.13 *
WBL	2.0		3,400	356	511	0.10 *	0.15 *
WBT	2.0		3,400	144	519	0.04	0.15
WBR	1.0	U	1,700	63	363	0.00	0.05 *
N/S Critical Movements						0.62	0.46
E/W Critical Movements						0.15	0.22
Right Turn Critical Movement						0.00	0.18
Clearance Interval						0.05	0.05
ICU						0.82	0.91
Level of Service (LOS)						D	E

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **22**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Northbound Ramps**

				General Plan Build Out (2040) Baseline			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,700	275	210	0.16 *	0.12 *
NBT	3.0		5,100	1,046	1,626	0.21	0.32
NBR	0.0		0	0	0	0.00	0.00
SBL	0.0		0	0	0	0.00	0.00
SBT	6.0		10,200	2,386	2,382	0.23 *	0.23 *
SBR	1.0	U	1,700	337	387	0.00	0.00
EBL	0.0		0	0	0	0.00	0.00
EBT	0.0		0	0	0	0.00 *	0.00 *
EBR	0.0		0	0	0	0.00	0.00
WBL	2.0		3,400	944	890	0.28 *	0.26 *
WBT	0.0		0	0	0	0.00	0.00
WBR	2.0	U	3,400	975	1,100	0.01 *	0.06 *
N/S Critical Movements						0.39	0.35
E/W Critical Movements						0.28	0.26
Right Turn Critical Movement						0.01	0.06
Clearance Interval						0.05	0.05
ICU						0.73	0.72
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

				General Plan Build Out (2040) Baseline			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	0.0		0	0	0	0.00	0.00
NBT	3.5		5,950	1,156	1,413	0.19 *	0.24 *
NBR	1.5	U	2,550	1,242	638	0.29 *	0.01 *
SBL	3.0		5,100	1,341	1,220	0.26 *	0.24 *
SBT	3.0		5,100	1,989	2,053	0.39	0.40
SBR	0.0		0	0	0	0.00	0.00
EBL	2.0		3,400	175	423	0.05 *	0.12 *
EBT	0.0		0	0	0	0.00	0.00
EBR	2.0	U	3,400	443	530	0.08 *	0.03 *
WBL	0.0		0	0	0	0.00	0.00
WBT	0.0		0	0	0	0.00 *	0.00 *
WBR	0.0		0	0	0	0.00	0.00
N/S Critical Movements						0.45	0.48
E/W Critical Movements						0.05	0.12
Right Turn Critical Movement						0.37	0.04
Clearance Interval						0.05	0.05
ICU						0.92	0.69
Level of Service (LOS)						E	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	160	209	0.05	0.06
NBT	3.0		5,100	1,601	1,305	0.31 *	0.26 *
NBR	1.0	P	1,700	733	418	0.00	0.00
SBL	2.0		3,400	291	268	0.09 *	0.08 *
SBT	4.0		6,800	1,805	1,656	0.27	0.24
SBR	1.0	U	1,700	260	540	0.00	0.00
EBL	2.0		3,400	322	584	0.09	0.17 *
EBT	2.0		3,400	626	474	0.18 *	0.14
EBR	1.0	U	1,700	182	189	0.00	0.00
WBL	2.0		3,400	382	752	0.11 *	0.22
WBT	3.0		5,100	329	1,301	0.06	0.26 *
WBR	1.0	U	1,700	195	394	0.00	0.00
N/S Critical Movements						0.40	0.34
E/W Critical Movements						0.29	0.43
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.74	0.82
Level of Service (LOS)						C	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 29
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Segerstrom Avenue

	General Plan Build Out Baseline (2040)								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	114	227	0.03	*	0.07	
NBT	2.5		4,250	859	1,835	0.20		0.43	*
NBR	0.5	U	800	69	67	0.00		0.00	
SBL	1.0		1,600	203	148	0.13		0.09	*
SBT	2.5		4,250	2,413	1,109	0.57	*	0.26	
SBR	0.5	U	800	72	88	0.00		0.00	
EBL	1.0		1,600	126	129	0.08		0.08	*
EBT	1.5		2,550	521	517	0.20	*	0.20	
EBR	0.5	U	800	228	136	0.06	*	0.00	
WBL	1.0		1,600	116	135	0.07	*	0.08	
WBT	2.0		3,400	278	1,066	0.08		0.31	*
WBR	1.0	U	1,600	104	403	0.00		0.00	
N/S Critical Movements						0.60		0.52	
E/W Critical Movements						0.27		0.39	
Right Turn Critical Movement						0.06		0.00	
Clearance Interval						0.05		0.05	
ICU						0.98		0.96	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

			General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	97	1,618	0.01	*	0.24	*
SB	3.0		5,100	20	31	0.00	*	0.01	*
EBL	1.0		1,600	14	19	0.01		0.01	*
EBT	3.0		5,100	2,178	893	0.43	*	0.18	
EBR	1.0	U	1,600	895	165	0.13	*	0.00	
WBL	1.0		1,600	71	29	0.04	*	0.02	
WBT	3.0		5,100	583	2,751	0.11		0.54	*
WBR	1.0	U	1,600	12	14	0.00		0.00	
N/S Critical Movements						0.01		0.25	
E/W Critical Movements						0.47		0.55	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.66		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,200	193	688	0.06 *	0.21 *
NBT	3.0		5,100	1,048	1,808	0.21	0.35
NBR	1.0	U	1,600	100	98	0.00	0.00
SBL	2.0		3,200	393	251	0.12	0.08
SBT	3.0		5,100	2,194	1,159	0.43 *	0.23 *
SBR	1.0	U	1,600	141	182	0.00	0.00
EBL	1.0		1,600	165	148	0.10	0.09 *
EBT	3.0		5,100	1,426	672	0.28 *	0.13
EBR	1.0	U	1,600	473	233	0.00	0.00
WBL	1.0		1,600	106	62	0.07 *	0.04
WBT	3.0		5,100	466	1,579	0.09	0.31 *
WBR	1.0	U	1,600	121	266	0.00	0.00
N/S Critical Movements						0.49	0.44
E/W Critical Movements						0.35	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.89	0.89
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	93	49	0.06	*	0.03	
NBT	2.5		4,250	1,367	2,312	0.32		0.54	*
NBR	0.5	U	800	75	33	0.00		0.00	
SBL	1.0		1,600	77	15	0.05		0.01	*
SBT	2.5		4,250	2,577	1,471	0.61	*	0.35	
SBR	0.5	U	800	80	14	0.00		0.00	
EBL	1.0		1,600	22	43	0.01		0.03	*
EBT	1.0		1,700	36	60	0.02	*	0.04	
EBR	1.0	U	1,600	51	112	0.00		0.01	*
WBL	1.0		1,600	28	97	0.02	*	0.06	
WBT	0.5		850	19	268	0.02		0.32	*
WBR	0.5	U	800	30	197	0.00		0.00	
N/S Critical Movements						0.67		0.55	
E/W Critical Movements						0.04		0.35	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.76		0.96	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 10
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Baseline								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	248	172	0.08	*	0.05	
NBT	3.0		5,100	1,486	2,065	0.29		0.40	*
NBR	1.0	U	1,600	555	410	0.06	*	0.00	
SBL	2.0		3,200	273	110	0.09		0.03	*
SBT	3.0		5,100	2,136	1,518	0.42	*	0.30	
SBR	1.0	U	1,600	45	60	0.00		0.00	
EB	3.0		5,100	206	456	0.04	*	0.09	*
WB	3.0		5,100	372	1,475	0.07	*	0.29	*
N/S Critical Movements						0.50		0.43	
E/W Critical Movements						0.11		0.38	
Right Turn Critical Movement						0.06		0.00	
Clearance Interval						0.05		0.05	
ICU						0.72		0.86	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Baseline						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,600	88	341	0.06	0.21
NBT	1.0		1,700	285	696	0.17 *	0.41 *
NBR	1.0	U	1,600	58	155	0.00	0.00
SBL	1.0		1,600	81	74	0.05 *	0.05 *
SBT	0.5		850	110	207	0.13	0.24
SBR	0.5	U	800	28	88	0.00	0.00
EBL	1.0		1,600	98	101	0.06 *	0.06 *
EBT	2.0		3,400	387	685	0.11	0.20
EBR	1.0	U	1,600	91	41	0.00	0.00
WBL	1.0		1,600	66	48	0.04	0.03
WBT	1.5		2,550	464	675	0.18 *	0.26 *
WBR	0.5	U	800	109	223	0.00	0.00
N/S Critical Movements						0.22	0.46
E/W Critical Movements						0.24	0.32
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.51	0.83
Level of Service (LOS)						A	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	173	242	0.05	*	0.08	
NBT	2.5		4,250	1,005	1,999	0.24		0.47	*
NBR	0.5	U	800	92	140	0.00		0.00	
SBL	2.0		3,200	436	187	0.14		0.06	*
SBT	3.0		5,100	1,928	1,074	0.38	*	0.21	
SBR	1.0	U	1,600	191	122	0.00		0.00	
EBL	2.0		3,200	159	333	0.05		0.10	*
EBT	3.0		5,100	1,197	856	0.23	*	0.17	
EBR	1.0	U	1,600	187	265	0.00		0.00	
WBL	2.0		3,200	223	190	0.07	*	0.06	
WBT	3.0		5,100	571	1,472	0.11		0.29	*
WBR	1.0	U	1,600	183	333	0.00		0.00	
N/S Critical Movements						0.43		0.53	
E/W Critical Movements						0.30		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.78		0.97	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Baseline							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	267	169	0.08	*	0.05	
NBT	3.0		5,100	1,134	2,008	0.22		0.39	*
NBR	1.0	U	1,600	188	327	0.00		0.00	
SBL	2.0		3,200	213	118	0.07		0.04	*
SBT	2.5		4,250	1,995	1,330	0.47	*	0.31	
SBR	0.5	U	800	173	86	0.00		0.00	
EBL	2.0		3,200	45	244	0.01		0.08	
EBT	1.5		2,550	281	530	0.11	*	0.21	*
EBR	0.5	U	800	84	228	0.00		0.04	*
WBL	2.0		3,200	333	276	0.10	*	0.09	*
WBT	2.0		3,400	412	599	0.12		0.18	
WBR	1.0	U	1,600	115	188	0.00		0.00	
N/S Critical Movements						0.55		0.43	
E/W Critical Movements						0.21		0.30	
Right Turn Critical Movement						0.00		0.04	
Clearance Interval						0.05		0.05	
ICU						0.81		0.82	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 29
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Segerstrom Avenue

	General Plan Build Out Baseline (2040)							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	114	227	0.04	*	0.07	
NBT	2.5		4,250	859	1,835	0.20		0.43	*
NBR	0.5	U	800	69	67	0.00		0.00	
SBL	1.0		1,600	203	148	0.13		0.09	*
SBT	2.5		4,250	2,413	1,109	0.57	*	0.26	
SBR	0.5	U	800	72	88	0.00		0.00	
EBL	1.0		1,600	126	129	0.08		0.08	*
EBT	1.5		2,550	521	517	0.20	*	0.20	
EBR	0.5	U	800	228	136	0.05	*	0.00	
WBL	1.0		1,600	116	135	0.07	*	0.08	
WBT	2.0		3,400	278	1,066	0.08		0.31	*
WBR	1.0	U	1,600	104	403	0.00		0.00	
N/S Critical Movements						0.61		0.52	
E/W Critical Movements						0.27		0.39	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.98		0.96	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	628	374	592	272	181	15	48	310	562	0	876	107
Future Volume (veh/h)	628	374	592	272	181	15	48	310	562	0	876	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	661	394	623	286	191	16	51	326	592	0	922	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	762	473	802	353	471	39	118	1811	843	0	2584	730
Arrive On Green	0.21	0.25	0.25	0.10	0.14	0.14	0.03	0.53	0.53	0.00	0.46	0.46
Sat Flow, veh/h	3563	1870	3170	3456	3322	276	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	661	394	623	286	101	106	51	326	592	0	922	113
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1821	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	21.5	23.9	21.9	9.7	6.2	6.3	1.7	5.9	33.5	0.0	12.7	5.0
Cycle Q Clear(g_c), s	21.5	23.9	21.9	9.7	6.2	6.3	1.7	5.9	33.5	0.0	12.7	5.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	762	473	802	353	252	258	118	1811	843	0	2584	730
V/C Ratio(X)	0.87	0.83	0.78	0.81	0.40	0.41	0.43	0.18	0.70	0.00	0.36	0.15
Avail Cap(c_a), veh/h	1084	616	1043	533	318	326	158	1811	843	0	2584	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69	0.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	42.4	41.7	52.7	46.9	46.9	56.8	14.5	21.0	0.0	20.9	18.8
Incr Delay (d2), s/veh	5.5	7.5	2.8	5.6	1.0	1.0	1.7	0.2	3.4	0.0	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	12.0	8.8	4.5	2.8	3.0	0.8	2.3	12.8	0.0	5.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	49.9	44.4	58.3	47.9	48.0	58.6	14.7	24.4	0.0	21.3	19.3
LnGrp LOS	D	D	D	E	D	D	E	B	C	A	C	B
Approach Vol, veh/h		1678			493			969			1035	
Approach Delay, s/veh		48.3			53.9			22.9			21.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s		68.4	16.8	34.9	8.6	59.8	30.2	21.5				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s		48.5	18.5	39.5	5.5	38.5	36.5	21.5				
Max Q Clear Time (g_c+I1), s		35.5	11.7	25.9	3.7	14.7	23.5	8.3				
Green Ext Time (p_c), s		5.4	0.6	4.5	0.0	7.5	2.2	0.9				

Intersection Summary	
HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	1074	27	34	879	847	6	17	2	93	1	40
Future Volume (veh/h)	721	1074	27	34	879	847	6	17	2	93	1	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	784	1167	29	37	955	0	7	18	2	102	0	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1736	1748	43	284	1092		77	199	238	168	0	75
Arrive On Green	0.35	0.49	0.49	0.16	0.31	0.00	0.15	0.15	0.15	0.05	0.00	0.05
Sat Flow, veh/h	5023	3543	88	1781	3554	1585	516	1328	1585	3563	0	1585
Grp Volume(v), veh/h	784	585	611	37	955	0	25	0	2	102	0	43
Grp Sat Flow(s),veh/h/ln	1674	1777	1855	1781	1777	1585	1845	0	1585	1781	0	1585
Q Serve(g_s), s	14.5	29.8	29.9	2.1	30.5	0.0	1.4	0.0	0.1	3.4	0.0	3.2
Cycle Q Clear(g_c), s	14.5	29.8	29.9	2.1	30.5	0.0	1.4	0.0	0.1	3.4	0.0	3.2
Prop In Lane	1.00		0.05	1.00		1.00	0.28		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1736	877	915	284	1092		277	0	238	168	0	75
V/C Ratio(X)	0.45	0.67	0.67	0.13	0.87		0.09	0.00	0.01	0.61	0.00	0.58
Avail Cap(c_a), veh/h	1736	877	915	284	1229		277	0	238	534	0	238
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	0.83	0.83	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	23.0	23.0	43.3	39.4	0.0	43.9	0.0	43.4	56.1	0.0	56.0
Incr Delay (d2), s/veh	0.2	4.0	3.9	0.2	5.6	0.0	0.6	0.0	0.1	3.5	0.0	6.8
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	5.9	13.2	13.7	1.0	14.1	0.0	0.7	0.0	0.1	1.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	27.0	26.8	43.4	45.0	0.0	44.6	0.0	43.5	59.6	0.0	62.8
LnGrp LOS	C	C	C	D	D		D	A	D	E	A	E
Approach Vol, veh/h		1980			992	A		27			145	
Approach Delay, s/veh		28.4			44.9			44.5			60.6	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.6	63.7		10.2	46.0	41.4		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.8	59.2		18.0	24.5	41.5		18.0
Max Q Clear Time (g_c+I1), s	4.1	31.9		5.4	16.5	32.5		3.4
Green Ext Time (p_c), s	0.0	9.5		0.3	2.1	4.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	190	328	306	70
Future Volume (veh/h)	0	0	190	328	306	70
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			207	0	333	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			290		0	
Arrive On Green			0.15	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			207	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			4.7	0.0		
Cycle Q Clear(g_c), s			4.7	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			290			
V/C Ratio(X)			0.71			
Avail Cap(c_a), veh/h			748			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			18.1	0.0		
Incr Delay (d2), s/veh			3.3	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			2.1	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			21.4	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			207	A		
Approach Delay, s/veh			21.4			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	11.5
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	18.0
Max Q Clear Time (g_c+I1), s	6.7
Green Ext Time (p_c), s	0.8

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	602	0	1205	0	2059	0	0	1549	964
Future Volume (veh/h)	0	0	0	602	0	1205	0	2059	0	0	1549	964
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				418	0	1479	0	2145	0	0	1614	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				846	0	1506	0	2799	0	0	2799	
Arrive On Green				0.47	0.00	0.47	0.00	0.87	0.00	0.00	0.44	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				418	0	1479	0	2145	0	0	1614	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				16.1	0.0	45.9	0.0	13.0	0.0	0.0	18.9	0.0
Cycle Q Clear(g_c), s				16.1	0.0	45.9	0.0	13.0	0.0	0.0	18.9	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				846	0	1506	0	2799	0	0	2799	
V/C Ratio(X)				0.49	0.00	0.98	0.00	0.77	0.00	0.00	0.58	
Avail Cap(c_a), veh/h				846	0	1506	0	2799	0	0	2799	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.82	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.0	0.0	25.8	0.0	4.5	0.0	0.0	21.3	0.0
Incr Delay (d2), s/veh				0.4	0.0	19.0	0.0	1.7	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.5	0.0	20.2	0.0	2.0	0.0	0.0	7.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.5	0.0	44.8	0.0	6.2	0.0	0.0	22.2	0.0
LnGrp LOS				B	A	D	A	A	A	A	C	
Approach Vol, veh/h					1897			2145			1614	A
Approach Delay, s/veh					39.0			6.2			22.2	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		6		8
Phs Duration (G+Y+Rc), s	48.0		48.0		52.0
Change Period (Y+Rc), s	4.5		4.5		4.5
Max Green Setting (Gmax), s	43.5		43.5		47.5
Max Q Clear Time (g_c+I1), s	15.0		20.9		47.9
Green Ext Time (p_c), s	20.6		13.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	608	0	519	0	0	0	0	1451	672	0	2151	0
Future Volume (veh/h)	608	0	519	0	0	0	0	1451	672	0	2151	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	793	0	357				0	1496	0	0	2218	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	958	0	426				0	3274		0	4125	0
Arrive On Green	0.27	0.00	0.27				0.00	0.64	0.00	0.00	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	793	0	357				0	1496	0	0	2218	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	20.9	0.0	21.3				0.0	14.9	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.9	0.0	21.3				0.0	14.9	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	958	0	426				0	3274		0	4125	0
V/C Ratio(X)	0.83	0.00	0.84				0.00	0.46		0.00	0.54	0.00
Avail Cap(c_a), veh/h	1229	0	547				0	3274		0	4125	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.76	0.00
Uniform Delay (d), s/veh	34.4	0.0	34.5				0.0	9.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.8	0.0	8.9				0.0	0.5	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	9.1				0.0	5.1	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	43.3				0.0	9.6	0.0	0.0	0.4	0.0
LnGrp LOS	D	A	D				A	A		A	A	A
Approach Vol, veh/h		1150						1496	A		2218	
Approach Delay, s/veh		39.8						9.6			0.4	
Approach LOS		D						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		68.6				68.6		31.4				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		16.9				2.0		23.3				
Green Ext Time (p_c), s		15.6				33.2		3.6				

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	944	0	975	275	1046	0	0	2386	337
Future Volume (veh/h)	0	0	0	944	0	975	275	1046	0	0	2386	337
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1026	0	1060	299	1137	0	0	2593	366
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1153	0	931	310	2827	0	0	2761	513
Arrive On Green				0.33	0.00	0.33	0.35	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				1026	0	1060	299	1137	0	0	2593	366
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				22.5	0.0	26.7	13.2	0.0	0.0	0.0	23.6	16.2
Cycle Q Clear(g_c), s				22.5	0.0	26.7	13.2	0.0	0.0	0.0	23.6	16.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1153	0	931	310	2827	0	0	2761	513
V/C Ratio(X)				0.89	0.00	1.14	0.97	0.40	0.00	0.00	0.94	0.71
Avail Cap(c_a), veh/h				1153	0	931	310	2827	0	0	2761	513
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.54	0.54	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.3	0.0	26.7	25.9	0.0	0.0	0.0	26.3	23.8
Incr Delay (d2), s/veh				8.8	0.0	75.4	29.1	0.2	0.0	0.0	7.8	8.2
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				10.1	0.0	18.1	6.7	0.1	0.0	0.0	8.5	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.1	0.0	102.1	55.0	0.2	0.0	0.0	34.1	32.0
LnGrp LOS				C	A	F	D	A	A	A	C	C
Approach Vol, veh/h					2086			1436			2959	
Approach Delay, s/veh					68.6			11.6			33.8	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	48.8		18.4	30.4		31.2
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	44.3		13.9	25.9		26.7
Max Q Clear Time (g_c+I1), s	2.0		15.2	25.6		28.7
Green Ext Time (p_c), s	10.7		0.0	0.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	0	443	0	0	0	0	1156	1242	1341	1989	0
Future Volume (veh/h)	175	0	443	0	0	0	0	1156	1242	1341	1989	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	188	0	476				0	1243	1335	1442	2139	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	514	0	415				0	2181	1232	1476	3772	0
Arrive On Green	0.15	0.00	0.15				0.00	0.39	0.39	0.59	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	188	0	476				0	1243	1335	1442	2139	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	3.9	0.0	11.9				0.0	13.9	31.1	22.2	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	11.9				0.0	13.9	31.1	22.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	514	0	415				0	2181	1232	1476	3772	0
V/C Ratio(X)	0.37	0.00	1.15				0.00	0.57	1.08	0.98	0.57	0.00
Avail Cap(c_a), veh/h	514	0	415				0	2181	1232	1476	3772	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.25	0.25	0.00
Uniform Delay (d), s/veh	30.7	0.0	34.0				0.0	19.2	24.5	16.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	90.8				0.0	1.1	51.3	7.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	9.1				0.0	5.9	19.6	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	124.9				0.0	20.3	75.8	23.6	0.2	0.0
LnGrp LOS	C	A	F				A	C	F	C	A	A
Approach Vol, veh/h		664						2578			3581	
Approach Delay, s/veh		98.3						49.0			9.6	
Approach LOS		F						D			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.0	35.6		16.4		63.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	31.1		11.9		59.1
Max Q Clear Time (g_c+I1), s	24.2	33.1		13.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		32.2

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	50.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	2253	156	175	471	123	3	4	496	0	0	187
Future Vol, veh/h	135	2253	156	175	471	123	3	4	496	0	0	187
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	147	2449	170	190	512	134	3	4	539	0	0	203

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	646	0	0	2619	0	0	3413	3854	1310	-	-	256
Stage 1	-	-	-	-	-	-	2828	2828	-	-	-	-
Stage 2	-	-	-	-	-	-	585	1026	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	578	-	-	~ 60	-	-	8	~ 4	~ 128	0	0	633
Stage 1	-	-	-	-	-	-	9	38	-	0	0	-
Stage 2	-	-	-	-	-	-	423	310	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	578	-	-	~ 60	-	-	-	0	~ 128	-	-	633
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	7	28	-	-	-	-
Stage 2	-	-	-	-	-	-	-	0	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	255.5		13.4
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	578	-	-	~ 60	-	-	633
HCM Lane V/C Ratio	-	0.254	-	-	3.17	-	-	0.321
HCM Control Delay (s)	-	13.3	-	-	$ 1122.6	-	-	13.4
HCM Lane LOS	-	B	-	-	F	-	-	B
HCM 95th %tile Q(veh)	-	1	-	-	19.9	-	-	1.4

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	105	457	518	539	19	239	377	423	0	910	320
Future Volume (veh/h)	469	105	457	518	539	19	239	377	423	0	910	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	494	111	481	545	567	20	252	397	445	0	978	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	574	330	559	624	686	24	728	1806	841	0	1585	448
Arrive On Green	0.16	0.18	0.18	0.18	0.20	0.20	0.21	0.53	0.53	0.00	0.28	0.28
Sat Flow, veh/h	3563	1870	3170	3456	3502	123	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	494	111	481	545	287	300	252	397	445	0	978	324
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1848	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	16.2	6.2	17.7	18.4	18.6	18.7	7.5	7.4	22.0	0.0	18.2	14.8
Cycle Q Clear(g_c), s	16.2	6.2	17.7	18.4	18.6	18.7	7.5	7.4	22.0	0.0	18.2	14.8
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	574	330	559	624	348	362	728	1806	841	0	1585	448
V/C Ratio(X)	0.86	0.34	0.86	0.87	0.83	0.83	0.35	0.22	0.53	0.00	0.62	0.72
Avail Cap(c_a), veh/h	751	404	684	792	416	433	728	1806	841	0	1585	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	43.3	48.0	47.8	46.3	46.3	40.3	15.0	18.4	0.0	37.4	17.5
Incr Delay (d2), s/veh	8.0	0.6	9.3	8.8	11.1	10.8	0.3	0.3	2.2	0.0	1.8	9.8
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	7.8	3.0	7.7	8.7	9.3	9.6	3.2	2.9	8.4	0.0	8.6	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	43.9	57.3	56.6	57.4	57.1	40.6	15.2	20.6	0.0	39.2	27.2
LnGrp LOS	E	D	E	E	E	E	D	B	C	A	D	C
Approach Vol, veh/h		1086			1132			1094			1302	
Approach Delay, s/veh		55.8			56.9			23.2			36.2	
Approach LOS		E			E			C			D	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		68.2	26.2	25.7	29.8	38.4	23.8	28.0
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		53.1	27.5	25.9	14.7	33.9	25.3	28.1
Max Q Clear Time (g_c+I1), s		24.0	20.4	19.7	9.5	20.2	18.2	20.7
Green Ext Time (p_c), s		6.6	1.3	1.5	0.4	6.8	1.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	667	599	2	14	1345	785	23	50	71	255	0	71
Future Volume (veh/h)	667	599	2	14	1345	785	23	50	71	255	0	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	725	651	2	15	1462	0	25	54	77	277	0	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	774	1838	6	170	1589		87	189	238	351	0	156
Arrive On Green	0.15	0.51	0.51	0.10	0.45	0.00	0.15	0.15	0.15	0.10	0.00	0.10
Sat Flow, veh/h	5023	3634	11	1781	3554	1585	583	1259	1585	3563	0	1585
Grp Volume(v), veh/h	725	318	335	15	1462	0	79	0	77	277	0	77
Grp Sat Flow(s),veh/h/ln	1674	1777	1868	1781	1777	1585	1841	0	1585	1781	0	1585
Q Serve(g_s), s	17.1	12.9	12.9	0.9	46.4	0.0	4.6	0.0	5.2	9.1	0.0	5.5
Cycle Q Clear(g_c), s	17.1	12.9	12.9	0.9	46.4	0.0	4.6	0.0	5.2	9.1	0.0	5.5
Prop In Lane	1.00		0.01	1.00		1.00	0.32		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	774	899	945	170	1589		276	0	238	351	0	156
V/C Ratio(X)	0.94	0.35	0.35	0.09	0.92		0.29	0.00	0.32	0.79	0.00	0.49
Avail Cap(c_a), veh/h	774	899	945	170	1589		276	0	238	534	0	238
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	0.76	0.76	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	17.8	17.8	49.5	31.2	0.0	45.3	0.0	45.6	52.9	0.0	51.2
Incr Delay (d2), s/veh	18.6	1.1	1.0	0.2	7.2	0.0	2.6	0.0	3.6	4.5	0.0	2.4
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	8.5	5.5	5.8	0.4	20.9	0.0	2.3	0.0	2.3	4.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.8	18.9	18.9	49.7	38.4	0.0	47.9	0.0	49.1	57.3	0.0	53.6
LnGrp LOS	E	B	B	D	D		D	A	D	E	A	D
Approach Vol, veh/h		1378			1477	A		156			354	
Approach Delay, s/veh		45.2			38.5			48.5			56.5	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	65.2		16.3	23.0	58.2		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	5.3	60.7		18.0	18.5	47.5		18.0
Max Q Clear Time (g_c+I1), s	2.9	14.9		11.1	19.1	48.4		7.2
Green Ext Time (p_c), s	0.0	4.6		0.7	0.0	0.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	654	882	399	448
Future Volume (veh/h)	0	0	654	882	399	448
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			696	0	424	0
Peak Hour Factor			0.94	0.94	0.94	0.94
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			779		0	
Arrive On Green			0.42	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			696	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			19.0	0.0		
Cycle Q Clear(g_c), s			19.0	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			779			
V/C Ratio(X)			0.89			
Avail Cap(c_a), veh/h			867			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			14.9	0.0		
Incr Delay (d2), s/veh			10.9	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			9.0	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			25.8	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			696	A		
Approach Delay, s/veh			25.8			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	27.4
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	25.5
Max Q Clear Time (g_c+I1), s	21.0
Green Ext Time (p_c), s	1.9

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	782	0	1269	0	1803	0	0	1743	1317
Future Volume (veh/h)	0	0	0	782	0	1269	0	1803	0	0	1743	1317
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				543	0	1613	0	1878	0	0	1816	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				970	0	1727	0	2447	0	0	2447	
Arrive On Green				0.54	0.00	0.54	0.00	0.76	0.00	0.00	0.38	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				543	0	1613	0	1878	0	0	1816	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				24.0	0.0	56.6	0.0	20.1	0.0	0.0	29.2	0.0
Cycle Q Clear(g_c), s				24.0	0.0	56.6	0.0	20.1	0.0	0.0	29.2	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				970	0	1727	0	2447	0	0	2447	
V/C Ratio(X)				0.56	0.00	0.93	0.00	0.77	0.00	0.00	0.74	
Avail Cap(c_a), veh/h				1017	0	1810	0	2447	0	0	2447	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.82	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				17.9	0.0	25.3	0.0	11.3	0.0	0.0	32.1	0.0
Incr Delay (d2), s/veh				0.6	0.0	9.3	0.0	2.0	0.0	0.0	2.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.8	0.0	22.4	0.0	4.0	0.0	0.0	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.5	0.0	34.7	0.0	13.3	0.0	0.0	34.2	0.0
LnGrp LOS				B	A	C	A	B	A	A	C	
Approach Vol, veh/h					2156			1878			1816	A
Approach Delay, s/veh					30.6			13.3			34.2	
Approach LOS					C			B			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	50.1	50.1	69.9
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	42.5	42.5	68.5
Max Q Clear Time (g_c+I1), s	22.1	31.2	58.6
Green Ext Time (p_c), s	14.2	8.7	6.8

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	0	827	0	0	0	0	1563	727	0	2525	0
Future Volume (veh/h)	239	0	827	0	0	0	0	1563	727	0	2525	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	166	0	950				0	1628	0	0	2630	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	600	0	1068				0	3004		0	3785	0
Arrive On Green	0.34	0.00	0.34				0.00	0.59	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	166	0	950				0	1628	0	0	2630	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	8.2	0.0	34.1				0.0	23.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	34.1				0.0	23.1	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	600	0	1068				0	3004		0	3785	0
V/C Ratio(X)	0.28	0.00	0.89				0.00	0.54		0.00	0.69	0.00
Avail Cap(c_a), veh/h	751	0	1337				0	3004		0	3785	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.54	0.00
Uniform Delay (d), s/veh	29.1	0.0	37.7				0.0	14.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	6.6				0.0	0.7	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	14.0				0.0	8.8	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	0.0	44.3				0.0	15.6	0.0	0.0	0.6	0.0
LnGrp LOS	C	A	D				A	B		A	A	A
Approach Vol, veh/h		1116						1628	A		2630	
Approach Delay, s/veh		42.0						15.6			0.6	
Approach LOS		D						B			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		75.1				75.1		44.9				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		60.4				60.4		50.6				
Max Q Clear Time (g_c+I1), s		25.1				2.0		36.1				
Green Ext Time (p_c), s		16.8				44.2		4.4				

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	890	0	1100	210	1626	0	0	2382	387
Future Volume (veh/h)	0	0	0	890	0	1100	210	1626	0	0	2382	387
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				908	0	1122	214	1659	0	0	2431	395
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1274	0	1028	232	2568	0	0	2632	489
Arrive On Green				0.37	0.00	0.37	0.26	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				908	0	1122	214	1659	0	0	2431	395
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				15.8	0.0	25.8	8.2	0.0	0.0	0.0	19.3	16.1
Cycle Q Clear(g_c), s				15.8	0.0	25.8	8.2	0.0	0.0	0.0	19.3	16.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1274	0	1028	232	2568	0	0	2632	489
V/C Ratio(X)				0.71	0.00	1.09	0.92	0.65	0.00	0.00	0.92	0.81
Avail Cap(c_a), veh/h				1274	0	1028	232	2568	0	0	2632	489
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.46	0.46	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.9	0.0	22.1	25.6	0.0	0.0	0.0	23.4	22.3
Incr Delay (d2), s/veh				1.9	0.0	56.3	22.9	0.6	0.0	0.0	6.9	13.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.1	0.0	15.7	4.3	0.1	0.0	0.0	6.8	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.8	0.0	78.4	48.5	0.6	0.0	0.0	30.3	35.7
LnGrp LOS				C	A	F	D	A	A	A	C	D
Approach Vol, veh/h					2030			1873			2826	
Approach Delay, s/veh					52.7			6.1			31.0	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.7		13.6	26.1		30.3
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	35.2		9.1	21.6		25.8
Max Q Clear Time (g_c+I1), s	2.0		10.2	21.3		27.8
Green Ext Time (p_c), s	16.8		0.0	0.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	0	530	0	0	0	0	1413	638	1220	2053	0
Future Volume (veh/h)	423	0	530	0	0	0	0	1413	638	1220	2053	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	441	0	552				0	1342	752	1271	2139	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	666	0	538				0	1884	1064	1399	3465	0
Arrive On Green	0.19	0.00	0.19				0.00	0.34	0.34	0.56	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	441	0	552				0	1342	752	1271	2139	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	8.3	0.0	13.5				0.0	14.6	14.5	15.9	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	13.5				0.0	14.6	14.5	15.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	538				0	1884	1064	1399	3465	0
V/C Ratio(X)	0.66	0.00	1.03				0.00	0.71	0.71	0.91	0.62	0.00
Avail Cap(c_a), veh/h	666	0	538				0	1884	1064	1399	3465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.37	0.37	0.00
Uniform Delay (d), s/veh	26.1	0.0	28.3				0.0	20.3	20.2	14.7	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	45.6				0.0	2.3	4.0	3.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	7.7				0.0	6.3	5.5	3.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	0.0	73.8				0.0	22.6	24.2	18.4	0.3	0.0
LnGrp LOS	C	A	F				A	C	C	B	A	A
Approach Vol, veh/h		993						2094			3410	
Approach Delay, s/veh		53.7						23.2			7.1	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	28.0		18.0		52.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	19.5	23.5		13.5		47.5
Max Q Clear Time (g_c+I1), s	17.9	16.6		15.5		2.0
Green Ext Time (p_c), s	1.0	5.6		0.0		28.3

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	202.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	744	8	508	3236	735	0	8	147	0	0	446
Future Vol, veh/h	55	744	8	508	3236	735	0	8	147	0	0	446
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	752	8	513	3269	742	0	8	148	0	0	451

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4011	0	0	760	0	0	3202	5905	380	-	-	1635
Stage 1	-	-	-	-	-	-	868	868	-	-	-	-
Stage 2	-	-	-	-	-	-	2334	5037	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	~ 11	-	-	~ 510	-	-	11	0	528	0	0	~ 77
Stage 1	-	-	-	-	-	-	246	368	-	0	0	-
Stage 2	-	-	-	-	-	-	32	~ 2	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	~ 11	-	-	~ 510	-	-	-	0	528	-	-	~ 77
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	246	0	-	-	-	-
Stage 2	-	-	-	-	-	-	-	0	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	170.3	7.9		$ 2289.6
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	~ 11	-	-	~ 510	-	-	77
HCM Lane V/C Ratio	-	5.051	-	-	1.006	-	-	5.851
HCM Control Delay (s)		$ 2498.4	-	-	70	-		$ 2289.6
HCM Lane LOS	-	F	-	-	F	-	-	F
HCM 95th %tile Q(veh)	-	8.1	-	-	14.1	-	-	50.1

Notes

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

HCS7 Two-Way Stop-Control Report

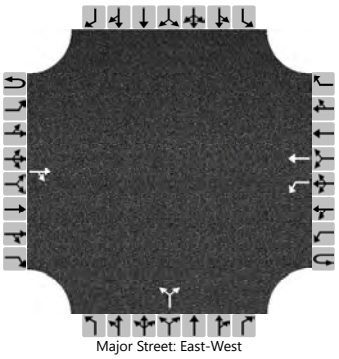
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			25	17		10	107			0		1				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11					1					
Capacity, c (veh/h)						1562					1036					
v/c Ratio						0.01					0.00					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3					8.5					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.6				8.5							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

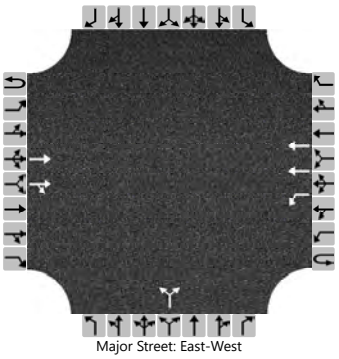
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			27	0	0	6	122			1		1				
Percent Heavy Vehicles (%)					2	2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						7					2					
Capacity, c (veh/h)						1582					933					
v/c Ratio						0.00					0.00					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3					8.9					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.3				8.9							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

General Information

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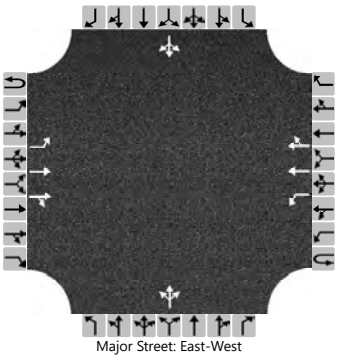
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	0	30	0	0	1	135	58		0	0	0		2	0	0
Percent Heavy Vehicles (%)	2	2			2	2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					0				2	
Capacity, c (veh/h)		1358				1578									723	
v/c Ratio		0.00				0.00									0.00	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.0	
Control Delay (s/veh)		7.7				7.3									10.0	
Level of Service (LOS)		A				A									A	
Approach Delay (s/veh)	0.0				0.0								10.0			
Approach LOS													A			

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HCS7 Two-Way Stop-Control Report

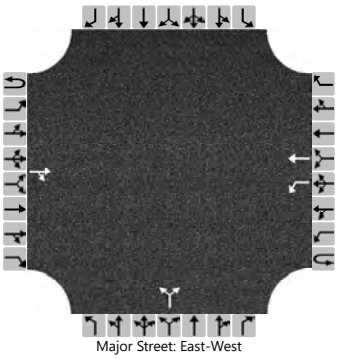
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			115	0		1	170			4		3				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					8					
Capacity, c (veh/h)						1462					786					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.5					9.6					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					0.0				9.6							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

General Information

Analyst	LSA
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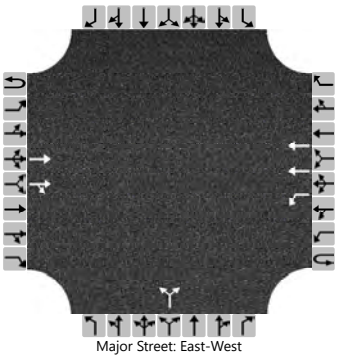
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			120	0	0	0	173			0		0				
Percent Heavy Vehicles (%)					2	2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.14				6.84		6.94				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						0					0					
Capacity, c (veh/h)						1453										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.5										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.0											
Approach LOS																

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HCS7 Two-Way Stop-Control Report

General Information

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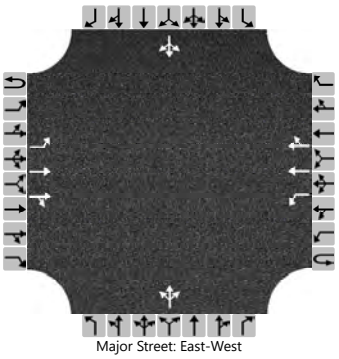
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	TR		L	T	TR			LTR				LTR	
Volume (veh/h)	0	0	125	0	0	0	175	0		0	0	0		48	0	1
Percent Heavy Vehicles (%)	2	2			2	2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.14				4.14				7.54	6.54	6.94		7.54	6.54	6.94
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					0				53	
Capacity, c (veh/h)		1381				1446									694	
v/c Ratio		0.00				0.00									0.08	
95% Queue Length, Q_{95} (veh)		0.0				0.0									0.2	
Control Delay (s/veh)		7.6				7.5									10.6	
Level of Service (LOS)		A				A									B	
Approach Delay (s/veh)	0.0				0.0								10.6			
Approach LOS													B			

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		2,880	245	152	0.08		0.05	
NBT	2.5		4,250	536	557	0.13	*	0.13	*
NBR	0.5	U	800	54	38	0.00		0.00	
SBL	2.0		2,880	702	178	0.24	*	0.06	*
SBT	3.0		5,100	1,027	656	0.20		0.13	
SBR	1.0	D	1,600	320	250	0.00		0.00	
EBL	2.0		2,880	159	257	0.06		0.09	*
EBT	2.5		4,250	1,422	619	0.33	*	0.15	
EBR	0.5	U	800	71	281	0.00		0.17	*
WBL	2.0		2,880	46	173	0.02	*	0.06	
WBT	3.0		5,100	488	2,218	0.10		0.43	*
WBR	1.0	U	1,600	92	793	0.00		0.01	*
N/S Critical Movements						0.37		0.19	
E/W Critical Movements						0.35		0.52	
Right Turn Critical Movement						0.00		0.18	
Clearance Interval						0.05		0.05	
ICU						0.77		0.94	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **2**
NORTH/SOUTH: **Euclid Street**
EAST/WEST: **I-405 Northbound Ramps - Newhope Street**

				General Plan Build Out (2040) Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		2,880	48	239	0.02 *	0.08 *
NBT	2.5		4,250	310	377	0.07	0.09
NBR	0.5	U	800	563	428	0.56 *	0.31 *
SBL	0.0		0	0	0	0.00	0.00
SBT	2.5		4,250	876	910	0.21 *	0.21 *
SBR	1.5	U	2,400	107	320	0.00	0.00
EBL	2.0		2,880	628	469	0.22 *	0.16 *
EBT	1.5		2,550	374	105	0.15	0.04
EBR	1.5	U	2,400	592	457	0.02 *	0.00
WBL	2.0		2,880	276	521	0.10	0.18
WBT	1.5		2,550	181	539	0.07 *	0.21 *
WBR	0.5	N	800	15	19	0.00	0.00
N/S Critical Movements						0.23	0.29
E/W Critical Movements						0.29	0.37
Right Turn Critical Movement						0.58	0.31
Clearance Interval						0.05	0.05
ICU						1.15	1.02
Level of Service (LOS)						F	F

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	25	145	0.01	*	0.04	*
SB	3.0		5,100	134	326	0.03	*	0.06	*
EBL	3.0		3,450	721	667	0.21	*	0.19	*
EBT	1.5		2,550	1,075	604	0.42		0.24	
EBR	0.5	U	800	27	2	0.00		0.00	
WBL	1.0		1,600	34	14	0.02		0.01	
WBT	2.0		3,400	883	1,348	0.26	*	0.40	*
WBR	1.0	F	1,600	847	785	0.00		0.00	
N/S Critical Movements						0.04		0.10	
E/W Critical Movements						0.47		0.59	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.56		0.74	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 4
NORTH/SOUTH: Newhope Street
EAST/WEST: Talbert Avenue

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	2	24	0.00		0.02	*
NBT	2.0		3,400	531	364	0.16	*	0.11	
NBR	1.0	P	1,600	438	113	0.08	*	0.00	
SBL	2.0		2,880	356	242	0.12	*	0.08	
SBT	1.5		2,550	293	562	0.11		0.22	*
SBR	0.5	U	800	128	199	0.02	*	0.00	
EBL	2.0		2,880	79	196	0.03		0.07	*
EBT	2.5		4,250	2,087	632	0.49	*	0.15	
EBR	0.5	U	800	20	12	0.00		0.00	
WBL	2.0		2,880	109	527	0.04	*	0.18	
WBT	3.5		5,950	527	2,938	0.09		0.49	*
WBR	0.5	U	800	60	201	0.00		0.00	
N/S Critical Movements						0.28		0.24	
E/W Critical Movements						0.53		0.56	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.96		0.85	
Level of Service (LOS)						E		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	138	1,649	0.02	*	0.24	*
SB	3.0		5,100	20	31	0.00	*	0.01	*
EBL	1.0		1,700	14	19	0.01		0.01	*
EBT	3.0		5,100	2,178	893	0.43	*	0.18	
EBR	1.0	U	1,700	908	211	0.11	*	0.00	
WBL	1.0		1,700	71	29	0.04	*	0.02	
WBT	3.0		5,100	583	2,751	0.11		0.54	*
WBR	1.0	U	1,700	12	14	0.00		0.00	
N/S Critical Movements						0.02		0.25	
E/W Critical Movements						0.47		0.55	
Right Turn Critical Movement						0.11		0.00	
Clearance Interval						0.05		0.05	
ICU						0.65		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	100	142	0.06	*	0.08	
NBT	1.5		2,550	139	622	0.05		0.24	*
NBR	0.5	U	850	12	69	0.00		0.00	
SBL	1.0		1,700	146	51	0.09		0.03	*
SBT	1.5		2,550	361	275	0.14	*	0.11	
SBR	0.5	U	850	110	139	0.00		0.01	*
EBL	1.0		1,700	66	100	0.04	*	0.06	
EBT	1.0		1,700	281	380	0.17		0.22	*
EBR	1.0	U	1,700	123	202	0.00		0.00	
WBL	1.0		1,700	42	242	0.02		0.14	*
WBT	1.0		1,700	258	471	0.15	*	0.28	
WBR	1.0	U	1,700	76	213	0.00		0.00	
N/S Critical Movements						0.20		0.27	
E/W Critical Movements						0.19		0.36	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.44		0.69	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	369	435	0.22	*	0.26	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	109	472	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	190	654	0.11	*	0.38	*
WBR	1.0	F	1,700	344	945	0.00		0.00	
N/S Critical Movements						0.22		0.26	
E/W Critical Movements						0.11		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.38		0.69	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	193	688	0.06 *	0.20 *
NBT	3.0		5,100	1,071	1,820	0.21	0.36
NBR	1.0	U	1,700	100	98	0.00	0.00
SBL	2.0		3,400	393	251	0.12	0.07
SBT	3.0		5,100	2,196	1,182	0.43 *	0.23 *
SBR	1.0	U	1,700	141	182	0.00	0.00
EBL	1.0		1,700	165	148	0.10	0.09 *
EBT	3.0		5,100	1,426	672	0.28 *	0.13
EBR	1.0	U	1,700	473	233	0.00	0.00
WBL	1.0		1,700	106	62	0.06 *	0.04
WBT	3.0		5,100	466	1,579	0.09	0.31 *
WBR	1.0	U	1,700	121	266	0.00	0.00
N/S Critical Movements						0.49	0.43
E/W Critical Movements						0.34	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.88	0.88
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	86	49	0.05	*	0.03	
NBT	2.5		4,250	1,391	2,329	0.33		0.55	*
NBR	0.5	U	850	75	33	0.00		0.00	
SBL	1.0		1,700	77	15	0.05		0.01	*
SBT	2.5		4,250	2,586	1,497	0.61	*	0.35	
SBR	0.5	U	850	76	14	0.00		0.00	
EBL	1.0		1,700	22	42	0.01		0.02	*
EBT	1.0		1,700	36	60	0.02	*	0.04	
EBR	1.0	U	1,700	51	110	0.00		0.01	*
WBL	1.0		1,700	28	97	0.02	*	0.06	
WBT	0.5		850	19	268	0.02		0.32	*
WBR	0.5	U	850	30	197	0.00		0.00	
N/S Critical Movements						0.66		0.56	
E/W Critical Movements						0.04		0.34	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.75		0.96	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	287	329	0.08	*	0.10	
NBT	3.0		5,100	1,479	2,065	0.29		0.40	*
NBR	1.0	U	1,700	555	410	0.04	*	0.00	
SBL	2.0		3,400	273	110	0.08		0.03	*
SBT	3.0		5,100	2,136	1,516	0.42	*	0.30	
SBR	1.0	U	1,700	55	86	0.00		0.00	
EB	3.0		5,100	406	588	0.08	*	0.12	*
WB	3.0		5,100	389	1,541	0.08	*	0.30	*
N/S Critical Movements						0.50		0.43	
E/W Critical Movements						0.16		0.42	
Right Turn Critical Movement						0.04		0.00	
Clearance Interval						0.05		0.05	
ICU						0.75		0.90	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 11
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: South Coast Drive

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	421	437	0.12 *	0.13 *
NBT	3.5		5,950	2,346	2,469	0.39	0.41
NBR	1.5	P	2,550	434	275	0.00	0.00
SBL	2.0		3,400	103	83	0.03	0.02
SBT	4.0		6,800	2,236	2,131	0.33 *	0.31 *
SBR	1.0	U	1,700	68	72	0.00	0.00
EBL	1.0		1,700	19	39	0.01	0.02 *
EBT	0.5		850	128	99	0.15 *	0.12
EBR	1.5	U	2,550	266	476	0.00	0.00
WBL	2.0		3,400	134	724	0.04 *	0.21
WBT	2.0		3,400	301	1,104	0.09	0.32 *
WBR	1.0	U	1,700	103	261	0.00	0.00
N/S Critical Movements						0.45	0.44
E/W Critical Movements						0.19	0.34
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.69	0.83
Level of Service (LOS)						B	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	2,078	1,891	0.31	*	0.28	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,594	1,773	0.23		0.26	
SBR	1.0	F	1,700	1,031	1,358	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	602	782	0.24	*	0.31	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	1,219	1,339	0.24	*	0.22	*
N/S Critical Movements						0.31		0.28	
E/W Critical Movements						0.24		0.31	
Right Turn Critical Movement						0.24		0.22	
Clearance Interval						0.05		0.05	
ICU						0.84		0.86	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	0.0		0	0	0	0.00 *	0.00 *
NBT	3.0		5,100	1,462	1,610	0.29	0.32
NBR	1.0	F	1,700	672	727	0.00	0.00
SBL	0.0		0	0	0	0.00	0.00
SBT	4.0		6,800	2,196	2,555	0.32 *	0.38 *
SBR	0.0		0	0	0	0.00	0.00
EBL	1.5		2,550	615	280	0.24 *	0.11 *
EBT	0.0		0	0	0	0.00	0.00
EBR	1.5	U	2,550	519	827	0.00	0.21 *
WBL	0.0		0	0	0	0.00	0.00
WBT	0.0		0	0	0	0.00 *	0.00 *
WBR	0.0		0	0	0	0.00	0.00
N/S Critical Movements						0.32	0.38
E/W Critical Movements						0.24	0.11
Right Turn Critical Movement						0.00	0.21
Clearance Interval						0.05	0.05
ICU						0.61	0.75
Level of Service (LOS)						B	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **14**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Gisler Avenue**

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	124	158	0.07	*	0.09	*
NBT	4.5		7,650	2,473	2,291	0.32		0.30	
NBR	0.5	U	850	11	23	0.00		0.00	
SBL	1.0		1,700	84	153	0.05		0.09	
SBT	3.5		5,950	2,112	2,512	0.35	*	0.42	*
SBR	0.5	U	850	262	473	0.00		0.13	*
EB	4.0		6,800	1,020	613	0.15	*	0.09	*
WB	3.0		5,100	269	504	0.05	*	0.10	*
N/S Critical Movements						0.42		0.51	
E/W Critical Movements						0.20		0.19	
Right Turn Critical Movement						0.00		0.13	
Clearance Interval						0.05		0.05	
ICU						0.67		0.88	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **15**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Nutmeg Place**

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	17	48	0.01		0.03	*
NBT	3.5		5,950	2,442	2,229	0.41	*	0.37	
NBR	0.5	U	850	146	213	0.00		0.00	
SBL	2.0		3,400	148	206	0.04	*	0.06	
SBT	3.5		5,950	2,120	2,465	0.36		0.41	*
SBR	0.5	U	850	57	53	0.00		0.00	
EB	2.0		3,400	89	160	0.03	*	0.05	*
WB	2.0		3,400	162	354	0.05	*	0.10	*
N/S Critical Movements						0.45		0.44	
E/W Critical Movements						0.08		0.15	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.58		0.64	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	51	65	0.02	0.02 *
NBT	4.0		6,800	2,153	1,879	0.32 *	0.28
NBR	1.0	P	1,700	265	225	0.00	0.00
SBL	2.0		3,400	227	218	0.07 *	0.06
SBT	4.0		6,800	1,715	2,226	0.25	0.33 *
SBR	1.0	P	1,700	252	299	0.00	0.00
EBL	2.0		3,400	315	228	0.09	0.07 *
EBT	1.5		2,550	269	258	0.11 *	0.10
EBR	0.5	U	850	70	100	0.00	0.00
WBL	2.0		3,400	219	497	0.06 *	0.15
WBT	2.0		3,400	244	701	0.07	0.21 *
WBR	1.0	U	1,700	175	396	0.00	0.00
N/S Critical Movements						0.39	0.35
E/W Critical Movements						0.17	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.61	0.68
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	88	341	0.05		0.20	
NBT	1.0		1,700	285	696	0.17	*	0.41	*
NBR	1.0	U	1,700	58	155	0.00		0.00	
SBL	1.0		1,700	81	74	0.05	*	0.04	*
SBT	0.5		850	110	207	0.13		0.24	
SBR	0.5	U	850	33	104	0.00		0.00	
EBL	1.0		1,700	114	110	0.07	*	0.06	*
EBT	2.0		3,400	436	716	0.13		0.21	
EBR	1.0	U	1,700	91	41	0.00		0.00	
WBL	1.0		1,700	66	48	0.04		0.03	
WBT	1.5		2,550	476	725	0.19	*	0.28	*
WBR	0.5	U	850	109	223	0.00		0.00	
N/S Critical Movements						0.22		0.45	
E/W Critical Movements						0.26		0.34	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.53		0.84	
Level of Service (LOS)						A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	212	626	0.06		0.18	
NBT	1.5		2,550	487	852	0.19	*	0.33	*
NBR	0.5	U	850	95	65	0.00		0.00	
SBL	2.0		3,400	74	163	0.02	*	0.05	*
SBT	1.5		2,550	2	23	0.00		0.01	
SBR	0.5	U	850	91	255	0.05	*	0.23	*
EBL	2.0		3,400	141	108	0.04		0.03	*
EBT	1.5		2,550	356	276	0.14	*	0.11	
EBR	0.5	U	850	1	14	0.00		0.00	
WBL	2.0		3,400	0	43	0.00	*	0.01	
WBT	2.0		3,400	257	806	0.08		0.24	*
WBR	1.0	P	1,700	61	170	0.00		0.00	
N/S Critical Movements						0.21		0.38	
E/W Critical Movements						0.14		0.27	
Right Turn Critical Movement						0.05		0.23	
Clearance Interval						0.05		0.05	
ICU						0.45		0.93	
Level of Service (LOS)						A		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	267	169	0.08	*	0.05	
NBT	3.0		5,100	1,134	2,008	0.22		0.39	*
NBR	1.0	U	1,700	188	327	0.00		0.00	
SBL	2.0		3,400	213	118	0.06		0.03	*
SBT	2.5		4,250	1,995	1,330	0.47	*	0.31	
SBR	0.5	U	850	177	103	0.00		0.00	
EBL	2.0		3,400	62	255	0.02		0.07	
EBT	1.5		2,550	313	551	0.12	*	0.22	*
EBR	0.5	U	850	84	228	0.00		0.01	*
WBL	2.0		3,400	333	276	0.10	*	0.08	*
WBT	2.0		3,400	422	631	0.12		0.19	
WBR	1.0	U	1,700	115	188	0.00		0.00	
N/S Critical Movements						0.55		0.42	
E/W Critical Movements						0.22		0.30	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.82		0.78	
Level of Service (LOS)						D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **21**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **South Coast Drive**

				General Plan Build Out (2040) Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	299	225	0.09 *	0.07 *
NBT	3.0		5,100	1,514	2,074	0.30	0.41
NBR	1.0	U	1,700	232	386	0.00	0.00
SBL	2.0		3,400	43	59	0.01	0.02
SBT	2.5		4,250	2,258	1,685	0.53 *	0.40 *
SBR	0.5	U	850	31	60	0.00	0.00
EBL	1.0		1,700	11	75	0.01	0.04
EBT	1.5		2,550	152	195	0.06 *	0.08 *
EBR	1.5	U	2,550	168	631	0.00	0.12 *
WBL	2.0		3,400	356	511	0.10 *	0.15 *
WBT	2.0		3,400	152	547	0.04	0.16
WBR	1.0	U	1,700	63	363	0.00	0.04 *
N/S Critical Movements						0.62	0.47
E/W Critical Movements						0.16	0.23
Right Turn Critical Movement						0.00	0.16
Clearance Interval						0.05	0.05
ICU						0.83	0.91
Level of Service (LOS)						D	E

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **22**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Northbound Ramps**

				General Plan Build Out (2040) Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,700	275	210	0.16 *	0.12 *
NBT	3.0		5,100	1,048	1,634	0.21	0.32
NBR	0.0		0	0	0	0.00	0.00
SBL	0.0		0	0	0	0.00	0.00
SBT	6.0		10,200	2,394	2,386	0.23 *	0.23 *
SBR	1.0	U	1,700	337	387	0.00	0.00
EBL	0.0		0	0	0	0.00	0.00
EBT	0.0		0	0	0	0.00 *	0.00 *
EBR	0.0		0	0	0	0.00	0.00
WBL	2.0		3,400	944	890	0.28 *	0.26 *
WBT	0.0		0	0	0	0.00	0.00
WBR	2.0	U	3,400	975	1,100	0.01 *	0.06 *
N/S Critical Movements						0.39	0.35
E/W Critical Movements						0.28	0.26
Right Turn Critical Movement						0.01	0.06
Clearance Interval						0.05	0.05
ICU						0.73	0.72
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	3.5		5,950	1,158	1,421	0.19	*	0.24	*
NBR	1.5	U	2,550	1,242	638	0.29	*	0.01	*
SBL	3.0		5,100	1,341	1,220	0.26	*	0.24	*
SBT	3.0		5,100	1,997	2,057	0.39		0.40	
SBR	0.0		0	0	0	0.00		0.00	
EBL	2.0		3,400	175	423	0.05	*	0.12	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	2.0	U	3,400	443	530	0.08	*	0.03	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.45		0.48	
E/W Critical Movements						0.05		0.12	
Right Turn Critical Movement						0.37		0.04	
Clearance Interval						0.05		0.05	
ICU						0.92		0.69	
Level of Service (LOS)						E		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	160	209	0.05	0.06
NBT	3.0		5,100	1,602	1,309	0.31 *	0.26 *
NBR	1.0	P	1,700	733	418	0.00	0.00
SBL	2.0		3,400	295	270	0.09 *	0.08 *
SBT	4.0		6,800	1,809	1,658	0.27	0.24
SBR	1.0	U	1,700	260	540	0.00	0.00
EBL	2.0		3,400	322	584	0.09	0.17 *
EBT	2.0		3,400	626	474	0.18 *	0.14
EBR	1.0	U	1,700	182	189	0.00	0.00
WBL	2.0		3,400	382	752	0.11 *	0.22
WBT	3.0		5,100	329	1,301	0.06	0.26 *
WBR	1.0	U	1,700	196	398	0.00	0.00
N/S Critical Movements						0.40	0.34
E/W Critical Movements						0.29	0.43
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.74	0.82
Level of Service (LOS)						C	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	138	1,649	0.02	*	0.24	*
SB	3.0		5,100	20	31	0.00	*	0.01	*
EBL	1.0		1,600	14	19	0.01		0.01	*
EBT	3.0		5,100	2,178	893	0.43	*	0.18	
EBR	1.0	U	1,600	908	211	0.14	*	0.00	
WBL	1.0		1,600	71	29	0.04	*	0.02	
WBT	3.0		5,100	583	2,751	0.11		0.54	*
WBR	1.0	U	1,600	12	14	0.00		0.00	
N/S Critical Movements						0.02		0.25	
E/W Critical Movements						0.47		0.55	
Right Turn Critical Movement						0.14		0.00	
Clearance Interval						0.05		0.05	
ICU						0.68		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,200	193	688	0.06 *	0.21 *
NBT	3.0		5,100	1,071	1,820	0.21	0.36
NBR	1.0	U	1,600	100	98	0.00	0.00
SBL	2.0		3,200	393	251	0.12	0.08
SBT	3.0		5,100	2,196	1,182	0.43 *	0.23 *
SBR	1.0	U	1,600	141	182	0.00	0.00
EBL	1.0		1,600	165	148	0.10	0.09 *
EBT	3.0		5,100	1,426	672	0.28 *	0.13
EBR	1.0	U	1,600	473	233	0.00	0.00
WBL	1.0		1,600	106	62	0.07 *	0.04
WBT	3.0		5,100	466	1,579	0.09	0.31 *
WBR	1.0	U	1,600	121	266	0.00	0.00
N/S Critical Movements						0.49	0.44
E/W Critical Movements						0.35	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.89	0.89
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	86	49	0.05	*	0.03	
NBT	2.5		4,250	1,391	2,329	0.33		0.55	*
NBR	0.5	U	800	75	33	0.00		0.00	
SBL	1.0		1,600	77	15	0.05		0.01	*
SBT	2.5		4,250	2,586	1,497	0.61	*	0.35	
SBR	0.5	U	800	76	14	0.00		0.00	
EBL	1.0		1,600	22	42	0.01		0.03	*
EBT	1.0		1,700	36	60	0.02	*	0.04	
EBR	1.0	U	1,600	51	110	0.00		0.01	*
WBL	1.0		1,600	28	97	0.02	*	0.06	
WBT	0.5		850	19	268	0.02		0.32	*
WBR	0.5	U	800	30	197	0.00		0.00	
N/S Critical Movements						0.66		0.56	
E/W Critical Movements						0.04		0.35	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.75		0.97	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	287	329	0.09	*	0.10	
NBT	3.0		5,100	1,479	2,065	0.29		0.40	*
NBR	1.0	U	1,600	555	410	0.06	*	0.00	
SBL	2.0		3,200	273	110	0.09		0.03	*
SBT	3.0		5,100	2,136	1,516	0.42	*	0.30	
SBR	1.0	U	1,600	55	86	0.00		0.00	
EB	3.0		5,100	406	588	0.08	*	0.12	*
WB	3.0		5,100	389	1,541	0.08	*	0.30	*
N/S Critical Movements						0.51		0.43	
E/W Critical Movements						0.16		0.42	
Right Turn Critical Movement						0.06		0.00	
Clearance Interval						0.05		0.05	
ICU						0.78		0.90	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	88	341	0.06		0.21	
NBT	1.0		1,700	285	696	0.17	*	0.41	*
NBR	1.0	U	1,600	58	155	0.00		0.00	
SBL	1.0		1,600	81	74	0.05	*	0.05	*
SBT	0.5		850	110	207	0.13		0.24	
SBR	0.5	U	800	33	104	0.00		0.00	
EBL	1.0		1,600	114	110	0.07	*	0.07	*
EBT	2.0		3,400	436	716	0.13		0.21	
EBR	1.0	U	1,600	91	41	0.00		0.00	
WBL	1.0		1,600	66	48	0.04		0.03	
WBT	1.5		2,550	476	725	0.19	*	0.28	*
WBR	0.5	U	800	109	223	0.00		0.00	
N/S Critical Movements						0.22		0.46	
E/W Critical Movements						0.26		0.35	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.53		0.86	
Level of Service (LOS)						A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	173	242	0.05	*	0.08	
NBT	2.5		4,250	1,022	2,009	0.24		0.47	*
NBR	0.5	U	800	92	140	0.00		0.00	
SBL	2.0		3,200	436	187	0.14		0.06	*
SBT	3.0		5,100	1,932	1,091	0.38	*	0.21	
SBR	1.0	U	1,600	191	122	0.00		0.00	
EBL	2.0		3,200	159	333	0.05		0.10	*
EBT	3.0		5,100	1,197	856	0.23	*	0.17	
EBR	1.0	U	1,600	187	265	0.00		0.00	
WBL	2.0		3,200	223	190	0.07	*	0.06	
WBT	3.0		5,100	571	1,472	0.11		0.29	*
WBR	1.0	U	1,600	183	333	0.00		0.00	
N/S Critical Movements						0.43		0.53	
E/W Critical Movements						0.30		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.78		0.97	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	267	169	0.08	*	0.05	
NBT	3.0		5,100	1,134	2,008	0.22		0.39	*
NBR	1.0	U	1,600	188	327	0.00		0.00	
SBL	2.0		3,200	213	118	0.07		0.04	*
SBT	2.5		4,250	1,995	1,330	0.47	*	0.31	
SBR	0.5	U	800	177	103	0.00		0.00	
EBL	2.0		3,200	62	255	0.02		0.08	
EBT	1.5		2,550	313	551	0.12	*	0.22	*
EBR	0.5	U	800	84	228	0.00		0.03	*
WBL	2.0		3,200	333	276	0.10	*	0.09	*
WBT	2.0		3,400	422	631	0.12		0.19	
WBR	1.0	U	1,600	115	188	0.00		0.00	
N/S Critical Movements						0.55		0.43	
E/W Critical Movements						0.22		0.31	
Right Turn Critical Movement						0.00		0.03	
Clearance Interval						0.05		0.05	
ICU						0.82		0.82	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 29
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Segerstrom Avenue

	General Plan Build Out Plus Project(2040)							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	114	227	0.04	*	0.07	
NBT	2.5		4,250	879	1,848	0.21		0.43	*
NBR	0.5	U	800	69	67	0.00		0.00	
SBL	1.0		1,600	203	148	0.13		0.09	*
SBT	2.5		4,250	2,418	1,131	0.57	*	0.27	
SBR	0.5	U	800	72	88	0.00		0.00	
EBL	1.0		1,600	126	129	0.08		0.08	*
EBT	1.5		2,550	521	517	0.20	*	0.20	
EBR	0.5	U	800	227	136	0.05	*	0.00	
WBL	1.0		1,600	115	135	0.07	*	0.08	
WBT	2.0		3,400	278	1,066	0.08		0.31	*
WBR	1.0	U	1,600	104	403	0.00		0.00	
N/S Critical Movements						0.61		0.52	
E/W Critical Movements						0.27		0.39	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.98		0.96	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	628	374	592	276	181	15	48	310	563	0	876	107
Future Volume (veh/h)	628	374	592	276	181	15	48	310	563	0	876	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	661	394	623	291	191	16	51	326	593	0	922	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	762	471	799	358	472	39	118	1810	843	0	2582	729
Arrive On Green	0.21	0.25	0.25	0.10	0.14	0.14	0.03	0.53	0.53	0.00	0.46	0.46
Sat Flow, veh/h	3563	1870	3170	3456	3322	276	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	661	394	623	291	101	106	51	326	593	0	922	113
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1821	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	21.5	24.0	22.0	9.9	6.2	6.3	1.7	6.0	33.6	0.0	12.7	5.0
Cycle Q Clear(g_c), s	21.5	24.0	22.0	9.9	6.2	6.3	1.7	6.0	33.6	0.0	12.7	5.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	762	471	799	358	252	258	118	1810	843	0	2582	729
V/C Ratio(X)	0.87	0.84	0.78	0.81	0.40	0.41	0.43	0.18	0.70	0.00	0.36	0.15
Avail Cap(c_a), veh/h	1084	600	1017	533	304	311	158	1810	843	0	2582	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69	0.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	42.5	41.8	52.6	46.8	46.9	56.8	14.5	21.0	0.0	20.9	18.8
Incr Delay (d2), s/veh	5.5	8.1	3.0	5.9	1.0	1.0	1.7	0.2	3.4	0.0	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	12.1	8.9	4.6	2.8	3.0	0.8	2.3	12.8	0.0	5.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	50.6	44.8	58.5	47.9	47.9	58.6	14.7	24.4	0.0	21.3	19.3
LnGrp LOS	D	D	D	E	D	D	E	B	C	A	C	B
Approach Vol, veh/h		1678			498			970			1035	
Approach Delay, s/veh		48.6			54.1			23.0			21.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		68.3	16.9	34.7	8.6	59.7	30.2	21.5
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		49.5	18.5	38.5	5.5	39.5	36.5	20.5
Max Q Clear Time (g_c+I1), s		35.6	11.9	26.0	3.7	14.7	23.5	8.3
Green Ext Time (p_c), s		5.6	0.6	4.3	0.0	7.6	2.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	721	1075	27	34	883	847	6	17	2	93	1	40
Future Volume (veh/h)	721	1075	27	34	883	847	6	17	2	93	1	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	784	1168	28	37	960	0	7	18	2	102	0	43
Peak Hour Factor	0.92	0.92	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1730	1750	42	284	1096		77	199	238	168	0	75
Arrive On Green	0.34	0.49	0.49	0.16	0.31	0.00	0.15	0.15	0.15	0.05	0.00	0.05
Sat Flow, veh/h	5023	3547	85	1781	3554	1585	516	1328	1585	3563	0	1585
Grp Volume(v), veh/h	784	585	611	37	960	0	25	0	2	102	0	43
Grp Sat Flow(s),veh/h/ln	1674	1777	1855	1781	1777	1585	1845	0	1585	1781	0	1585
Q Serve(g_s), s	14.5	29.8	29.9	2.1	30.7	0.0	1.4	0.0	0.1	3.4	0.0	3.2
Cycle Q Clear(g_c), s	14.5	29.8	29.9	2.1	30.7	0.0	1.4	0.0	0.1	3.4	0.0	3.2
Prop In Lane	1.00		0.05	1.00		1.00	0.28		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1730	877	915	284	1096		277	0	238	168	0	75
V/C Ratio(X)	0.45	0.67	0.67	0.13	0.88		0.09	0.00	0.01	0.61	0.00	0.58
Avail Cap(c_a), veh/h	1730	877	915	284	1229		277	0	238	534	0	238
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	0.82	0.82	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.5	23.0	23.0	43.3	39.3	0.0	43.9	0.0	43.4	56.1	0.0	56.0
Incr Delay (d2), s/veh	0.2	4.0	3.9	0.2	5.7	0.0	0.6	0.0	0.1	3.5	0.0	6.8
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	5.9	13.2	13.7	1.0	14.1	0.0	0.7	0.0	0.1	1.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	27.0	26.8	43.4	45.0	0.0	44.6	0.0	43.5	59.6	0.0	62.8
LnGrp LOS	C	C	C	D	D		D	A	D	E	A	E
Approach Vol, veh/h		1980			997	A		27			145	
Approach Delay, s/veh		28.4			44.9			44.5			60.6	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	23.6	63.7		10.2	45.8	41.5		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.8	59.2		18.0	24.5	41.5		18.0
Max Q Clear Time (g_c+I1), s	4.1	31.9		5.4	16.5	32.7		3.4
Green Ext Time (p_c), s	0.0	9.5		0.3	2.1	4.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	190	344	369	109
Future Volume (veh/h)	0	0	190	344	369	109
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			207	0	401	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			290		0	
Arrive On Green			0.15	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			207	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			4.7	0.0		
Cycle Q Clear(g_c), s			4.7	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			290			
V/C Ratio(X)			0.71			
Avail Cap(c_a), veh/h			748			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			18.1	0.0		
Incr Delay (d2), s/veh			3.3	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			2.1	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			21.4	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			207	A		
Approach Delay, s/veh			21.4			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	11.5
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	18.0
Max Q Clear Time (g_c+I1), s	6.7
Green Ext Time (p_c), s	0.8

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	602	0	1219	0	2078	0	0	1594	1031
Future Volume (veh/h)	0	0	0	602	0	1219	0	2078	0	0	1594	1031
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				418	0	1494	0	2165	0	0	1660	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				846	0	1506	0	2799	0	0	2799	
Arrive On Green				0.47	0.00	0.47	0.00	0.87	0.00	0.00	0.44	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				418	0	1494	0	2165	0	0	1660	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				16.1	0.0	46.8	0.0	13.4	0.0	0.0	19.6	0.0
Cycle Q Clear(g_c), s				16.1	0.0	46.8	0.0	13.4	0.0	0.0	19.6	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				846	0	1506	0	2799	0	0	2799	
V/C Ratio(X)				0.49	0.00	0.99	0.00	0.77	0.00	0.00	0.59	
Avail Cap(c_a), veh/h				846	0	1506	0	2799	0	0	2799	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.0	0.0	26.1	0.0	4.5	0.0	0.0	21.5	0.0
Incr Delay (d2), s/veh				0.4	0.0	21.3	0.0	1.7	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.5	0.0	21.0	0.0	2.1	0.0	0.0	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.5	0.0	47.3	0.0	6.3	0.0	0.0	22.4	0.0
LnGrp LOS				B	A	D	A	A	A	A	C	
Approach Vol, veh/h					1912			2165			1660	A
Approach Delay, s/veh					41.0			6.3			22.4	
Approach LOS					D			A			C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	48.0	48.0	52.0
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	43.5	43.5	47.5
Max Q Clear Time (g_c+I1), s	15.4	21.6	48.8
Green Ext Time (p_c), s	20.6	13.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	615	0	519	0	0	0	0	1462	672	0	2196	0
Future Volume (veh/h)	615	0	519	0	0	0	0	1462	672	0	2196	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	800	0	357				0	1507	0	0	2264	0
Peak Hour Factor	0.97	0.97	0.97				0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	959	0	427				0	3273		0	4124	0
Arrive On Green	0.27	0.00	0.27				0.00	0.64	0.00	0.00	1.00	0.00
Sat Flow, veh/h	3563	0	1585				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	800	0	357				0	1507	0	0	2264	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	21.2	0.0	21.2				0.0	15.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.2	0.0	21.2				0.0	15.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	959	0	427				0	3273		0	4124	0
V/C Ratio(X)	0.83	0.00	0.84				0.00	0.46		0.00	0.55	0.00
Avail Cap(c_a), veh/h	1229	0	547				0	3273		0	4124	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.74	0.00
Uniform Delay (d), s/veh	34.4	0.0	34.5				0.0	9.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.0	8.8				0.0	0.5	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	0.0	9.1				0.0	5.2	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	0.0	43.3				0.0	9.6	0.0	0.0	0.4	0.0
LnGrp LOS	D	A	D				A	A		A	A	A
Approach Vol, veh/h		1157						1507	A		2264	
Approach Delay, s/veh		40.0						9.6			0.4	
Approach LOS		D						A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		68.6				68.6		31.4				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		17.0				2.0		23.2				
Green Ext Time (p_c), s		15.8				34.2		3.7				

Intersection Summary	
HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	944	0	975	275	1048	0	0	2394	337
Future Volume (veh/h)	0	0	0	944	0	975	275	1048	0	0	2394	337
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1026	0	1060	299	1139	0	0	2602	366
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1153	0	931	310	2827	0	0	2761	513
Arrive On Green				0.33	0.00	0.33	0.35	1.00	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				1026	0	1060	299	1139	0	0	2602	366
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				22.5	0.0	26.7	13.2	0.0	0.0	0.0	23.8	16.2
Cycle Q Clear(g_c), s				22.5	0.0	26.7	13.2	0.0	0.0	0.0	23.8	16.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1153	0	931	310	2827	0	0	2761	513
V/C Ratio(X)				0.89	0.00	1.14	0.97	0.40	0.00	0.00	0.94	0.71
Avail Cap(c_a), veh/h				1153	0	931	310	2827	0	0	2761	513
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.54	0.54	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.3	0.0	26.7	25.9	0.0	0.0	0.0	26.3	23.8
Incr Delay (d2), s/veh				8.8	0.0	75.4	29.1	0.2	0.0	0.0	8.1	8.2
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				10.1	0.0	18.1	6.7	0.1	0.0	0.0	8.6	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.1	0.0	102.1	55.0	0.2	0.0	0.0	34.4	32.0
LnGrp LOS				C	A	F	D	A	A	A	C	C
Approach Vol, veh/h					2086			1438			2968	
Approach Delay, s/veh					68.6			11.6			34.1	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	48.8		18.4	30.4		31.2
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	44.3		13.9	25.9		26.7
Max Q Clear Time (g_c+I1), s	2.0		15.2	25.8		28.7
Green Ext Time (p_c), s	10.7		0.0	0.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	0	443	0	0	0	0	1158	1242	1341	1997	0
Future Volume (veh/h)	175	0	443	0	0	0	0	1158	1242	1341	1997	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	188	0	476				0	1245	1335	1442	2147	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	514	0	415				0	2181	1232	1476	3772	0
Arrive On Green	0.15	0.00	0.15				0.00	0.39	0.39	0.59	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	188	0	476				0	1245	1335	1442	2147	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	3.9	0.0	11.9				0.0	13.9	31.1	22.2	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	11.9				0.0	13.9	31.1	22.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	514	0	415				0	2181	1232	1476	3772	0
V/C Ratio(X)	0.37	0.00	1.15				0.00	0.57	1.08	0.98	0.57	0.00
Avail Cap(c_a), veh/h	514	0	415				0	2181	1232	1476	3772	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.25	0.25	0.00
Uniform Delay (d), s/veh	30.7	0.0	34.0				0.0	19.2	24.5	16.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	90.8				0.0	1.1	51.3	7.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	9.1				0.0	5.9	19.6	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	124.9				0.0	20.3	75.8	23.6	0.2	0.0
LnGrp LOS	C	A	F				A	C	F	C	A	A
Approach Vol, veh/h		664						2580			3589	
Approach Delay, s/veh		98.3						49.0			9.6	
Approach LOS		F						D			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.0	35.6		16.4		63.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	31.1		11.9		59.1
Max Q Clear Time (g_c+I1), s	24.2	33.1		13.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		32.4

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	50.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	2266	156	175	513	123	3	4	496	0	0	187
Future Vol, veh/h	135	2266	156	175	513	123	3	4	496	0	0	187
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	147	2463	170	190	558	134	3	4	539	0	0	203

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	692	0	0	2633	0	0	3445	3914	1317	-	-	279
Stage 1	-	-	-	-	-	-	2842	2842	-	-	-	-
Stage 2	-	-	-	-	-	-	603	1072	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	550	-	-	~ 59	-	-	7	~ 3	~ 127	0	0	612
Stage 1	-	-	-	-	-	-	9	37	-	0	0	-
Stage 2	-	-	-	-	-	-	413	295	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	550	-	-	~ 59	-	-	-	0	~ 127	-	-	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	7	27	-	-	-	-
Stage 2	-	-	-	-	-	-	-	0	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	247.8		13.8
HCM LOS			-	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	550	-	-	~ 59	-	-	612
HCM Lane V/C Ratio	-	0.267	-	-	3.224	-	-	0.332
HCM Control Delay (s)	-	13.9	-		$ 1148.6	-	-	13.8
HCM Lane LOS	-	B	-	-	F	-	-	B
HCM 95th %tile Q(veh)	-	1.1	-	-	20	-	-	1.5

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	105	457	521	539	19	239	377	428	0	910	320
Future Volume (veh/h)	469	105	457	521	539	19	239	377	428	0	910	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	494	111	481	548	567	20	252	397	451	0	978	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	574	330	559	627	689	24	736	1803	840	0	1566	442
Arrive On Green	0.16	0.18	0.18	0.18	0.20	0.20	0.21	0.53	0.53	0.00	0.28	0.28
Sat Flow, veh/h	3563	1870	3170	3456	3502	123	3456	3404	1585	0	5611	1585
Grp Volume(v), veh/h	494	111	481	548	287	300	252	397	451	0	978	324
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1848	1728	1702	1585	0	1870	1585
Q Serve(g_s), s	16.2	6.2	17.7	18.5	18.6	18.6	7.4	7.5	22.4	0.0	18.3	14.9
Cycle Q Clear(g_c), s	16.2	6.2	17.7	18.5	18.6	18.6	7.4	7.5	22.4	0.0	18.3	14.9
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	574	330	559	627	349	363	736	1803	840	0	1566	442
V/C Ratio(X)	0.86	0.34	0.86	0.87	0.82	0.82	0.34	0.22	0.54	0.00	0.62	0.73
Avail Cap(c_a), veh/h	751	404	684	792	416	433	736	1803	840	0	1566	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	43.3	48.0	47.8	46.2	46.2	40.1	15.0	18.5	0.0	37.8	17.7
Incr Delay (d2), s/veh	8.0	0.6	9.3	8.9	10.8	10.6	0.3	0.3	2.3	0.0	1.9	10.3
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	7.8	3.0	7.7	8.7	9.3	9.6	3.2	2.9	8.6	0.0	8.6	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	43.9	57.3	56.7	57.0	56.8	40.3	15.3	20.8	0.0	39.6	28.0
LnGrp LOS	E	D	E	E	E	E	D	B	C	A	D	C
Approach Vol, veh/h		1086			1135			1100			1302	
Approach Delay, s/veh		55.8			56.8			23.3			36.7	
Approach LOS		E			E			C			D	

Timer - Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		68.1	26.3	25.7	30.1	38.0	23.8	28.1
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s		53.1	27.5	25.9	15.1	33.5	25.3	28.1
Max Q Clear Time (g_c+I1), s		24.4	20.5	19.7	9.4	20.3	18.2	20.6
Green Ext Time (p_c), s		6.7	1.3	1.5	0.4	6.6	1.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	667	604	2	14	1348	785	23	50	71	255	0	71
Future Volume (veh/h)	667	604	2	14	1348	785	23	50	71	255	0	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	725	657	2	15	1465	0	25	54	77	277	0	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	774	1802	5	188	1589		87	189	238	351	0	156
Arrive On Green	0.15	0.50	0.50	0.11	0.45	0.00	0.15	0.15	0.15	0.10	0.00	0.10
Sat Flow, veh/h	5023	3634	11	1781	3554	1585	583	1259	1585	3563	0	1585
Grp Volume(v), veh/h	725	321	338	15	1465	0	79	0	77	277	0	77
Grp Sat Flow(s),veh/h/ln	1674	1777	1868	1781	1777	1585	1841	0	1585	1781	0	1585
Q Serve(g_s), s	17.1	13.4	13.4	0.9	46.5	0.0	4.6	0.0	5.2	9.1	0.0	5.5
Cycle Q Clear(g_c), s	17.1	13.4	13.4	0.9	46.5	0.0	4.6	0.0	5.2	9.1	0.0	5.5
Prop In Lane	1.00		0.01	1.00		1.00	0.32		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	774	881	926	188	1589		276	0	238	351	0	156
V/C Ratio(X)	0.94	0.36	0.36	0.08	0.92		0.29	0.00	0.32	0.79	0.00	0.49
Avail Cap(c_a), veh/h	774	881	926	188	1589		276	0	238	534	0	238
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	0.76	0.76	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	18.6	18.6	48.4	31.2	0.0	45.3	0.0	45.6	52.9	0.0	51.2
Incr Delay (d2), s/veh	18.6	1.2	1.1	0.1	7.4	0.0	2.6	0.0	3.6	4.5	0.0	2.4
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	8.5	5.7	6.0	0.4	21.0	0.0	2.3	0.0	2.3	4.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.8	19.8	19.7	48.5	38.6	0.0	47.9	0.0	49.1	57.3	0.0	53.6
LnGrp LOS	E	B	B	D	D		D	A	D	E	A	D
Approach Vol, veh/h		1384			1480	A		156			354	
Approach Delay, s/veh		45.4			38.7			48.5			56.5	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.2	64.0		16.3	23.0	58.2		22.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	59.5		18.0	18.5	47.5		18.0
Max Q Clear Time (g_c+I1), s	2.9	15.4		11.1	19.1	48.5		7.2
Green Ext Time (p_c), s	0.0	4.6		0.7	0.0	0.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	654	945	435	472
Future Volume (veh/h)	0	0	654	945	435	472
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No		No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			696	0	463	0
Peak Hour Factor			0.94	0.94	0.94	0.94
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			779		0	
Arrive On Green			0.42	0.00	0.00	0.00
Sat Flow, veh/h			1870	1585	0	
Grp Volume(v), veh/h			696	0	0.0	
Grp Sat Flow(s),veh/h/ln			1870	1585		
Q Serve(g_s), s			19.0	0.0		
Cycle Q Clear(g_c), s			19.0	0.0		
Prop In Lane				1.00		
Lane Grp Cap(c), veh/h			779			
V/C Ratio(X)			0.89			
Avail Cap(c_a), veh/h			867			
HCM Platoon Ratio			1.00	1.00		
Upstream Filter(I)			1.00	0.00		
Uniform Delay (d), s/veh			14.9	0.0		
Incr Delay (d2), s/veh			10.9	0.0		
Initial Q Delay(d3),s/veh			0.0	0.0		
%ile BackOfQ(50%),veh/ln			9.0	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			25.8	0.0		
LnGrp LOS			C			
Approach Vol, veh/h			696	A		
Approach Delay, s/veh			25.8			
Approach LOS			C			

Timer - Assigned Phs	8
Phs Duration (G+Y+Rc), s	27.4
Change Period (Y+Rc), s	4.5
Max Green Setting (Gmax), s	25.5
Max Q Clear Time (g_c+I1), s	21.0
Green Ext Time (p_c), s	1.9

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	782	0	1339	0	1891	0	0	1773	1358
Future Volume (veh/h)	0	0	0	782	0	1339	0	1891	0	0	1773	1358
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				543	0	1686	0	1970	0	0	1847	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				2	2	2	0	2	0	0	2	2
Cap, veh/h				995	0	1770	0	2358	0	0	2358	
Arrive On Green				0.56	0.00	0.56	0.00	0.73	0.00	0.00	0.37	0.00
Sat Flow, veh/h				1781	0	3170	0	6958	0	0	6696	1585
Grp Volume(v), veh/h				543	0	1686	0	1970	0	0	1847	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1609	0	0	1609	1585
Q Serve(g_s), s				23.2	0.0	60.2	0.0	25.3	0.0	0.0	30.6	0.0
Cycle Q Clear(g_c), s				23.2	0.0	60.2	0.0	25.3	0.0	0.0	30.6	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				995	0	1770	0	2358	0	0	2358	
V/C Ratio(X)				0.55	0.00	0.95	0.00	0.84	0.00	0.00	0.78	
Avail Cap(c_a), veh/h				1017	0	1810	0	2358	0	0	2358	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.80	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				16.8	0.0	25.0	0.0	13.5	0.0	0.0	33.8	0.0
Incr Delay (d2), s/veh				0.6	0.0	11.7	0.0	3.0	0.0	0.0	2.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.4	0.0	24.2	0.0	4.8	0.0	0.0	12.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.4	0.0	36.7	0.0	16.5	0.0	0.0	36.5	0.0
LnGrp LOS				B	A	D	A	B	A	A	D	
Approach Vol, veh/h					2229			1970			1847	A
Approach Delay, s/veh					32.0			16.5			36.5	
Approach LOS					C			B			D	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	48.5	48.5	71.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	42.5	42.5	68.5
Max Q Clear Time (g_c+I1), s	27.3	32.6	62.2
Green Ext Time (p_c), s	11.7	7.8	4.8

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	0	827	0	0	0	0	1610	727	0	2555	0
Future Volume (veh/h)	280	0	827	0	0	0	0	1610	727	0	2555	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	0	1870	0
Adj Flow Rate, veh/h	195	0	965				0	1677	0	0	2661	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	0	2	0
Cap, veh/h	609	0	1084				0	2978		0	3752	0
Arrive On Green	0.34	0.00	0.34				0.00	0.58	0.00	0.00	1.00	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	0	6958	0
Grp Volume(v), veh/h	195	0	965				0	1677	0	0	2661	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	0	1609	0
Q Serve(g_s), s	9.7	0.0	34.6				0.0	24.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.7	0.0	34.6				0.0	24.5	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	609	0	1084				0	2978		0	3752	0
V/C Ratio(X)	0.32	0.00	0.89				0.00	0.56		0.00	0.71	0.00
Avail Cap(c_a), veh/h	751	0	1337				0	2978		0	3752	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.00	0.52	0.00
Uniform Delay (d), s/veh	29.2	0.0	37.4				0.0	15.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	6.7				0.0	0.8	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	14.2				0.0	9.4	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	0.0	44.1				0.0	16.3	0.0	0.0	0.6	0.0
LnGrp LOS	C	A	D				A	B		A	A	A
Approach Vol, veh/h		1160						1677	A		2661	
Approach Delay, s/veh		41.6						16.3			0.6	
Approach LOS		D						B			A	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	74.5	74.5	45.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	60.4	60.4	50.6
Max Q Clear Time (g_c+I1), s	26.5	2.0	36.6
Green Ext Time (p_c), s	17.2	44.8	4.5

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	890	0	1100	210	1634	0	0	2386	387
Future Volume (veh/h)	0	0	0	890	0	1100	210	1634	0	0	2386	387
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				908	0	1122	214	1667	0	0	2435	395
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				1274	0	1028	232	2568	0	0	2632	489
Arrive On Green				0.37	0.00	0.37	0.26	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				3456	0	2790	1781	5274	0	0	8978	1585
Grp Volume(v), veh/h				908	0	1122	214	1667	0	0	2435	395
Grp Sat Flow(s),veh/h/ln				1728	0	1395	1781	1702	0	0	1421	1585
Q Serve(g_s), s				15.8	0.0	25.8	8.2	0.0	0.0	0.0	19.3	16.1
Cycle Q Clear(g_c), s				15.8	0.0	25.8	8.2	0.0	0.0	0.0	19.3	16.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1274	0	1028	232	2568	0	0	2632	489
V/C Ratio(X)				0.71	0.00	1.09	0.92	0.65	0.00	0.00	0.93	0.81
Avail Cap(c_a), veh/h				1274	0	1028	232	2568	0	0	2632	489
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.45	0.45	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.9	0.0	22.1	25.6	0.0	0.0	0.0	23.4	22.3
Incr Delay (d2), s/veh				1.9	0.0	56.3	22.6	0.6	0.0	0.0	7.0	13.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.1	0.0	15.7	4.3	0.1	0.0	0.0	6.8	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.8	0.0	78.4	48.2	0.6	0.0	0.0	30.4	35.7
LnGrp LOS				C	A	F	D	A	A	A	C	D
Approach Vol, veh/h					2030			1881			2830	
Approach Delay, s/veh					52.7			6.0			31.2	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	39.7		13.6	26.1		30.3
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5
Max Green Setting (Gmax), s	35.2		9.1	21.6		25.8
Max Q Clear Time (g_c+I1), s	2.0		10.2	21.3		27.8
Green Ext Time (p_c), s	16.9		0.0	0.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	423	0	530	0	0	0	0	1421	638	1220	2057	0
Future Volume (veh/h)	423	0	530	0	0	0	0	1421	638	1220	2057	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	441	0	552				0	1346	754	1271	2143	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	666	0	538				0	1884	1064	1399	3465	0
Arrive On Green	0.19	0.00	0.19				0.00	0.34	0.34	0.56	1.00	0.00
Sat Flow, veh/h	3456	0	2790				0	5611	3170	5023	5274	0
Grp Volume(v), veh/h	441	0	552				0	1346	754	1271	2143	0
Grp Sat Flow(s),veh/h/ln	1728	0	1395				0	1870	1585	1674	1702	0
Q Serve(g_s), s	8.3	0.0	13.5				0.0	14.7	14.5	15.9	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	13.5				0.0	14.7	14.5	15.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	666	0	538				0	1884	1064	1399	3465	0
V/C Ratio(X)	0.66	0.00	1.03				0.00	0.71	0.71	0.91	0.62	0.00
Avail Cap(c_a), veh/h	666	0	538				0	1884	1064	1399	3465	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.37	0.37	0.00
Uniform Delay (d), s/veh	26.1	0.0	28.3				0.0	20.3	20.3	14.7	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	45.6				0.0	2.3	4.0	3.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	7.7				0.0	6.3	5.5	3.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	0.0	73.8				0.0	22.7	24.3	18.4	0.3	0.0
LnGrp LOS	C	A	F				A	C	C	B	A	A
Approach Vol, veh/h		993						2100			3414	
Approach Delay, s/veh		53.7						23.2			7.0	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	34.0	28.0		18.0		52.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	19.5	23.5		13.5		47.5
Max Q Clear Time (g_c+I1), s	17.9	16.7		15.5		2.0
Green Ext Time (p_c), s	1.0	5.6		0.0		28.3

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	209.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	789	8	508	3267	735	0	8	147	0	0	446
Future Vol, veh/h	55	789	8	508	3267	735	0	8	147	0	0	446
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	170	-	-	175	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	797	8	513	3300	742	0	8	148	0	0	451

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	4042	0	0	805	0	0	3259	5981	403	-	-	1650
Stage 1	-	-	-	-	-	-	913	913	-	-	-	-
Stage 2	-	-	-	-	-	-	2346	5068	-	-	-	-
Critical Hdwy	5.34	-	-	5.34	-	-	6.44	6.54	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	3.12	-	-	3.12	-	-	3.82	4.02	3.92	-	-	3.92
Pot Cap-1 Maneuver	~ 10	-	-	~ 486	-	-	10	0	510	0	0	~ 75
Stage 1	-	-	-	-	-	-	229	350	-	0	0	-
Stage 2	-	-	-	-	-	-	32	~ 2	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	~ 10	-	-	~ 486	-	-	-	0	510	-	-	~ 75
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	-	-
Stage 1	-	-	-	-	-	-	229	0	-	-	-	-
Stage 2	-	-	-	-	-	-	-	0	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	179.9	9.6		$ 2362.2
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	~ 10	-	-	~ 486	-	-	75
HCM Lane V/C Ratio	-	5.556	-	-	1.056	-	-	6.007
HCM Control Delay (s)		$ 2786.6	-	-	85.6	-		$ 2362.2
HCM Lane LOS	-	F	-	-	F	-	-	F
HCM 95th %tile Q(veh)	-	8.2	-	-	15.7	-	-	50.3

Notes

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

HCS7 Two-Way Stop-Control Report

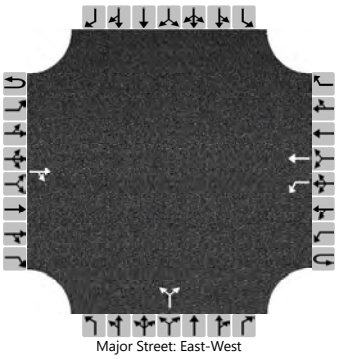
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2040
Time Analyzed	GPBO Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			25	0		43	106			0		133				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					145					
Capacity, c (veh/h)						1587					1048					
v/c Ratio						0.03					0.14					
95% Queue Length, Q_{95} (veh)						0.1					0.5					
Control Delay (s/veh)						7.3					9.0					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.1				9.0							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

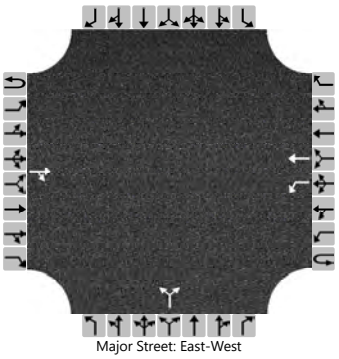
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2040
Time Analyzed	GPBO Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			159	0		43	155			0		133				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						47					145					
Capacity, c (veh/h)						1404					871					
v/c Ratio						0.03					0.17					
95% Queue Length, Q_{95} (veh)						0.1					0.6					
Control Delay (s/veh)						7.7					10.0					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					1.7				10.0							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

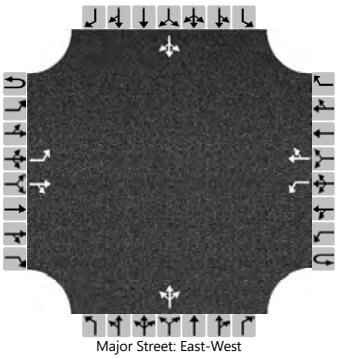
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2040
Time Analyzed	GPBO Plus Project AM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		0	293	0		45	206	58		0	0	136		2	0	0
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				49					148				2	
Capacity, c (veh/h)		1275				1242					722				352	
v/c Ratio		0.00				0.04					0.20				0.01	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.8				0.0	
Control Delay (s/veh)		7.8				8.0					11.3				15.3	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.0				1.2				11.3				15.3			
Approach LOS									B				C			

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HCS7 Two-Way Stop-Control Report

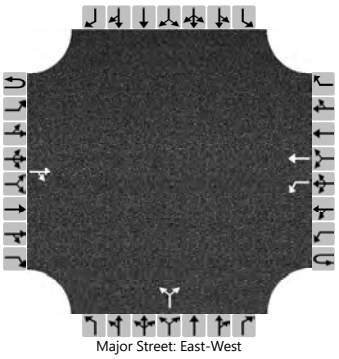
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2040
Time Analyzed	GPBO Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 1/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 1
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			115	0		136	170			0		85				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148					92					
Capacity, c (veh/h)						1462					926					
v/c Ratio						0.10					0.10					
95% Queue Length, Q_{95} (veh)						0.3					0.3					
Control Delay (s/veh)						7.7					9.3					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					3.4				9.3							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

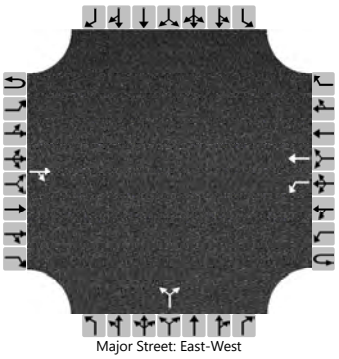
General Information

Analyst	LSA
Agency/Co.	
Date Performed	9/27/2019
Analysis Year	2040
Time Analyzed	GPBO Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 2/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 2
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			202	0		136	308			0		85				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type | Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						148					92					
Capacity, c (veh/h)						1350					820					
v/c Ratio						0.11					0.11					
95% Queue Length, Q_{95} (veh)						0.4					0.4					
Control Delay (s/veh)						8.0					9.9					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)					2.4				9.9							
Approach LOS									A							

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HCS7 Two-Way Stop-Control Report

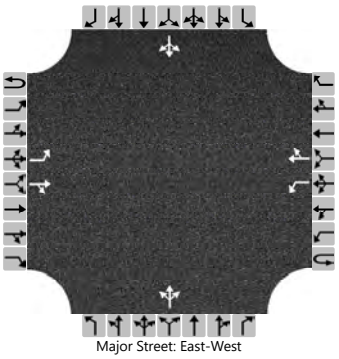
General Information

Analyst	LSA
Agency/Co.	
Date Performed	11/08/19
Analysis Year	2040
Time Analyzed	GPBO Plus Project PM
Intersection Orientation	East-West
Project Description	One Metro West

Site Information

Intersection	Driveway 3/Sunflower Ave
Jurisdiction	City of Costa Mesa
East/West Street	Sunflower Avenue
North/South Street	Driveway 3
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	1	1	0		0	1	0		0	1	0
Configuration		L		TR		L		TR			LTR				LTR	
Volume (veh/h)		0	291	0		140	445	0		0	0	87		48	0	1
Percent Heavy Vehicles (%)		2				2				2	2	2		2	2	2
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.12				4.12				7.12	6.52	6.22		7.12	6.52	6.22
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.22				2.22				3.52	4.02	3.32		3.52	4.02	3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				152					95				53	
Capacity, c (veh/h)		1079				1244					724				235	
v/c Ratio		0.00				0.12					0.13				0.23	
95% Queue Length, Q_{95} (veh)		0.0				0.4					0.4				0.8	
Control Delay (s/veh)		8.3				8.3					10.7				24.8	
Level of Service (LOS)		A				A					B				C	
Approach Delay (s/veh)	0.0				2.0				10.7				24.8			
Approach LOS									B				C			

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INTERSECTION CAPACITY UTILIZATION - MITIGATION

INTERSECTION NO.: **28**
NORTH/SOUTH: **Washington Street**
EAST/WEST: **Talbert Avenue**

	Existing w/Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.5		800	1	0	0.00	*	0.00	
NBT	0.5		850	1	7	0.00		0.01	*
NBR	1.0	D	1,600	214	118	0.12	*	0.00	
SBL	0.0		0	0	0	0.00		0.00	*
SBT	0.0		0	0	0	0.00	*	0.00	
SBR	1.0	U	1,600	158	150	0.06	*	0.07	*
EBL	1.0		1,600	92	48	0.06		0.03	*
EBT	2.5		4,250	1,955	688	0.46	*	0.16	
EBR	0.5	U	800	13	7	0.00		0.00	
WBL	1.0		1,600	27	448	0.02	*	0.28	
WBT	3.0		5,100	444	2,839	0.09		0.56	*
WBR	1.0	U	1,600	108	423	0.00		0.00	
N/S Critical Movements						0.00		0.01	
E/W Critical Movements						0.48		0.59	
Right Turn Critical Movement						0.18		0.07	
Clearance Interval						0.05		0.05	
ICU						0.71		0.72	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION - MITIGATION

INTERSECTION NO.: **28**
NORTH/SOUTH: **Washington Street**
EAST/WEST: **Talbert Avenue**

	Future Short-Term Cumulative P (2027)							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.5		800	2	0	0.00	*	0.00	
NBT	0.5		850	2	7	0.00		0.01	*
NBR	1.0	U	1,600	321	130	0.18	*	0.00	
SBL	0.0		0	0	0	0.00		0.00	*
SBT	0.0		0	0	0	0.00	*	0.00	
SBR	1.0	F	1,600	169	263	0.00		0.00	
EBL	1.0		1,600	99	52	0.06		0.03	*
EBT	2.5		4,250	2,159	754	0.51	*	0.18	
EBR	0.5	U	800	14	8	0.00		0.00	
WBL	1.0		1,600	30	484	0.02	*	0.30	
WBT	3.0		5,100	491	3,113	0.10		0.61	*
WBR	1.0	U	1,600	117	457	0.00		0.00	
N/S Critical Movements						0.00		0.01	
E/W Critical Movements						0.53		0.64	
Right Turn Critical Movement						0.18		0.00	
Clearance Interval						0.05		0.05	
ICU						0.76		0.70	
Level of Service (LOS)						C		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION-MITIGATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	212	626	0.06		0.18	
NBT	1.5		2,550	487	852	0.19	*	0.33	*
NBR	0.5	U	850	95	65	0.00		0.00	
SBL	2.0		3,400	74	163	0.02	*	0.05	*
SBT	2.0		3,400	2	23	0.00		0.01	
SBR	1.0	U	1,700	91	255	0.00		0.08	*
EBL	2.0		3,400	141	108	0.04		0.03	*
EBT	1.5		2,550	356	276	0.14	*	0.11	
EBR	0.5	U	850	1	14	0.00		0.00	
WBL	2.0		3,400	0	43	0.00	*	0.01	
WBT	2.0		3,400	257	806	0.08		0.24	*
WBR	1.0	P	1,700	61	170	0.00		0.00	
N/S Critical Movements						0.21		0.38	
E/W Critical Movements						0.14		0.27	
Right Turn Critical Movement						0.00		0.08	
Clearance Interval						0.05		0.05	
ICU						0.40		0.78	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION - MITIGATION

INTERSECTION NO.: **28**
NORTH/SOUTH: **Washington Street**
EAST/WEST: **Talbert Avenue**

	General Plan Build Out (2040) Plus Project with Proj. Rec. Improvements							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.5		800	3	0	0.00	*	0.00	
NBT	0.5		850	4	8	0.00		0.01	*
NBR	1.0	P	1,600	496	147	0.20	*	0.00	
SBL	0.0		0	0	0	0.00		0.00	*
SBT	0.0		0	0	0	0.00	*	0.00	
SBR	1.0	F	1,600	187	446	0.00		0.00	
EBL	1.0		1,600	135	55	0.08		0.03	*
EBT	2.5		4,250	2,266	789	0.53	*	0.19	
EBR	0.5	U	800	156	8	0.00		0.00	
WBL	1.0		1,600	175	508	0.11	*	0.32	
WBT	3.0		5,100	513	3,267	0.10		0.64	*
WBR	1.0	U	1,600	123	735	0.00		0.00	
N/S Critical Movements						0.00		0.01	
E/W Critical Movements						0.64		0.67	
Right Turn Critical Movement						0.20		0.00	
Clearance Interval						0.05		0.05	
ICU						0.89		0.73	
Level of Service (LOS)						D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION LEVEL OF SERVICE WORKSHEETS

ALTERNATIVE PROJECT TRIP GENERATION (REDUCED INTENSITY)

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		2,880	216	134	0.08		0.05	
NBT	2.5		4,250	471	488	0.11	*	0.11	*
NBR	0.5	U	800	47	32	0.00		0.00	
SBL	2.0		2,880	616	157	0.21	*	0.05	*
SBT	3.0		5,100	811	476	0.16		0.09	
SBR	1.0	D	1,600	282	220	0.00		0.00	
EBL	2.0		2,880	140	227	0.05		0.08	*
EBT	2.5		4,250	1,208	536	0.28	*	0.13	
EBR	0.5	U	800	55	259	0.00		0.16	*
WBL	2.0		2,880	32	117	0.01	*	0.04	
WBT	3.0		5,100	422	1,911	0.08		0.37	*
WBR	1.0	U	1,600	81	697	0.00		0.02	*
N/S Critical Movements						0.32		0.16	
E/W Critical Movements						0.29		0.45	
Right Turn Critical Movement						0.00		0.18	
Clearance Interval						0.05		0.05	
ICU						0.66		0.84	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **2**
NORTH/SOUTH: **Euclid Street**
EAST/WEST: **I-405 Northbound Ramps - Newhope Street**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,600	22	203	0.01 *	0.13 *
NBT	2.5		4,250	273	332	0.06	0.08
NBR	0.5	U	800	471	271	0.48 *	0.09 *
SBL	0.0		0	0	0	0.00	0.00
SBT	2.5		4,250	788	721	0.19 *	0.17 *
SBR	1.5	U	2,400	48	228	0.00	0.00
EBL	2.0		2,880	553	413	0.19 *	0.14 *
EBT	1.5		2,550	338	79	0.13	0.03
EBR	1.5	U	2,400	522	403	0.02 *	0.00
WBL	2.0		2,880	171	459	0.06	0.16
WBT	1.5		2,550	56	475	0.02 *	0.19 *
WBR	0.5	N	800	10	18	0.00	0.00
N/S Critical Movements						0.20	0.30
E/W Critical Movements						0.21	0.33
Right Turn Critical Movement						0.50	0.09
Clearance Interval						0.05	0.05
ICU						0.96	0.77
Level of Service (LOS)						E	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	22	125	0.01	*	0.04	*
SB	3.0		5,100	104	196	0.02	*	0.04	*
EBL	2.0		2,880	636	588	0.22	*	0.20	*
EBT	1.5		2,550	969	489	0.38		0.19	
EBR	0.5	U	800	24	2	0.00		0.00	
WBL	1.0		1,600	30	12	0.02		0.01	
WBT	2.0		3,400	675	1,189	0.20	*	0.35	*
WBR	1.0	P	1,600	746	691	0.27	*	0.08	*
N/S Critical Movements						0.03		0.08	
E/W Critical Movements						0.42		0.55	
Right Turn Critical Movement						0.27		0.08	
Clearance Interval						0.05		0.05	
ICU						0.77		0.76	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **4**
NORTH/SOUTH: **Newhope Street**
EAST/WEST: **Talbert Avenue**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,600	1	15	0.00	0.01 *
NBT	2.0		3,400	409	237	0.12 *	0.07
NBR	1.0	P	1,600	385	99	0.09 *	0.00
SBL	2.0		2,880	314	213	0.11 *	0.07
SBT	1.5		2,550	134	486	0.05	0.19 *
SBR	0.5	U	800	72	161	0.00	0.00
EBL	2.0		2,880	67	173	0.02	0.06 *
EBT	2.5		4,250	1,793	549	0.42 *	0.13
EBR	0.5	U	800	10	11	0.00	0.00
WBL	2.0		2,880	96	465	0.03 *	0.16
WBT	3.5		5,950	456	2,542	0.08	0.43 *
WBR	0.5	U	800	53	177	0.00	0.00
N/S Critical Movements						0.23	0.20
E/W Critical Movements						0.45	0.49
Right Turn Critical Movement						0.09	0.00
Clearance Interval						0.05	0.05
ICU						0.82	0.74
Level of Service (LOS)						D	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
	Existing Plus Project								
NB	4.0		6,800	121	1,449	0.02	*	0.21	*
SB	3.0		5,100	18	28	0.00	*	0.01	*
EBL	1.0		1,700	13	17	0.01		0.01	*
EBT	3.0		5,100	1,875	772	0.37	*	0.15	
EBR	1.0	U	1,700	795	185	0.10	*	0.00	
WBL	1.0		1,700	60	8	0.04	*	0.00	
WBT	3.0		5,100	499	2,381	0.10		0.47	*
WBR	1.0	U	1,700	11	12	0.00		0.00	
N/S Critical Movements						0.02		0.22	
E/W Critical Movements						0.41		0.48	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.58		0.75	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	87	123	0.05	*	0.07	
NBT	1.5		2,550	122	548	0.05		0.21	*
NBR	0.5	U	850	11	61	0.00		0.00	
SBL	1.0		1,700	129	45	0.08		0.03	*
SBT	1.5		2,550	316	225	0.12	*	0.09	
SBR	0.5	U	850	92	122	0.00		0.02	*
EBL	1.0		1,700	57	82	0.03		0.05	
EBT	1.0		1,700	245	317	0.14	*	0.19	*
EBR	1.0	U	1,700	107	164	0.00		0.00	
WBL	1.0		1,700	34	183	0.02	*	0.11	*
WBT	1.0		1,700	198	412	0.12		0.24	
WBR	1.0	U	1,700	67	188	0.00		0.00	
N/S Critical Movements						0.17		0.24	
E/W Critical Movements						0.16		0.30	
Right Turn Critical Movement						0.00		0.02	
Clearance Interval						0.05		0.05	
ICU						0.38		0.61	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	323	377	0.19	*	0.22	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	89	367	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	144	437	0.08	*	0.26	*
WBR	1.0	F	1,700	296	829	0.00		0.00	
N/S Critical Movements						0.19		0.22	
E/W Critical Movements						0.08		0.26	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.32		0.53	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

Move-ment	Lane		Capacity	Existing Plus Project Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	119	565	0.04 *	0.17 *
NBT	3.0		5,100	922	1,557	0.18	0.31
NBR	1.0	U	1,700	88	84	0.00	0.00
SBL	2.0		3,400	346	220	0.10	0.06
SBT	3.0		5,100	1,890	1,020	0.37 *	0.20 *
SBR	1.0	U	1,700	123	160	0.00	0.00
EBL	1.0		1,700	145	130	0.09	0.08 *
EBT	3.0		5,100	1,252	580	0.25 *	0.11
EBR	1.0	U	1,700	377	177	0.00	0.00
WBL	1.0		1,700	93	52	0.05 *	0.03
WBT	3.0		5,100	397	1,387	0.08	0.27 *
WBR	1.0	U	1,700	106	233	0.00	0.00
N/S Critical Movements						0.41	0.37
E/W Critical Movements						0.30	0.35
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.76	0.77
Level of Service (LOS)						C	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	72	43	0.04	*	0.03	
NBT	2.5		4,250	1,148	1,960	0.27		0.46	*
NBR	0.5	U	850	62	27	0.00		0.00	
SBL	1.0		1,700	68	13	0.04		0.01	*
SBT	2.5		4,250	2,193	1,265	0.52	*	0.30	
SBR	0.5	U	850	66	12	0.00		0.00	
EBL	1.0		1,700	14	36	0.01	*	0.02	*
EBT	1.0		1,700	28	53	0.02		0.03	
EBR	1.0	U	1,700	31	91	0.00		0.00	
WBL	1.0		1,700	25	82	0.01		0.05	
WBT	0.5		850	17	236	0.02	*	0.28	*
WBR	0.5	U	850	27	174	0.00		0.00	
N/S Critical Movements						0.56		0.47	
E/W Critical Movements						0.03		0.30	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.64		0.82	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

				Existing Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	234	284	0.07 *	0.08
NBT	3.0		5,100	1,230	1,787	0.24	0.35 *
NBR	1.0	U	1,700	209	309	0.00	0.00
SBL	2.0		3,400	179	86	0.05	0.03 *
SBT	3.0		5,100	1,859	1,290	0.36 *	0.25
SBR	1.0	U	1,700	43	76	0.00	0.00
EB	3.0		5,100	355	496	0.07 *	0.10 *
WB	3.0		5,100	298	1,146	0.06 *	0.22 *
N/S Critical Movements						0.43	0.38
E/W Critical Movements						0.13	0.32
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.61	0.75
Level of Service (LOS)						B	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **11**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **South Coast Drive**

				Existing Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	311	373	0.09 *	0.11
NBT	3.5		5,950	1,702	2,093	0.29	0.35 *
NBR	1.5	P	2,550	259	212	0.00	0.00
SBL	2.0		3,400	72	73	0.02	0.02 *
SBT	4.0		6,800	1,933	1,699	0.28 *	0.25
SBR	1.0	U	1,700	52	62	0.00	0.00
EBL	1.0		1,700	15	26	0.01	0.02 *
EBT	0.5		850	109	65	0.13 *	0.08
EBR	1.5	U	2,550	227	382	0.00	0.00
WBL	2.0		3,400	86	401	0.03 *	0.12
WBT	2.0		3,400	215	848	0.06	0.25 *
WBR	1.0	U	1,700	53	231	0.00	0.00
N/S Critical Movements						0.37	0.37
E/W Critical Movements						0.16	0.27
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.58	0.69
Level of Service (LOS)						A	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **12**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp**

	Existing Plus Project							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	1,490	1,605	0.22	*	0.24	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,380	1,421	0.20		0.21	
SBR	1.0	F	1,700	868	1,001	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	531	690	0.21	*	0.27	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	862	1,126	0.13	*	0.17	*
N/S Critical Movements						0.22		0.24	
E/W Critical Movements						0.21		0.27	
Right Turn Critical Movement						0.13		0.17	
Clearance Interval						0.05		0.05	
ICU						0.61		0.73	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **13**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp**

	Existing Plus Project							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	0.0		0	0	0	0.00	*	0.00	*
NBT	3.0		5,100	1,145	1,391	0.22		0.27	
NBR	1.0	F	1,700	570	627	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	4.0		6,800	1,911	2,111	0.28	*	0.31	*
SBR	0.0		0	0	0	0.00		0.00	
EBL	1.5		2,550	344	212	0.13	*	0.08	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	1.5	U	2,550	450	707	0.04	*	0.19	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.28		0.31	
E/W Critical Movements						0.13		0.08	
Right Turn Critical Movement						0.04		0.19	
Clearance Interval						0.05		0.05	
ICU						0.50		0.63	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **14**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Gisler Avenue**

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	96	139	0.06	*	0.08	*
NBT	4.5		7,650	2,075	1,989	0.27		0.26	
NBR	0.5	U	850	9	20	0.00		0.00	
SBL	1.0		1,700	74	135	0.04		0.08	
SBT	3.5		5,950	1,838	2,110	0.31	*	0.35	*
SBR	0.5	U	850	221	358	0.00		0.07	*
EB	4.0		6,800	817	529	0.12	*	0.08	*
WB	3.0		5,100	233	444	0.05	*	0.09	*
N/S Critical Movements						0.37		0.43	
E/W Critical Movements						0.17		0.17	
Right Turn Critical Movement						0.00		0.07	
Clearance Interval						0.05		0.05	
ICU						0.59		0.72	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **15**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Nutmeg Place**

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	15	43	0.01		0.03	*
NBT	3.5		5,950	2,046	1,937	0.34	*	0.33	
NBR	0.5	U	850	121	184	0.00		0.00	
SBL	2.0		3,400	130	182	0.04	*	0.05	
SBT	3.5		5,950	1,849	2,068	0.31		0.35	*
SBR	0.5	U	850	50	46	0.00		0.00	
EB	2.0		3,400	79	141	0.02	*	0.04	*
WB	2.0		3,400	141	304	0.04	*	0.09	*
N/S Critical Movements						0.38		0.38	
E/W Critical Movements						0.06		0.13	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.49		0.56	
Level of Service (LOS)						A		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,400	47	53	0.01	0.02 *
NBT	4.0		6,800	1,822	1,630	0.27 *	0.24
NBR	1.0	P	1,700	232	196	0.00	0.00
SBL	2.0		3,400	200	191	0.06 *	0.06
SBT	4.0		6,800	1,496	1,888	0.22	0.28 *
SBR	1.0	P	1,700	217	231	0.00	0.00
EBL	2.0		3,400	243	194	0.07	0.06 *
EBT	1.5		2,550	248	228	0.10 *	0.09
EBR	0.5	U	850	55	85	0.00	0.00
WBL	2.0		3,400	193	458	0.06 *	0.13
WBT	2.0		3,400	215	630	0.06	0.19 *
WBR	1.0	U	1,700	154	349	0.00	0.00
N/S Critical Movements						0.33	0.30
E/W Critical Movements						0.16	0.25
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.54	0.60
Level of Service (LOS)						A	A

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	74	279	0.04		0.16	
NBT	1.0		1,700	257	614	0.15	*	0.36	*
NBR	1.0	U	1,700	51	139	0.00		0.00	
SBL	1.0		1,700	71	65	0.04	*	0.04	*
SBT	0.5		850	80	170	0.09		0.20	
SBR	0.5	U	850	29	92	0.00		0.00	
EBL	1.0		1,700	76	96	0.04	*	0.06	*
EBT	2.0		3,400	359	479	0.11		0.14	
EBR	1.0	U	1,700	42	29	0.00		0.00	
WBL	1.0		1,700	50	37	0.03		0.02	
WBT	1.5		2,550	264	612	0.10	*	0.24	*
WBR	0.5	U	850	96	196	0.00		0.00	
N/S Critical Movements						0.19		0.40	
E/W Critical Movements						0.14		0.30	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.38		0.75	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	158	528	0.05		0.16	
NBT	1.5		2,550	437	751	0.17	*	0.29	*
NBR	0.5	U	850	83	57	0.00		0.00	
SBL	2.0		3,400	65	143	0.02	*	0.04	*
SBT	1.5		2,550	2	19	0.00		0.01	
SBR	0.5	U	850	67	181	0.04	*	0.15	*
EBL	2.0		3,400	104	93	0.03		0.03	*
EBT	1.5		2,550	307	222	0.12	*	0.09	
EBR	0.5	U	850	1	13	0.00		0.00	
WBL	2.0		3,400	0	38	0.00	*	0.01	
WBT	2.0		3,400	154	706	0.05		0.21	*
WBR	1.0	P	1,700	43	150	0.00		0.00	
N/S Critical Movements						0.19		0.33	
E/W Critical Movements						0.12		0.24	
Right Turn Critical Movement						0.04		0.15	
Clearance Interval						0.05		0.05	
ICU						0.40		0.77	
Level of Service (LOS)						A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	Existing Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	173	138	0.05	*	0.04	
NBT	3.0		5,100	943	1,728	0.18		0.34	*
NBR	1.0	U	1,700	160	296	0.00		0.00	
SBL	2.0		3,400	174	101	0.05		0.03	*
SBT	2.5		4,250	1,702	1,129	0.40	*	0.27	
SBR	0.5	U	850	124	85	0.00		0.00	
EBL	2.0		3,400	49	193	0.01		0.06	
EBT	1.5		2,550	267	424	0.10	*	0.17	*
EBR	0.5	U	850	64	141	0.00		0.00	
WBL	2.0		3,400	297	227	0.09	*	0.07	*
WBT	2.0		3,400	308	545	0.09		0.16	
WBR	1.0	U	1,700	105	162	0.00		0.00	
N/S Critical Movements						0.45		0.37	
E/W Critical Movements						0.19		0.24	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.69		0.66	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **21**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **South Coast Drive**

				Existing Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	236	197	0.07 *	0.06 *
NBT	3.0		5,100	1,212	1,776	0.24	0.35
NBR	1.0	U	1,700	178	341	0.00	0.00
SBL	2.0		3,400	29	52	0.01	0.02
SBT	2.5		4,250	1,926	1,379	0.45 *	0.32 *
SBR	0.5	U	850	21	52	0.00	0.00
EBL	1.0		1,700	8	62	0.00	0.04
EBT	1.5		2,550	107	163	0.04 *	0.06 *
EBR	1.5	U	2,550	146	548	0.00	0.11 *
WBL	2.0		3,400	314	451	0.09 *	0.13 *
WBT	2.0		3,400	104	480	0.03	0.14
WBR	1.0	U	1,700	58	320	0.00	0.04 *
N/S Critical Movements						0.52	0.38
E/W Critical Movements						0.13	0.19
Right Turn Critical Movement						0.00	0.15
Clearance Interval						0.05	0.05
ICU						0.70	0.77
Level of Service (LOS)						B	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **22**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Northbound Ramps**

	Existing Plus Project							
Move-				Volume		V/C Ratio		
ment	Lane		Capacity	AM	PM	AM		PM	
NBL	1.0		1,700	243	185	0.14	*	0.11	*
NBT	3.0		5,100	795	1,391	0.16		0.27	
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	6.0		10,200	2,049	1,993	0.20	*	0.20	*
SBR	1.0	U	1,700	294	339	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	2.0		3,400	832	785	0.24	*	0.23	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	2.0	U	3,400	859	967	0.01	*	0.05	*
N/S Critical Movements						0.34		0.31	
E/W Critical Movements						0.24		0.23	
Right Turn Critical Movement						0.01		0.05	
Clearance Interval						0.05		0.05	
ICU						0.64		0.64	
Level of Service (LOS)						B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	Existing Plus Project							
				Volume		V/C Ratio		
Move-ment	Lane		Capacity	AM	PM	AM		PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	3.5		5,950	893	1,207	0.15	*	0.20	*
NBR	1.5	U	2,550	1,095	563	0.28	*	0.02	*
SBL	3.0		5,100	1,180	1,074	0.23	*	0.21	*
SBT	3.0		5,100	1,701	1,704	0.33		0.33	
SBR	0.0		0	0	0	0.00		0.00	
EBL	2.0		3,400	145	369	0.04	*	0.11	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	2.0	U	3,400	399	468	0.07	*	0.03	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.38		0.41	
E/W Critical Movements						0.04		0.11	
Right Turn Critical Movement						0.35		0.05	
Clearance Interval						0.05		0.05	
ICU						0.82		0.62	
Level of Service (LOS)						D		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	Existing Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	141	184	0.04	0.05
NBT	3.0		5,100	1,357	1,135	0.27 *	0.22 *
NBR	1.0	P	1,700	645	367	0.01 *	0.00
SBL	2.0		3,400	249	220	0.07 *	0.06 *
SBT	4.0		6,800	1,573	1,411	0.23	0.21
SBR	1.0	U	1,700	223	331	0.00	0.00
EBL	2.0		3,400	270	276	0.08	0.08
EBT	2.0		3,400	549	414	0.16 *	0.12 *
EBR	1.0	U	1,700	160	167	0.00	0.00
WBL	2.0		3,400	336	661	0.10 *	0.19 *
WBT	3.0		5,100	286	1,144	0.06	0.22
WBR	1.0	U	1,700	151	188	0.00	0.00
N/S Critical Movements						0.34	0.28
E/W Critical Movements						0.26	0.31
Right Turn Critical Movement						0.01	0.00
Clearance Interval						0.05	0.05
ICU						0.66	0.64
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

				Existing Plus Project					
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	121	1,449	0.02	*	0.21	*
SB	3.0		5,100	18	28	0.00	*	0.01	*
EBL	1.0		1,600	13	17	0.01		0.01	*
EBT	3.0		5,100	1,875	772	0.37	*	0.15	
EBR	1.0	U	1,600	795	185	0.13	*	0.00	
WBL	1.0		1,600	60	8	0.04	*	0.01	
WBT	3.0		5,100	499	2,381	0.10		0.47	*
WBR	1.0	U	1,600	11	12	0.00		0.00	
N/S Critical Movements						0.02		0.22	
E/W Critical Movements						0.41		0.48	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.61		0.75	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	Existing Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	119	565	0.04	*	0.18	*
NBT	3.0		5,100	922	1,557	0.18		0.31	
NBR	1.0	U	1,600	88	84	0.00		0.00	
SBL	2.0		3,200	346	220	0.11		0.07	
SBT	3.0		5,100	1,890	1,020	0.37	*	0.20	*
SBR	1.0	U	1,600	123	160	0.00		0.00	
EBL	1.0		1,600	145	130	0.09		0.08	*
EBT	3.0		5,100	1,252	580	0.25	*	0.11	
EBR	1.0	U	1,600	377	177	0.00		0.00	
WBL	1.0		1,600	93	52	0.06	*	0.03	
WBT	3.0		5,100	397	1,387	0.08		0.27	*
WBR	1.0	U	1,600	106	233	0.00		0.00	
N/S Critical Movements						0.41		0.38	
E/W Critical Movements						0.31		0.35	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.77		0.78	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	72	43	0.05	*	0.03	
NBT	2.5		4,250	1,148	1,960	0.27		0.46	*
NBR	0.5	U	800	62	27	0.00		0.00	
SBL	1.0		1,600	68	13	0.04		0.01	*
SBT	2.5		4,250	2,193	1,265	0.52	*	0.30	
SBR	0.5	U	800	66	12	0.00		0.00	
EBL	1.0		1,600	14	36	0.01		0.02	*
EBT	1.0		1,700	28	53	0.02	*	0.03	
EBR	1.0	U	1,600	31	91	0.00		0.01	*
WBL	1.0		1,600	25	82	0.02	*	0.05	
WBT	0.5		850	17	236	0.02		0.28	*
WBR	0.5	U	800	27	174	0.00		0.00	
N/S Critical Movements						0.57		0.47	
E/W Critical Movements						0.04		0.30	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.66		0.83	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

Move-ment	Existing Plus Project								
				Volume		V/C Ratio			
	Lane		Capacity	AM	PM	AM		PM	
NBL	2.0		3,200	234	284	0.07	*	0.09	
NBT	3.0		5,100	1,230	1,787	0.24		0.35	*
NBR	1.0	U	1,600	209	309	0.00		0.00	
SBL	2.0		3,200	179	86	0.06		0.03	*
SBT	3.0		5,100	1,859	1,290	0.36	*	0.25	
SBR	1.0	U	1,600	43	76	0.00		0.00	
EB	3.0		5,100	355	496	0.07	*	0.10	*
WB	3.0		5,100	298	1,146	0.06	*	0.22	*
N/S Critical Movements						0.43		0.38	
E/W Critical Movements						0.13		0.32	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.61		0.75	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	1.0		1,600	74	279	0.05	0.17
NBT	1.0		1,700	257	614	0.15 *	0.36 *
NBR	1.0	U	1,600	51	139	0.00	0.00
SBL	1.0		1,600	71	65	0.04 *	0.04 *
SBT	0.5		850	80	170	0.09	0.20
SBR	0.5	U	800	29	92	0.00	0.00
EBL	1.0		1,600	76	96	0.05 *	0.06 *
EBT	2.0		3,400	359	479	0.11	0.14
EBR	1.0	U	1,600	42	29	0.00	0.00
WBL	1.0		1,600	50	37	0.03	0.02
WBT	1.5		2,550	264	612	0.10 *	0.24 *
WBR	0.5	U	800	96	196	0.00	0.00
N/S Critical Movements						0.19	0.40
E/W Critical Movements						0.15	0.30
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.39	0.75
Level of Service (LOS)						A	C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	Existing Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	150	213	0.05	*	0.07	
NBT	2.5		4,250	841	1,702	0.20		0.40	*
NBR	0.5	U	800	80	116	0.00		0.00	
SBL	2.0		3,200	383	162	0.12		0.05	*
SBT	3.0		5,100	1,615	916	0.32	*	0.18	
SBR	1.0	U	1,600	166	107	0.00		0.00	
EBL	2.0		3,200	140	291	0.04		0.09	*
EBT	3.0		5,100	1,051	744	0.21	*	0.15	
EBR	1.0	U	1,600	173	231	0.00		0.00	
WBL	2.0		3,200	190	163	0.06	*	0.05	
WBT	3.0		5,100	494	1,293	0.10		0.25	*
WBR	1.0	U	1,600	159	292	0.00		0.00	
N/S Critical Movements						0.37		0.45	
E/W Critical Movements						0.27		0.34	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.69		0.84	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

				Existing Plus Project			
				Volume		V/C Ratio	
Move-ment	Lane		Capacity	AM	PM	AM	PM
NBL	2.0		3,200	173	138	0.05 *	0.04
NBT	3.0		5,100	943	1,728	0.18	0.34 *
NBR	1.0	U	1,600	160	296	0.00	0.00
SBL	2.0		3,200	174	101	0.05	0.03 *
SBT	2.5		4,250	1,702	1,129	0.40 *	0.27
SBR	0.5	U	800	124	85	0.00	0.00
EBL	2.0		3,200	49	193	0.02	0.06
EBT	1.5		2,550	267	424	0.10 *	0.17 *
EBR	0.5	U	800	64	141	0.00	0.00
WBL	2.0		3,200	297	227	0.09 *	0.07 *
WBT	2.0		3,400	308	545	0.09	0.16
WBR	1.0	U	1,600	105	162	0.00	0.00
N/S Critical Movements						0.45	0.37
E/W Critical Movements						0.19	0.24
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.69	0.66
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **29**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Segerstrom Avenue**

	Existing w/Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	100	196	0.03	*	0.06	
NBT	2.5		4,250	752	1,584	0.18		0.37	*
NBR	0.5	U	800	61	59	0.00		0.00	
SBL	1.0		1,600	179	131	0.11		0.08	*
SBT	2.5		4,250	2,087	975	0.49	*	0.23	
SBR	0.5	U	800	64	78	0.00		0.00	
EBL	1.0		1,600	111	114	0.07		0.07	*
EBT	1.5		2,550	459	456	0.18	*	0.18	
EBR	0.5	U	800	195	114	0.04	*	0.00	
WBL	1.0		1,600	98	111	0.06	*	0.07	
WBT	2.0		3,400	246	940	0.07		0.28	*
WBR	1.0	U	1,600	92	356	0.00		0.00	
N/S Critical Movements						0.52		0.45	
E/W Critical Movements						0.24		0.35	
Right Turn Critical Movement						0.04		0.00	
Clearance Interval						0.05		0.05	
ICU						0.85		0.85	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM	V/C Ratio PM
NBL	2.0		2,880	233	145	0.0503	0.08	0.05
NBT	2.5		4,250	510	528	0.1242	0.12 *	0.12 *
NBR	0.5	U	800	51	34	0	0.00	0.00
SBL	2.0		2,880	665	168	0.0583	0.23 *	0.06 *
SBT	3.0		5,100	876	515	0.101	0.17	0.10
SBR	1.0	D	1,600	305	238	0	0.00	0.00
EBL	2.0		2,880	151	245	0.0851	0.05	0.09 *
EBT	2.5		4,250	1,346	587	0.1381	0.32 *	0.14
EBR	0.5	U	800	59	280	0.1741	0.00	0.17 *
WBL	2.0		2,880	34	126	0.0438	0.01 *	0.04
WBT	3.0		5,100	463	2,105	0.4127	0.09	0.41 *
WBR	1.0	U	1,600	86	752	0.0135	0.00	0.01 *
N/S Critical Movements							0.35	0.18
E/W Critical Movements							0.33	0.50
Right Turn Critical Movement							0.00	0.18
Clearance Interval							0.05	0.05
ICU							0.73	0.91
Level of Service (LOS)							C	E

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 2
NORTH/SOUTH: Euclid Street
EAST/WEST: I-405 Northbound Ramps - Newhope Street

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	24	219	0.1369	0.02	*	0.14	*
NBT	2.5		4,250	295	359	0.0845	0.07		0.08	
NBR	0.5	U	800	509	292	0.099	0.52	*	0.10	*
SBL	0.0		0	0	0	0	0.00		0.00	
SBT	2.5		4,250	851	780	0.1835	0.20	*	0.18	*
SBR	1.5	U	2,400	52	246	0	0.00		0.00	
EBL	2.0		2,880	598	447	0.1552	0.21	*	0.16	*
EBT	1.5		2,550	366	86	0.0337	0.14		0.03	
EBR	1.5	U	2,400	564	435	0	0.02	*	0.00	
WBL	2.0		2,880	184	496	0.1722	0.06		0.17	
WBT	1.5		2,550	60	513	0.2012	0.02	*	0.20	*
WBR	0.5	N	800	11	19	0	0.00		0.00	
N/S Critical Movements							0.22		0.32	
E/W Critical Movements							0.23		0.36	
Right Turn Critical Movement							0.54		0.10	
Clearance Interval							0.05		0.05	
ICU							1.04		0.83	
Level of Service (LOS)							F		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **3**
NORTH/SOUTH: **I-405 Southbound Ramps**
EAST/WEST: **Ellis Avenue - Euclid Street**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	23	136	0.04	0.01	*	0.04	*
SB	3.0		5,100	112	211	0.0414	0.02	*	0.04	*
EBL	0.0		0	0	0	0	0.00		0.00	*
EBT	1.5		2,550	1,046	528	0.2071	0.41	*	0.21	
EBR	0.5	U	800	26	2	0	0.00		0.00	
WBL	1.0		1,600	32	13	0.0081	0.02	*	0.01	
WBT	2.0		3,400	729	1,284	0.3776	0.21		0.38	*
WBR	1.0	P	1,600	807	748	0.0899	0.29	*	0.09	*
N/S Critical Movements							0.03		0.08	
E/W Critical Movements							0.43		0.38	
Right Turn Critical Movement							0.29		0.09	
Clearance Interval							0.05		0.05	
ICU							0.80		0.60	
Level of Service (LOS)							C		A	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 4
NORTH/SOUTH: Newhope Street
EAST/WEST: Talbert Avenue

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	1.0		1,600	1	16	0.01	0.00		0.01	*
NBT	2.0		3,400	443	257	0.0756	0.13	*	0.08	
NBR	1.0	P	1,600	416	107	0	0.09	*	0.00	
SBL	2.0		2,880	339	230	0.0799	0.12	*	0.08	
SBT	1.5		2,550	145	526	0.2063	0.06		0.21	*
SBR	0.5	U	800	78	174	0	0.00		0.00	
EBL	2.0		2,880	72	187	0.0649	0.03		0.06	*
EBT	2.5		4,250	1,978	599	0.1409	0.47	*	0.14	
EBR	0.5	U	800	11	12	0	0.00		0.00	
WBL	2.0		2,880	103	502	0.1743	0.04	*	0.17	
WBT	3.5		5,950	498	2,786	0.4682	0.08		0.47	*
WBR	0.5	U	800	57	191	0	0.00		0.00	
N/S Critical Movements							0.25		0.22	
E/W Critical Movements							0.51		0.53	
Right Turn Critical Movement							0.09		0.00	
Clearance Interval							0.05		0.05	
ICU							0.90		0.80	
Level of Service (LOS)							D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	127	1,563	0.2299	0.02	*	0.23	*
SB	3.0		5,100	20	30	0.0059	0.00	*	0.01	*
EBL	1.0		1,700	14	18	0.0106	0.01		0.01	*
EBT	3.0		5,100	2,069	849	0.1665	0.41	*	0.17	
EBR	1.0	U	1,700	858	197	0	0.10	*	0.00	
WBL	1.0		1,700	68	28	0.0165	0.04	*	0.02	
WBT	3.0		5,100	554	2,616	0.5129	0.11		0.51	*
WBR	1.0	U	1,700	12	13	0	0.00		0.00	
N/S Critical Movements							0.02		0.24	
E/W Critical Movements							0.45		0.52	
Right Turn Critical Movement							0.10		0.00	
Clearance Interval							0.05		0.05	
ICU							0.62		0.81	
Level of Service (LOS)							B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	1.0		1,700	93	129	0.0759	0.05	*	0.08
NBT	1.5		2,550	132	592	0.2322	0.05		0.23 *
NBR	0.5	U	850	12	66	0	0.00		0.00
SBL	1.0		1,700	139	49	0.0288	0.08		0.03 *
SBT	1.5		2,550	344	262	0.1027	0.13	*	0.10
SBR	0.5	U	850	98	128	0.0099	0.00		0.01 *
EBL	1.0		1,700	58	86	0.0506	0.03		0.05
EBT	1.0		1,700	249	337	0.1982	0.15	*	0.20 *
EBR	1.0	U	1,700	108	173	0	0.00		0.00
WBL	1.0		1,700	42	230	0.1353	0.02	*	0.14 *
WBT	1.0		1,700	214	428	0.2518	0.13		0.25
WBR	1.0	U	1,700	72	203	0	0.00		0.00
N/S Critical Movements							0.18		0.26
E/W Critical Movements							0.17		0.34
Right Turn Critical Movement							0.00		0.01
Clearance Interval							0.05		0.05
ICU							0.40		0.66
Level of Service (LOS)							A		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0	0.00		0.00	
SBL	1.0		1,700	346	410	0.2412	0.20	*	0.24	*
SBT	0.0		0	0	0	0	0.00		0.00	
SBR	1.0	F	1,700	101	446	0	0.00		0.00	
EBL	0.0		0	0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0	0.00		0.00	
WBT	1.0		1,700	181	623	0.3665	0.11	*	0.37	*
WBR	1.0	F	1,700	325	894	0	0.00		0.00	
N/S Critical Movements							0.20		0.24	
E/W Critical Movements							0.11		0.37	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.36		0.66	
Level of Service (LOS)							A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

Move-ment	Future Short-Term Cumulative (2027) Plus Project									
				Volume			V/C Ratio			
	Lane		Capacity	AM	PM		AM		PM	
NBL	2.0		3,400	183	651	0.1915	0.05	*	0.19	*
NBT	3.0		5,100	1,020	1,737	0.3406	0.20		0.34	
NBR	1.0	U	1,700	99	93	0	0.00		0.00	
SBL	2.0		3,400	374	239	0.0703	0.11		0.07	
SBT	3.0		5,100	2,095	1,125	0.2206	0.41	*	0.22	*
SBR	1.0	U	1,700	134	173	0	0.00		0.00	
EBL	1.0		1,700	157	141	0.0829	0.09		0.08	*
EBT	3.0		5,100	1,358	640	0.1255	0.27	*	0.13	
EBR	1.0	U	1,700	445	221	0	0.00		0.00	
WBL	1.0		1,700	101	59	0.0347	0.06	*	0.03	
WBT	3.0		5,100	444	1,504	0.2949	0.09		0.29	*
WBR	1.0	U	1,700	115	253	0	0.00		0.00	
N/S Critical Movements							0.46		0.41	
E/W Critical Movements							0.33		0.37	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.84		0.83	
Level of Service (LOS)							D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	1.0		1,700	82	48	0.0282	0.05	*	0.03
NBT	2.5		4,250	1,324	2,215	0.5212	0.31		0.52 *
NBR	0.5	U	850	71	31	0	0.00		0.00
SBL	1.0		1,700	73	14	0.0082	0.04		0.01 *
SBT	2.5		4,250	2,460	1,423	0.3348	0.58	*	0.33
SBR	0.5	U	850	72	13	0	0.00		0.00
EBL	1.0		1,700	15	40	0.0235	0.01		0.02 *
EBT	1.0		1,700	30	57	0.0335	0.02	*	0.03
EBR	1.0	U	1,700	33	101	0.0047	0.00		0.00
WBL	1.0		1,700	27	92	0.0541	0.02	*	0.05
WBT	0.5		850	18	255	0.3	0.02		0.30 *
WBR	0.5	U	850	29	188	0	0.00		0.00
N/S Critical Movements							0.63		0.53
E/W Critical Movements							0.04		0.32
Right Turn Critical Movement							0.00		0.00
Clearance Interval							0.05		0.05
ICU							0.72		0.90
Level of Service (LOS)							C		D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 10
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Sunflower Avenue

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM	
NBL	2.0		3,400	256	299	0.0879	0.08	*	0.09	
NBT	3.0		5,100	1,409	1,967	0.3857	0.28		0.39	*
NBR	1.0	U	1,700	529	390	0	0.03	*	0.00	
SBL	2.0		3,400	260	105	0.0309	0.08		0.03	*
SBT	3.0		5,100	2,034	1,444	0.2831	0.40	*	0.28	
SBR	1.0	U	1,700	47	80	0	0.00		0.00	
EB	3.0		5,100	372	534	0.1047	0.07	*	0.10	*
WB	3.0		5,100	358	1,462	0.2867	0.07	*	0.29	*
N/S Critical Movements							0.48		0.42	
E/W Critical Movements							0.14		0.39	
Right Turn Critical Movement							0.03		0.00	
Clearance Interval							0.05		0.05	
ICU							0.70		0.86	
Level of Service (LOS)							B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 11
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	2.0		3,400	401	416	0.1224	0.12	*	0.12	*
NBT	3.5		5,950	2,223	2,337	0.3928	0.37		0.39	
NBR	1.5	P	2,550	413	253	0	0.00		0.00	
SBL	2.0		3,400	78	79	0.0232	0.02		0.02	
SBT	4.0		6,800	2,121	2,016	0.2965	0.31	*	0.30	*
SBR	1.0	U	1,700	65	69	0	0.00		0.00	
EBL	1.0		1,700	18	37	0.0218	0.01		0.02	*
EBT	0.5		850	117	90	0.1059	0.14	*	0.11	
EBR	1.5	U	2,550	253	453	0	0.00		0.00	
WBL	2.0		3,400	114	562	0.1653	0.03	*	0.17	
WBT	2.0		3,400	275	1,045	0.3074	0.08		0.31	*
WBR	1.0	U	1,700	57	249	0	0.00		0.00	
N/S Critical Movements							0.43		0.42	
E/W Critical Movements							0.17		0.33	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.65		0.80	
Level of Service (LOS)							B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	Future Short-Term Cumulative (2027) Baseline Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00		0.00	
NBT	4.0		6,800	1,971	1,794	0.2638	0.29	*	0.26	*
NBR	0.0		0	0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,514	1,682	0.2474	0.22		0.25	
SBR	1.0	F	1,700	976	1,286	0	0.00		0.00	
EBL	0.0		0	0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0	0.00		0.00	
WBL	1.5		2,550	573	745	0.2922	0.22	*	0.29	*
WBT	0.0		0	0	0	0	0.00		0.00	
WBR	1.5	U	2,550	1,156	1,269	0.2055	0.23	*	0.21	*
N/S Critical Movements							0.29		0.26	
E/W Critical Movements							0.22		0.29	
Right Turn Critical Movement							0.23		0.21	
Clearance Interval							0.05		0.05	
ICU							0.79		0.81	
Level of Service (LOS)							C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00	*	0.00	*
NBT	3.0		5,100	1,388	1,529	0.2998	0.27		0.30	
NBR	1.0	F	1,700	640	692	0	0.00		0.00	
SBL	0.0		0	0	0	0	0.00		0.00	
SBT	4.0		6,800	2,088	2,427	0.3569	0.31	*	0.36	*
SBR	0.0		0	0	0	0	0.00		0.00	
EBL	1.5		2,550	582	263	0.1031	0.23	*	0.10	*
EBT	0.0		0	0	0	0	0.00		0.00	
EBR	1.5	U	2,550	494	788	0.2059	0.00		0.21	*
WBL	0.0		0	0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0	0.00		0.00	
N/S Critical Movements							0.31		0.36	
E/W Critical Movements							0.23		0.10	
Right Turn Critical Movement							0.00		0.21	
Clearance Interval							0.05		0.05	
ICU							0.59		0.72	
Level of Service (LOS)							A		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 14
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Gisler Avenue

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM
NBL	1.0		1,700	104	150	0.0882	0.06	*	0.09 *
NBT	4.5		7,650	2,350	2,178	0.2847	0.31		0.28
NBR	0.5	U	850	10	22	0	0.00		0.00
SBL	1.0		1,700	80	146	0.0859	0.05		0.09
SBT	3.5		5,950	2,007	2,386	0.401	0.34	*	0.40 *
SBR	0.5	U	850	249	451	0.1296	0.00		0.13 *
EB	4.0		6,800	949	583	0.0857	0.14	*	0.09 *
WB	3.0		5,100	252	480	0.0941	0.05	*	0.09 *
N/S Critical Movements							0.40		0.49
E/W Critical Movements							0.19		0.18
Right Turn Critical Movement							0.00		0.13
Clearance Interval							0.05		0.05
ICU							0.64		0.85
Level of Service (LOS)							B		D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 15
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Nutmeg Place

Move-ment	Future Short-Term Cumulative (2027) Plus Project								
				Volume			V/C Ratio		
	Lane		Capacity	AM	PM		AM		PM
NBL	1.0		1,700	16	46	0.0271	0.01		0.03 *
NBT	3.5		5,950	2,322	2,121	0.3565	0.39	*	0.36
NBR	0.5	U	850	139	203	0	0.00		0.00
SBL	2.0		3,400	140	196	0.0576	0.04	*	0.06
SBT	3.5		5,950	2,017	2,343	0.3938	0.34		0.39 *
SBR	0.5	U	850	54	50	0	0.00		0.00
EB	2.0		3,400	85	152	0.0447	0.03	*	0.04 *
WB	2.0		3,400	154	336	0.0988	0.05	*	0.10 *
N/S Critical Movements							0.43		0.42
E/W Critical Movements							0.08		0.14
Right Turn Critical Movement							0.00		0.00
Clearance Interval							0.05		0.05
ICU							0.56		0.61
Level of Service (LOS)							A		B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	2.0		3,400	51	57	0.0168	0.02		0.02	*
NBT	4.0		6,800	2,048	1,788	0.2629	0.30	*	0.26	
NBR	1.0	P	1,700	252	214	0	0.00		0.00	
SBL	2.0		3,400	215	207	0.0609	0.06	*	0.06	
SBT	4.0		6,800	1,632	2,117	0.3113	0.24		0.31	*
SBR	1.0	P	1,700	240	285	0	0.00		0.00	
EBL	2.0		3,400	300	217	0.0638	0.09		0.06	*
EBT	1.5		2,550	268	246	0.0965	0.11	*	0.10	
EBR	0.5	U	850	59	92	0	0.00		0.00	
WBL	2.0		3,400	209	497	0.1462	0.06	*	0.15	
WBT	2.0		3,400	232	680	0.2	0.07		0.20	*
WBR	1.0	U	1,700	167	377	0	0.00		0.00	
N/S Critical Movements							0.36		0.33	
E/W Critical Movements							0.17		0.26	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.58		0.64	
Level of Service (LOS)							A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 17
NORTH/SOUTH: Susan Street
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	80	301	0.1771	0.05		0.18	
NBT	1.0		1,700	278	663	0.39	0.16	*	0.39	*
NBR	1.0	U	1,700	55	150	0	0.00		0.00	
SBL	1.0		1,700	77	70	0.0412	0.05	*	0.04	*
SBT	0.5		850	86	184	0.2165	0.10		0.22	
SBR	0.5	U	850	31	98	0	0.00		0.00	
EBL	1.0		1,700	81	103	0.0606	0.05	*	0.06	*
EBT	2.0		3,400	411	676	0.1988	0.12		0.20	
EBR	1.0	U	1,700	45	31	0	0.00		0.00	
WBL	1.0		1,700	54	40	0.0235	0.03		0.02	
WBT	1.5		2,550	450	687	0.2694	0.18	*	0.27	*
WBR	0.5	U	850	104	212	0	0.00		0.00	
N/S Critical Movements							0.21		0.43	
E/W Critical Movements							0.23		0.33	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.49		0.81	
Level of Service (LOS)							A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	2.0		3,400	171	570	0.1676	0.05		0.17	
NBT	1.5		2,550	472	811	0.318	0.19	*	0.32	*
NBR	0.5	U	850	90	62	0	0.00		0.00	
SBL	2.0		3,400	70	154	0.0453	0.02	*	0.05	*
SBT	1.5		2,550	2	21	0.0082	0.00		0.01	
SBR	0.5	U	850	72	195	0.1621	0.04	*	0.16	*
EBL	2.0		3,400	112	100	0.0294	0.03		0.03	*
EBT	1.5		2,550	333	260	0.102	0.13	*	0.10	
EBR	0.5	U	850	1	14	0	0.00		0.00	
WBL	2.0		3,400	0	41	0.0121	0.00	*	0.01	
WBT	2.0		3,400	189	764	0.2247	0.06		0.22	*
WBR	1.0	P	1,700	46	162	0	0.00		0.00	
N/S Critical Movements							0.21		0.37	
E/W Critical Movements							0.13		0.25	
Right Turn Critical Movement							0.04		0.16	
Clearance Interval							0.05		0.05	
ICU							0.43		0.83	
Level of Service (LOS)							A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 20
NORTH/SOUTH: Fairview Road
EAST/WEST: Sunflower Avenue

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM
NBL	2.0		3,400	254	161	0.0474	0.07	*	0.05
NBT	3.0		5,100	1,080	1,912	0.3749	0.21		0.37 *
NBR	1.0	U	1,700	178	323	0	0.00		0.00
SBL	2.0		3,400	194	112	0.0329	0.06		0.03 *
SBT	2.5		4,250	1,900	1,267	0.2981	0.45	*	0.30
SBR	0.5	U	850	167	97	0	0.00		0.00
EBL	2.0		3,400	57	240	0.0706	0.02		0.07
EBT	1.5		2,550	297	522	0.2047	0.12	*	0.20 *
EBR	0.5	U	850	80	217	0.0151	0.00		0.02 *
WBL	2.0		3,400	323	249	0.0732	0.10	*	0.07 *
WBT	2.0		3,400	399	598	0.1759	0.12		0.18
WBR	1.0	U	1,700	115	179	0	0.00		0.00
N/S Critical Movements							0.52		0.40
E/W Critical Movements							0.22		0.27
Right Turn Critical Movement							0.00		0.02
Clearance Interval							0.05		0.05
ICU							0.79		0.74
Level of Service (LOS)							C		C

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 21
NORTH/SOUTH: Fairview Road
EAST/WEST: South Coast Drive

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	2.0		3,400	264	214	0.0629	0.08	*	0.06	*
NBT	3.0		5,100	1,442	1,975	0.3873	0.28		0.39	
NBR	1.0	U	1,700	192	368	0	0.00		0.00	
SBL	2.0		3,400	31	56	0.0165	0.01		0.02	
SBT	2.5		4,250	2,150	1,605	0.3776	0.51	*	0.38	*
SBR	0.5	U	850	28	57	0	0.00		0.00	
EBL	1.0		1,700	10	71	0.0418	0.01		0.04	
EBT	1.5		2,550	116	184	0.0722	0.05	*	0.07	*
EBR	1.5	U	2,550	159	601	0.1163	0.00		0.12	*
WBL	2.0		3,400	339	487	0.1432	0.10	*	0.14	*
WBT	2.0		3,400	121	518	0.1524	0.04		0.15	
WBR	1.0	U	1,700	63	346	0.0388	0.00		0.04	*
N/S Critical Movements							0.59		0.44	
E/W Critical Movements							0.15		0.21	
Right Turn Critical Movement							0.00		0.16	
Clearance Interval							0.05		0.05	
ICU							0.79		0.86	
Level of Service (LOS)							C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 22
NORTH/SOUTH: Fairview Road
EAST/WEST: I-405 Northbound Ramps

Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
	Future Short-Term Cumulative (2027) Plus Project									
NBL	1.0		1,700	262	200	0.1176	0.15	*	0.12	*
NBT	3.0		5,100	998	1,556	0.3051	0.20		0.31	
NBR	0.0		0	0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0	0.00		0.00	
SBT	6.0		10,200	2,279	2,273	0.2228	0.22	*	0.22	*
SBR	1.0	U	1,700	321	369	0	0.00		0.00	
EBL	0.0		0	0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0	0.00		0.00	
WBL	2.0		3,400	899	848	0.2494	0.26	*	0.25	*
WBT	0.0		0	0	0	0	0.00		0.00	
WBR	2.0	U	3,400	929	1,048	0.0588	0.01	*	0.06	*
N/S Critical Movements							0.37		0.34	
E/W Critical Movements							0.26		0.25	
Right Turn Critical Movement							0.01		0.06	
Clearance Interval							0.05		0.05	
ICU							0.69		0.70	
Level of Service (LOS)							B		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0	0.00		0.00	
NBT	3.5		5,950	1,103	1,353	0.2274	0.19	*	0.23	*
NBR	1.5	U	2,550	1,183	608	0.011	0.28	*	0.01	*
SBL	3.0		5,100	1,277	1,162	0.2278	0.25	*	0.23	*
SBT	3.0		5,100	1,901	1,959	0.3841	0.37		0.38	
SBR	0.0		0	0	0	0	0.00		0.00	
EBL	2.0		3,400	159	403	0.1185	0.05	*	0.12	*
EBT	0.0		0	0	0	0	0.00		0.00	
EBR	2.0	U	3,400	431	505	0.03	0.08	*	0.03	*
WBL	0.0		0	0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0	0.00		0.00	
N/S Critical Movements							0.44		0.46	
E/W Critical Movements							0.05		0.12	
Right Turn Critical Movement							0.36		0.04	
Clearance Interval							0.05		0.05	
ICU							0.90		0.67	
Level of Service (LOS)							D		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM		V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	152	199	0.0585	0.04		0.06	
NBT	3.0		5,100	1,526	1,246	0.2443	0.30	*	0.24	*
NBR	1.0	P	1,700	698	398	0	0.00		0.00	
SBL	2.0		3,400	280	257	0.0756	0.08	*	0.08	*
SBT	4.0		6,800	1,722	1,579	0.2322	0.25		0.23	
SBR	1.0	U	1,700	248	369	0	0.00		0.00	
EBL	2.0		3,400	307	303	0.0891	0.09		0.09	
EBT	2.0		3,400	596	451	0.1326	0.18	*	0.13	*
EBR	1.0	U	1,700	173	180	0	0.00		0.00	
WBL	2.0		3,400	364	716	0.2106	0.11	*	0.21	*
WBT	3.0		5,100	313	1,239	0.2429	0.06		0.24	
WBR	1.0	U	1,700	187	210	0	0.00		0.00	
N/S Critical Movements							0.38		0.32	
E/W Critical Movements							0.29		0.34	
Right Turn Critical Movement							0.00		0.00	
Clearance Interval							0.05		0.05	
ICU							0.72		0.71	
Level of Service (LOS)							C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:
- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	127	1,563	0.02	*	0.23	*
SB	3.0		5,100	20	30	0.00	*	0.01	*
EBL	1.0		1,600	14	18	0.01		0.01	*
EBT	3.0		5,100	2,069	849	0.41	*	0.17	
EBR	1.0	U	1,600	858	197	0.13	*	0.00	
WBL	1.0		1,600	68	28	0.04	*	0.02	
WBT	3.0		5,100	554	2,616	0.11		0.51	*
WBR	1.0	U	1,600	12	13	0.00		0.00	
N/S Critical Movements						0.02		0.24	
E/W Critical Movements						0.45		0.52	
Right Turn Critical Movement						0.13		0.00	
Clearance Interval						0.05		0.05	
ICU						0.65		0.81	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	183	651	0.06	*	0.20	*
NBT	3.0		5,100	1,020	1,737	0.20		0.34	
NBR	1.0	U	1,600	99	93	0.00		0.00	
SBL	2.0		3,200	374	239	0.12		0.07	
SBT	3.0		5,100	2,095	1,125	0.41	*	0.22	*
SBR	1.0	U	1,600	134	173	0.00		0.00	
EBL	1.0		1,600	157	141	0.10		0.09	*
EBT	3.0		5,100	1,358	640	0.27	*	0.13	
EBR	1.0	U	1,600	445	221	0.00		0.00	
WBL	1.0		1,600	101	59	0.06	*	0.04	
WBT	3.0		5,100	444	1,504	0.09		0.29	*
WBR	1.0	U	1,600	115	253	0.00		0.00	
N/S Critical Movements						0.47		0.42	
E/W Critical Movements						0.33		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.85		0.85	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	Future Short-Term Cumulative (2027) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	82	48	0.05	*	0.03	
NBT	2.5		4,250	1,324	2,215	0.31		0.52	*
NBR	0.5	U	800	71	31	0.00		0.00	
SBL	1.0		1,600	73	14	0.05		0.01	*
SBT	2.5		4,250	2,460	1,423	0.58	*	0.33	
SBR	0.5	U	800	72	13	0.00		0.00	
EBL	1.0		1,600	15	40	0.01		0.03	*
EBT	1.0		1,700	30	57	0.02	*	0.03	
EBR	1.0	U	1,600	33	101	0.00		0.01	*
WBL	1.0		1,600	27	92	0.02	*	0.06	
WBT	0.5		850	18	255	0.02		0.30	*
WBR	0.5	U	800	29	188	0.00		0.00	
N/S Critical Movements						0.63		0.53	
E/W Critical Movements						0.04		0.33	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.72		0.92	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	256	299	0.08	*	0.09	
NBT	3.0		5,100	1,409	1,967	0.28		0.39	*
NBR	1.0	U	1,600	529	390	0.05	*	0.00	
SBL	2.0		3,200	260	105	0.08		0.03	*
SBT	3.0		5,100	2,034	1,444	0.40	*	0.28	
SBR	1.0	U	1,600	47	80	0.00		0.00	
EB	3.0		5,100	372	534	0.07	*	0.10	*
WB	3.0		5,100	358	1,462	0.07	*	0.29	*
N/S Critical Movements						0.48		0.42	
E/W Critical Movements						0.14		0.39	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.72		0.86	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	80	301	0.05		0.19	
NBT	1.0		1,700	278	663	0.16	*	0.39	*
NBR	1.0	U	1,600	55	150	0.00		0.00	
SBL	1.0		1,600	77	70	0.05	*	0.04	*
SBT	0.5		850	86	184	0.10		0.22	
SBR	0.5	U	800	31	98	0.00		0.00	
EBL	1.0		1,600	81	103	0.05	*	0.06	*
EBT	2.0		3,400	411	676	0.12		0.20	
EBR	1.0	U	1,600	45	31	0.00		0.00	
WBL	1.0		1,600	54	40	0.03		0.03	
WBT	1.5		2,550	450	687	0.18	*	0.27	*
WBR	0.5	U	800	104	212	0.00		0.00	
N/S Critical Movements						0.21		0.43	
E/W Critical Movements						0.23		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.49		0.81	
Level of Service (LOS)						A		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	165	230	0.05	*	0.07	
NBT	2.5		4,250	971	1,912	0.23		0.45	*
NBR	0.5	U	800	88	133	0.00		0.00	
SBL	2.0		3,200	415	178	0.13		0.06	*
SBT	3.0		5,100	1,838	1,037	0.36	*	0.20	
SBR	1.0	U	1,600	182	116	0.00		0.00	
EBL	2.0		3,200	151	317	0.05		0.10	*
EBT	3.0		5,100	1,140	815	0.22	*	0.16	
EBR	1.0	U	1,600	187	252	0.00		0.00	
WBL	2.0		3,200	212	181	0.07	*	0.06	
WBT	3.0		5,100	544	1,402	0.11		0.27	*
WBR	1.0	U	1,600	174	317	0.00		0.00	
N/S Critical Movements						0.41		0.51	
E/W Critical Movements						0.29		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.75		0.93	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	Future Short-Term Cumulative (2027) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	254	161	0.08	*	0.05	
NBT	3.0		5,100	1,080	1,912	0.21		0.37	*
NBR	1.0	U	1,600	178	323	0.00		0.00	
SBL	2.0		3,200	194	112	0.06		0.04	*
SBT	2.5		4,250	1,900	1,267	0.45	*	0.30	
SBR	0.5	U	800	167	97	0.00		0.00	
EBL	2.0		3,200	57	240	0.02		0.08	
EBT	1.5		2,550	297	522	0.12	*	0.20	*
EBR	0.5	U	800	80	217	0.00		0.03	*
WBL	2.0		3,200	323	249	0.10	*	0.08	*
WBT	2.0		3,400	399	598	0.12		0.18	
WBR	1.0	U	1,600	115	179	0.00		0.00	
N/S Critical Movements						0.53		0.41	
E/W Critical Movements						0.22		0.28	
Right Turn Critical Movement						0.00		0.03	
Clearance Interval						0.05		0.05	
ICU						0.80		0.77	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 29
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Segerstrom Avenue

	Future Short-Term Cumulative P (2027)								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	108	212	0.03	*	0.07	
NBT	2.5		4,250	838	1,767	0.20		0.42	*
NBR	0.5	U	800	66	64	0.00		0.00	
SBL	1.0		1,600	193	141	0.12		0.09	*
SBT	2.5		4,250	2,309	1,077	0.54	*	0.25	
SBR	0.5	U	800	69	84	0.00		0.00	
EBL	1.0		1,600	120	123	0.08		0.08	*
EBT	1.5		2,550	496	492	0.19	*	0.19	
EBR	0.5	U	800	211	123	0.04	*	0.00	
WBL	1.0		1,600	106	120	0.07	*	0.08	
WBT	2.0		3,400	266	1,015	0.08		0.30	*
WBR	1.0	U	1,600	99	384	0.00		0.00	
N/S Critical Movements						0.57		0.51	
E/W Critical Movements						0.26		0.38	
Right Turn Critical Movement						0.04		0.00	
Clearance Interval						0.05		0.05	
ICU						0.92		0.94	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 1
NORTH/SOUTH: Euclid Street
EAST/WEST: Talbert Avenue

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		2,880	245	152	0.08		0.05	
NBT	2.5		4,250	536	557	0.13	*	0.13	*
NBR	0.5	U	800	54	37	0.00		0.00	
SBL	2.0		2,880	698	176	0.24	*	0.06	*
SBT	3.0		5,100	1,027	656	0.20		0.13	
SBR	1.0	D	1,600	320	250	0.00		0.00	
EBL	2.0		2,880	159	257	0.06		0.09	*
EBT	2.5		4,250	1,413	616	0.33	*	0.14	
EBR	0.5	U	800	71	281	0.00		0.17	*
WBL	2.0		2,880	45	173	0.02	*	0.06	
WBT	3.0		5,100	485	2,210	0.10		0.43	*
WBR	1.0	U	1,600	90	789	0.00		0.01	*
N/S Critical Movements						0.37		0.19	
E/W Critical Movements						0.35		0.52	
Right Turn Critical Movement						0.00		0.18	
Clearance Interval						0.05		0.05	
ICU						0.77		0.94	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 2
NORTH/SOUTH: Euclid Street
EAST/WEST: I-405 Northbound Ramps - Newhope Street

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,600	48	239	0.03 *	0.15 *
NBT	2.5		4,250	310	377	0.07	0.09
NBR	0.5	U	800	562	427	0.56 *	0.25 *
SBL	0.0		0	0	0	0.00	0.00
SBT	2.5		4,250	876	910	0.21 *	0.21 *
SBR	1.5	U	2,400	107	320	0.00	0.00
EBL	2.0		2,880	628	469	0.22 *	0.16 *
EBT	1.5		2,550	374	105	0.15	0.04
EBR	1.5	U	2,400	592	457	0.01 *	0.00
WBL	2.0		2,880	275	521	0.10	0.18
WBT	1.5		2,550	181	539	0.07 *	0.21 *
WBR	0.5	N	800	15	19	0.00	0.00
N/S Critical Movements						0.24	0.36
E/W Critical Movements						0.29	0.37
Right Turn Critical Movement						0.57	0.25
Clearance Interval						0.05	0.05
ICU						1.15	1.03
Level of Service (LOS)						F	F

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 3
NORTH/SOUTH: I-405 Southbound Ramps
EAST/WEST: Ellis Avenue - Euclid Street

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	2.0		3,400	25	145	0.01	*	0.04	*
SB	3.0		5,100	134	326	0.03	*	0.06	*
EBL	0.0		0	0	0	0.00		0.00	*
EBT	1.5		2,550	1,074	603	0.42	*	0.24	
EBR	0.5	U	800	27	2	0.00		0.00	
WBL	1.0		1,600	34	14	0.02	*	0.01	
WBT	2.0		3,400	882	1,348	0.26		0.40	*
WBR	1.0	P	1,600	847	785	0.27	*	0.09	*
N/S Critical Movements						0.04		0.10	
E/W Critical Movements						0.44		0.40	
Right Turn Critical Movement						0.27		0.09	
Clearance Interval						0.05		0.05	
ICU						0.80		0.64	
Level of Service (LOS)						C		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **4**
NORTH/SOUTH: **Newhope Street**
EAST/WEST: **Talbert Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	2	24	0.00		0.02	*
NBT	2.0		3,400	531	364	0.16	*	0.11	
NBR	1.0	P	1,600	437	112	0.08	*	0.00	
SBL	2.0		2,880	356	242	0.12	*	0.08	
SBT	1.5		2,550	293	562	0.11		0.22	*
SBR	0.5	U	800	128	199	0.02	*	0.00	
EBL	2.0		2,880	79	196	0.03		0.07	*
EBT	2.5		4,250	2,076	627	0.49	*	0.15	
EBR	0.5	U	800	20	12	0.00		0.00	
WBL	2.0		2,880	108	527	0.04	*	0.18	
WBT	3.5		5,950	521	2,924	0.09		0.49	*
WBR	0.5	U	800	60	201	0.00		0.00	
N/S Critical Movements						0.28		0.24	
E/W Critical Movements						0.53		0.56	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.96		0.85	
Level of Service (LOS)						E		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	132	1,640	0.02	*	0.24	*
SB	3.0		5,100	20	31	0.00	*	0.01	*
EBL	1.0		1,700	14	19	0.01		0.01	*
EBT	3.0		5,100	2,172	891	0.43	*	0.17	
EBR	1.0	U	1,700	900	205	0.10	*	0.00	
WBL	1.0		1,700	71	29	0.04	*	0.02	
WBT	3.0		5,100	582	2,747	0.11		0.54	*
WBR	1.0	U	1,700	12	14	0.00		0.00	
N/S Critical Movements						0.02		0.25	
E/W Critical Movements						0.47		0.55	
Right Turn Critical Movement						0.10		0.00	
Clearance Interval						0.05		0.05	
ICU						0.64		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 6
NORTH/SOUTH: Hyland Avenue
EAST/WEST: Sunflower Avenue

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	97	133	0.06	*	0.08	
NBT	1.5		2,550	139	622	0.05		0.24	*
NBR	0.5	U	850	12	69	0.00		0.00	
SBL	1.0		1,700	146	51	0.09		0.03	*
SBT	1.5		2,550	361	275	0.14	*	0.11	
SBR	0.5	U	850	102	132	0.00		0.01	*
EBL	1.0		1,700	59	89	0.03	*	0.05	
EBT	1.0		1,700	251	348	0.15		0.20	*
EBR	1.0	U	1,700	110	191	0.00		0.00	
WBL	1.0		1,700	42	242	0.02		0.14	*
WBT	1.0		1,700	233	432	0.14	*	0.25	
WBR	1.0	U	1,700	76	213	0.00		0.00	
N/S Critical Movements						0.20		0.27	
E/W Critical Movements						0.17		0.34	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.42		0.67	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 7
NORTH/SOUTH: Hyland Avenue
EAST/WEST: I-405 Northbound Ramps - South Coast Drive

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	0.0		0	0	0	0.00	*	0.00	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	1.0		1,700	361	429	0.21	*	0.25	*
SBT	0.0		0	0	0	0.00		0.00	
SBR	1.0	F	1,700	104	467	0.00		0.00	
EBL	0.0		0	0	0	0.00	*	0.00	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	0.0		0	0	0	0.00		0.00	
WBL	0.0		0	0	0	0.00		0.00	
WBT	1.0		1,700	190	654	0.11	*	0.38	*
WBR	1.0	F	1,700	341	936	0.00		0.00	
N/S Critical Movements						0.21		0.25	
E/W Critical Movements						0.11		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.37		0.68	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	192	684	0.06 *	0.20 *
NBT	3.0		5,100	1,070	1,823	0.21	0.36
NBR	1.0	U	1,700	100	98	0.00	0.00
SBL	2.0		3,400	393	251	0.12	0.07
SBT	3.0		5,100	2,200	1,180	0.43 *	0.23 *
SBR	1.0	U	1,700	141	182	0.00	0.00
EBL	1.0		1,700	165	148	0.10	0.09 *
EBT	3.0		5,100	1,426	672	0.28 *	0.13
EBR	1.0	U	1,700	467	232	0.00	0.00
WBL	1.0		1,700	106	62	0.06 *	0.04
WBT	3.0		5,100	466	1,579	0.09	0.31 *
WBR	1.0	U	1,700	121	266	0.00	0.00
N/S Critical Movements						0.49	0.43
E/W Critical Movements						0.34	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.88	0.88
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	86	49	0.05	*	0.03	
NBT	2.5		4,250	1,389	2,325	0.33		0.55	*
NBR	0.5	U	850	75	33	0.00		0.00	
SBL	1.0		1,700	77	15	0.05		0.01	*
SBT	2.5		4,250	2,583	1,493	0.61	*	0.35	
SBR	0.5	U	850	76	14	0.00		0.00	
EBL	1.0		1,700	22	42	0.01		0.02	*
EBT	1.0		1,700	36	60	0.02	*	0.04	
EBR	1.0	U	1,700	51	110	0.00		0.01	*
WBL	1.0		1,700	28	97	0.02	*	0.06	
WBT	0.5		850	19	268	0.02		0.32	*
WBR	0.5	U	850	30	197	0.00		0.00	
N/S Critical Movements						0.66		0.56	
E/W Critical Movements						0.04		0.34	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.75		0.96	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	273	307	0.08	*	0.09	
NBT	3.0		5,100	1,479	2,065	0.29		0.40	*
NBR	1.0	U	1,700	555	410	0.04	*	0.00	
SBL	2.0		3,400	273	110	0.08		0.03	*
SBT	3.0		5,100	2,136	1,516	0.42	*	0.30	
SBR	1.0	U	1,700	51	83	0.00		0.00	
EB	3.0		5,100	382	556	0.07	*	0.11	*
WB	3.0		5,100	383	1,532	0.08	*	0.30	*
N/S Critical Movements						0.50		0.43	
E/W Critical Movements						0.15		0.41	
Right Turn Critical Movement						0.04		0.00	
Clearance Interval						0.05		0.05	
ICU						0.74		0.89	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

COSTA MESA/FOUNTAIN VALLEY ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **11**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **South Coast Drive**

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	421	437	0.12 *	0.13 *
NBT	3.5		5,950	2,332	2,447	0.39	0.41
NBR	1.5	P	2,550	434	275	0.00	0.00
SBL	2.0		3,400	103	83	0.03	0.02
SBT	4.0		6,800	2,222	2,114	0.33 *	0.31 *
SBR	1.0	U	1,700	68	72	0.00	0.00
EBL	1.0		1,700	19	39	0.01	0.02 *
EBT	0.5		850	120	93	0.14 *	0.11
EBR	1.5	U	2,550	266	476	0.00	0.00
WBL	2.0		3,400	134	724	0.04 *	0.21
WBT	2.0		3,400	298	1,095	0.09	0.32 *
WBR	1.0	U	1,700	103	261	0.00	0.00
N/S Critical Movements						0.45	0.44
E/W Critical Movements						0.18	0.34
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.68	0.83
Level of Service (LOS)						B	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 12
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 NB Off-Ramp - I-405 SB On-Ramp

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	4.0		6,800	2,069	1,880	0.30	*	0.28	*
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00	*	0.00	*
SBT	4.0		6,800	1,588	1,765	0.23		0.26	
SBR	1.0	F	1,700	1,022	1,349	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	1.5		2,550	602	782	0.24	*	0.31	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	1.5	U	2,550	1,213	1,329	0.24	*	0.21	*
N/S Critical Movements						0.30		0.28	
E/W Critical Movements						0.24		0.31	
Right Turn Critical Movement						0.24		0.21	
Clearance Interval						0.05		0.05	
ICU						0.83		0.85	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 13
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Harbor Boulevard/I-405 SB Off-Ramp - I-405 NB On-Ramp

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00	*	0.00	*
NBT	3.0		5,100	1,457	1,603	0.29		0.31	
NBR	1.0	F	1,700	672	727	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	4.0		6,800	2,190	2,547	0.32	*	0.37	*
SBR	0.0		0	0	0	0.00		0.00	
EBL	1.5		2,550	611	274	0.24	*	0.11	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	1.5	U	2,550	519	827	0.00		0.22	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.32		0.37	
E/W Critical Movements						0.24		0.11	
Right Turn Critical Movement						0.00		0.22	
Clearance Interval						0.05		0.05	
ICU						0.61		0.75	
Level of Service (LOS)						B		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **14**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Gisler Avenue**

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	124	158	0.07	*	0.09	*
NBT	4.5		7,650	2,467	2,285	0.32		0.30	
NBR	0.5	U	850	11	23	0.00		0.00	
SBL	1.0		1,700	84	153	0.05		0.09	
SBT	3.5		5,950	2,106	2,504	0.35	*	0.42	*
SBR	0.5	U	850	261	473	0.00		0.14	*
EB	4.0		6,800	1,020	612	0.15	*	0.09	*
WB	3.0		5,100	269	504	0.05	*	0.10	*
N/S Critical Movements						0.42		0.51	
E/W Critical Movements						0.20		0.19	
Right Turn Critical Movement						0.00		0.14	
Clearance Interval						0.05		0.05	
ICU						0.67		0.89	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **15**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Nutmeg Place**

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	17	48	0.01		0.03	*
NBT	3.5		5,950	2,438	2,225	0.41	*	0.37	
NBR	0.5	U	850	146	213	0.00		0.00	
SBL	2.0		3,400	147	206	0.04	*	0.06	
SBT	3.5		5,950	2,116	2,459	0.36		0.41	*
SBR	0.5	U	850	57	53	0.00		0.00	
EB	2.0		3,400	89	160	0.03	*	0.05	*
WB	2.0		3,400	162	353	0.05	*	0.10	*
N/S Critical Movements						0.45		0.44	
E/W Critical Movements						0.08		0.15	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.58		0.64	
Level of Service (LOS)						A		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 16
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Baker Street

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	51	65	0.02	0.02 *
NBT	4.0		6,800	2,150	1,876	0.32 *	0.28
NBR	1.0	P	1,700	265	225	0.00	0.00
SBL	2.0		3,400	225	217	0.07 *	0.06
SBT	4.0		6,800	1,713	2,222	0.25	0.33 *
SBR	1.0	P	1,700	252	299	0.00	0.00
EBL	2.0		3,400	315	228	0.09	0.07 *
EBT	1.5		2,550	269	258	0.11 *	0.10
EBR	0.5	U	850	70	100	0.00	0.00
WBL	2.0		3,400	219	497	0.06 *	0.15
WBT	2.0		3,400	244	701	0.07	0.21 *
WBR	1.0	U	1,700	175	395	0.00	0.00
N/S Critical Movements						0.39	0.35
E/W Critical Movements						0.17	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.61	0.68
Level of Service (LOS)						B	B

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

				General Plan Build Out (2040) Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,700	88	341	0.05	0.20
NBT	1.0		1,700	285	696	0.17 *	0.41 *
NBR	1.0	U	1,700	58	155	0.00	0.00
SBL	1.0		1,700	81	74	0.05 *	0.04 *
SBT	0.5		850	110	207	0.13	0.24
SBR	0.5	U	850	31	102	0.00	0.00
EBL	1.0		1,700	112	108	0.07 *	0.06 *
EBT	2.0		3,400	429	709	0.13	0.21
EBR	1.0	U	1,700	91	41	0.00	0.00
WBL	1.0		1,700	66	48	0.04	0.03
WBT	1.5		2,550	472	719	0.19 *	0.28 *
WBR	0.5	U	850	109	223	0.00	0.00
N/S Critical Movements						0.22	0.45
E/W Critical Movements						0.26	0.34
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.53	0.84
Level of Service (LOS)						A	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 18
NORTH/SOUTH: Susan Street
EAST/WEST: South Coast Drive

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	212	626	0.06		0.18	
NBT	1.5		2,550	487	852	0.19	*	0.33	*
NBR	0.5	U	850	95	65	0.00		0.00	
SBL	2.0		3,400	74	163	0.02	*	0.05	*
SBT	1.5		2,550	2	23	0.00		0.01	
SBR	0.5	U	850	91	254	0.05	*	0.23	*
EBL	2.0		3,400	139	107	0.04		0.03	*
EBT	1.5		2,550	351	272	0.14	*	0.11	
EBR	0.5	U	850	1	14	0.00		0.00	
WBL	2.0		3,400	0	43	0.00	*	0.01	
WBT	2.0		3,400	255	801	0.08		0.24	*
WBR	1.0	P	1,700	61	170	0.00		0.00	
N/S Critical Movements						0.21		0.38	
E/W Critical Movements						0.14		0.27	
Right Turn Critical Movement						0.05		0.23	
Clearance Interval						0.05		0.05	
ICU						0.45		0.93	
Level of Service (LOS)						A		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,400	267	169	0.08	*	0.05	
NBT	3.0		5,100	1,134	2,008	0.22		0.39	*
NBR	1.0	U	1,700	188	327	0.00		0.00	
SBL	2.0		3,400	213	118	0.06		0.03	*
SBT	2.5		4,250	1,995	1,330	0.47	*	0.31	
SBR	0.5	U	850	175	101	0.00		0.00	
EBL	2.0		3,400	59	252	0.02		0.07	
EBT	1.5		2,550	310	547	0.12	*	0.21	*
EBR	0.5	U	850	84	228	0.00		0.02	*
WBL	2.0		3,400	333	276	0.10	*	0.08	*
WBT	2.0		3,400	419	627	0.12		0.18	
WBR	1.0	U	1,700	115	188	0.00		0.00	
N/S Critical Movements						0.55		0.42	
E/W Critical Movements						0.22		0.29	
Right Turn Critical Movement						0.00		0.02	
Clearance Interval						0.05		0.05	
ICU						0.82		0.78	
Level of Service (LOS)						D		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **21**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **South Coast Drive**

				General Plan Build Out (2040) Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	299	224	0.09 *	0.07 *
NBT	3.0		5,100	1,514	2,074	0.30	0.41
NBR	1.0	U	1,700	232	386	0.00	0.00
SBL	2.0		3,400	43	59	0.01	0.02
SBT	2.5		4,250	2,258	1,685	0.53 *	0.40 *
SBR	0.5	U	850	31	60	0.00	0.00
EBL	1.0		1,700	11	75	0.01	0.04
EBT	1.5		2,550	149	193	0.06 *	0.08 *
EBR	1.5	U	2,550	167	631	0.00	0.12 *
WBL	2.0		3,400	356	511	0.10 *	0.15 *
WBT	2.0		3,400	150	543	0.04	0.16
WBR	1.0	U	1,700	63	363	0.00	0.04 *
N/S Critical Movements						0.62	0.47
E/W Critical Movements						0.16	0.23
Right Turn Critical Movement						0.00	0.16
Clearance Interval						0.05	0.05
ICU						0.83	0.91
Level of Service (LOS)						D	E

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **22**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Northbound Ramps**

				General Plan Build Out (2040) Plus Project					
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,700	275	210	0.16	*	0.12	*
NBT	3.0		5,100	1,048	1,633	0.21		0.32	
NBR	0.0		0	0	0	0.00		0.00	
SBL	0.0		0	0	0	0.00		0.00	
SBT	6.0		10,200	2,393	2,386	0.23	*	0.23	*
SBR	1.0	U	1,700	337	387	0.00		0.00	
EBL	0.0		0	0	0	0.00		0.00	
EBT	0.0		0	0	0	0.00	*	0.00	*
EBR	0.0		0	0	0	0.00		0.00	
WBL	2.0		3,400	944	890	0.28	*	0.26	*
WBT	0.0		0	0	0	0.00		0.00	
WBR	2.0	U	3,400	975	1,100	0.01	*	0.06	*
N/S Critical Movements						0.39		0.35	
E/W Critical Movements						0.28		0.26	
Right Turn Critical Movement						0.01		0.06	
Clearance Interval						0.05		0.05	
ICU						0.73		0.72	
Level of Service (LOS)						C		C	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **23**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **I-405 Southbound Ramps**

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	0.0		0	0	0	0.00		0.00	
NBT	3.5		5,950	1,158	1,420	0.19	*	0.24	*
NBR	1.5	U	2,550	1,242	638	0.29	*	0.01	*
SBL	3.0		5,100	1,341	1,220	0.26	*	0.24	*
SBT	3.0		5,100	1,996	2,057	0.39		0.40	
SBR	0.0		0	0	0	0.00		0.00	
EBL	2.0		3,400	175	423	0.05	*	0.12	*
EBT	0.0		0	0	0	0.00		0.00	
EBR	2.0	U	3,400	443	530	0.08	*	0.03	*
WBL	0.0		0	0	0	0.00		0.00	
WBT	0.0		0	0	0	0.00	*	0.00	*
WBR	0.0		0	0	0	0.00		0.00	
N/S Critical Movements						0.45		0.48	
E/W Critical Movements						0.05		0.12	
Right Turn Critical Movement						0.37		0.04	
Clearance Interval						0.05		0.05	
ICU						0.92		0.69	
Level of Service (LOS)						E		B	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **24**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Baker Street**

				General Plan Build Out (2040) Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,400	160	209	0.05	0.06
NBT	3.0		5,100	1,602	1,308	0.31 *	0.26 *
NBR	1.0	P	1,700	733	418	0.00	0.00
SBL	2.0		3,400	294	270	0.09 *	0.08 *
SBT	4.0		6,800	1,808	1,658	0.27	0.24
SBR	1.0	U	1,700	260	540	0.00	0.00
EBL	2.0		3,400	322	584	0.09	0.17 *
EBT	2.0		3,400	626	474	0.18 *	0.14
EBR	1.0	U	1,700	182	189	0.00	0.00
WBL	2.0		3,400	382	752	0.11 *	0.22
WBT	3.0		5,100	329	1,301	0.06	0.26 *
WBR	1.0	U	1,700	196	397	0.00	0.00
N/S Critical Movements						0.40	0.34
E/W Critical Movements						0.29	0.43
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.74	0.82
Level of Service (LOS)						C	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 5
NORTH/SOUTH: OCTA Bus Base - Hyland Avenue
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NB	4.0		6,800	132	1,640	0.02	*	0.24	*
SB	3.0		5,100	20	31	0.00	*	0.01	*
EBL	1.0		1,600	14	19	0.01		0.01	*
EBT	3.0		5,100	2,172	891	0.43	*	0.17	
EBR	1.0	U	1,600	900	205	0.14	*	0.00	
WBL	1.0		1,600	71	29	0.04	*	0.02	
WBT	3.0		5,100	582	2,747	0.11		0.54	*
WBR	1.0	U	1,600	12	14	0.00		0.00	
N/S Critical Movements						0.02		0.25	
E/W Critical Movements						0.47		0.55	
Right Turn Critical Movement						0.14		0.00	
Clearance Interval						0.05		0.05	
ICU						0.68		0.85	
Level of Service (LOS)						B		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

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INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 8
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project						
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	2.0		3,200	192	684	0.06 *	0.21 *
NBT	3.0		5,100	1,070	1,823	0.21	0.36
NBR	1.0	U	1,600	100	98	0.00	0.00
SBL	2.0		3,200	393	251	0.12	0.08
SBT	3.0		5,100	2,200	1,180	0.43 *	0.23 *
SBR	1.0	U	1,600	141	182	0.00	0.00
EBL	1.0		1,600	165	148	0.10	0.09 *
EBT	3.0		5,100	1,426	672	0.28 *	0.13
EBR	1.0	U	1,600	467	232	0.00	0.00
WBL	1.0		1,600	106	62	0.07 *	0.04
WBT	3.0		5,100	466	1,579	0.09	0.31 *
WBR	1.0	U	1,600	121	266	0.00	0.00
N/S Critical Movements						0.49	0.44
E/W Critical Movements						0.35	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.89	0.89
Level of Service (LOS)						D	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 9
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Scenic Avenue - West Lake Center Drive

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	1.0		1,600	86	49	0.05	*	0.03	
NBT	2.5		4,250	1,389	2,325	0.33		0.55	*
NBR	0.5	U	800	75	33	0.00		0.00	
SBL	1.0		1,600	77	15	0.05		0.01	*
SBT	2.5		4,250	2,583	1,493	0.61	*	0.35	
SBR	0.5	U	800	76	14	0.00		0.00	
EBL	1.0		1,600	22	42	0.01		0.03	*
EBT	1.0		1,700	36	60	0.02	*	0.04	
EBR	1.0	U	1,600	51	110	0.00		0.01	*
WBL	1.0		1,600	28	97	0.02	*	0.06	
WBT	0.5		850	19	268	0.02		0.32	*
WBR	0.5	U	800	30	197	0.00		0.00	
N/S Critical Movements						0.66		0.56	
E/W Critical Movements						0.04		0.35	
Right Turn Critical Movement						0.00		0.01	
Clearance Interval						0.05		0.05	
ICU						0.75		0.97	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **10**
NORTH/SOUTH: **Harbor Boulevard**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	273	307	0.09	*	0.10	
NBT	3.0		5,100	1,479	2,065	0.29		0.40	*
NBR	1.0	U	1,600	555	410	0.06	*	0.00	
SBL	2.0		3,200	273	110	0.09		0.03	*
SBT	3.0		5,100	2,136	1,516	0.42	*	0.30	
SBR	1.0	U	1,600	51	83	0.00		0.00	
EB	3.0		5,100	382	556	0.07	*	0.11	*
WB	3.0		5,100	383	1,532	0.08	*	0.30	*
N/S Critical Movements						0.51		0.43	
E/W Critical Movements						0.15		0.41	
Right Turn Critical Movement						0.06		0.00	
Clearance Interval						0.05		0.05	
ICU						0.77		0.89	
Level of Service (LOS)						C		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **17**
NORTH/SOUTH: **Susan Street**
EAST/WEST: **Sunflower Avenue**

				General Plan Build Out (2040) Plus Project			
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM	V/C Ratio PM
NBL	1.0		1,600	88	341	0.06	0.21
NBT	1.0		1,700	285	696	0.17 *	0.41 *
NBR	1.0	U	1,600	58	155	0.00	0.00
SBL	1.0		1,600	81	74	0.05 *	0.05 *
SBT	0.5		850	110	207	0.13	0.24
SBR	0.5	U	800	31	102	0.00	0.00
EBL	1.0		1,600	112	108	0.07 *	0.07 *
EBT	2.0		3,400	429	709	0.13	0.21
EBR	1.0	U	1,600	91	41	0.00	0.00
WBL	1.0		1,600	66	48	0.04	0.03
WBT	1.5		2,550	472	719	0.19 *	0.28 *
WBR	0.5	U	800	109	223	0.00	0.00
N/S Critical Movements						0.22	0.46
E/W Critical Movements						0.26	0.35
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.05	0.05
ICU						0.53	0.86
Level of Service (LOS)						A	D

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 19
NORTH/SOUTH: Fairview Street
EAST/WEST: MacArthur Boulevard

	General Plan Build Out (2040) Plus Project							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	173	242	0.05	*	0.08	
NBT	2.5		4,250	1,019	2,007	0.24		0.47	*
NBR	0.5	U	800	92	140	0.00		0.00	
SBL	2.0		3,200	436	187	0.14		0.06	*
SBT	3.0		5,100	1,930	1,088	0.38	*	0.21	
SBR	1.0	U	1,600	191	122	0.00		0.00	
EBL	2.0		3,200	159	333	0.05		0.10	*
EBT	3.0		5,100	1,197	856	0.23	*	0.17	
EBR	1.0	U	1,600	187	265	0.00		0.00	
WBL	2.0		3,200	223	190	0.07	*	0.06	
WBT	3.0		5,100	571	1,472	0.11		0.29	*
WBR	1.0	U	1,600	183	333	0.00		0.00	
N/S Critical Movements						0.43		0.53	
E/W Critical Movements						0.30		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.05		0.05	
ICU						0.78		0.97	
Level of Service (LOS)						C		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: **20**
NORTH/SOUTH: **Fairview Road**
EAST/WEST: **Sunflower Avenue**

	General Plan Build Out (2040) Plus Project								
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	267	169	0.08	*	0.05	
NBT	3.0		5,100	1,134	2,008	0.22		0.39	*
NBR	1.0	U	1,600	188	327	0.00		0.00	
SBL	2.0		3,200	213	118	0.07		0.04	*
SBT	2.5		4,250	1,995	1,330	0.47	*	0.31	
SBR	0.5	U	800	175	101	0.00		0.00	
EBL	2.0		3,200	59	252	0.02		0.08	
EBT	1.5		2,550	310	547	0.12	*	0.21	*
EBR	0.5	U	800	84	228	0.00		0.03	*
WBL	2.0		3,200	333	276	0.10	*	0.09	*
WBT	2.0		3,400	419	627	0.12		0.18	
WBR	1.0	U	1,600	115	188	0.00		0.00	
N/S Critical Movements						0.55		0.43	
E/W Critical Movements						0.22		0.30	
Right Turn Critical Movement						0.00		0.03	
Clearance Interval						0.05		0.05	
ICU						0.82		0.81	
Level of Service (LOS)						D		D	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

SANTA ANA ICU METHODOLOGY

INTERSECTION CAPACITY UTILIZATION

INTERSECTION NO.: 29
NORTH/SOUTH: Harbor Boulevard
EAST/WEST: Segerstrom Avenue

	General Plan Build Out Plus Project(2040)							
Move-ment	Lane		Capacity	Volume AM	Volume PM	V/C Ratio AM		V/C Ratio PM	
NBL	2.0		3,200	113	223	0.04	*	0.07	
NBT	2.5		4,250	879	1,855	0.21		0.44	*
NBR	0.5	U	800	69	67	0.00		0.00	
SBL	1.0		1,600	203	148	0.13		0.09	*
SBT	2.5		4,250	2,424	1,130	0.57	*	0.27	
SBR	0.5	U	800	72	88	0.00		0.00	
EBL	1.0		1,600	126	129	0.08		0.08	*
EBT	1.5		2,550	521	517	0.20	*	0.20	
EBR	0.5	U	800	222	136	0.05	*	0.00	
WBL	1.0		1,600	115	135	0.07	*	0.08	
WBT	2.0		3,400	278	1,066	0.08		0.31	*
WBR	1.0	U	1,600	104	403	0.00		0.00	
N/S Critical Movements						0.61		0.53	
E/W Critical Movements						0.27		0.39	
Right Turn Critical Movement						0.05		0.00	
Clearance Interval						0.05		0.05	
ICU						0.98		0.97	
Level of Service (LOS)						E		E	

Notes:

ICU - Intersection Capacity Utilization
V/C - Volume to Capacity Ratio
Right Turn Conditions:

- P - Protected right turn movement
- U - Unprotected right turn movement
- D - Defacto right turn movement
- N - No right turn on red
- F - Free right turn lane

APPENDIX F:

FREEWAY LEVEL OF SERVICE WORKSHEETS

HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	10558	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	1872
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	32.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	10558	556
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	11232	591
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.30

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.477
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2527
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.144	Outer Lanes Freeway Speed (S_O), mi/h	57.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3370	Ramp Junction Speed (S), mi/h	55.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3961	Average Density (D), pc/mi/ln	35.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11114	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	1970
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	57.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	34.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11114	590
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	11823	628
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.90	0.31

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.533
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2660
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.139	Outer Lanes Freeway Speed (S_O), mi/h	56.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3547	Ramp Junction Speed (S), mi/h	54.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4175	Average Density (D), pc/mi/ln	37.9
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	34.1

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11704	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2075
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	37.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11704	206
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12451	219
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.11

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.521
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.190	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3938	Ramp Junction Speed (S), mi/h	54.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4157	Average Density (D), pc/mi/ln	38.6
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.5

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information			
Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	15660	819
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	16660	871
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.21	0.22

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	53.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	7095	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7095	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	51.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14841	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2631
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.14
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14841	838
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15788	891
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.21	0.45

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2685.7	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.106	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6441	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7332	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	54.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	15679	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2383
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	15679	1193
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	16680	1269
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.11	0.63

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2909.7	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.059	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	7110	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8379	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	62.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	15156	1153	40	523
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	16123	1227	43	556
Weaving Flow Rate (v_W), pc/h	1783	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	16166	Density-Based Capacity (c_{IWL}), pc/h/ln		2172
Total Flow Rate (v), pc/h	17949	Demand Flow-Based Capacity (c_{IW}), pc/h		24242
Volume Ratio (VR)	0.099	Weaving Segment Capacity (c_W), veh/h		17376
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity, pc/h		17376
Maximum Weaving Length (L_{MAX}), ft	3530	Volume-to-Capacity Ratio (v/c)		1.03

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0

Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11627	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2062
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	36.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11627	542
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12369	577
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.94	0.29

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.146	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3877	Ramp Junction Speed (S), mi/h	53.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4454	Average Density (D), pc/mi/ln	40.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.6

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12169	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2158
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	39.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12169	649
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12946	690
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.99	0.35

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.858
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	45.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.132	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4310	Ramp Junction Speed (S), mi/h	50.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5000	Average Density (D), pc/mi/ln	45.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	40.5

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12818	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2273
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	44.0
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12818	812
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13636	864
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.05	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2112.5	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	32.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.110	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4827	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5691	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	45.2

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	12920	915
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13745	973
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.00	0.24

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.516
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	53.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	64.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	4909	Ramp Junction Speed (S), mi/h	58.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	39.1
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.0

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12005	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2128
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	39.0
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12005	1003
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12771	1067
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.53

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.977
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	42.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.084	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4178	Ramp Junction Speed (S), mi/h	48.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5245	Average Density (D), pc/mi/ln	47.6
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	38.4

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13008	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	1977
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	35.1
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13008	715
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13838	761
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	0.91	0.38

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	1.449
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	31.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.123	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4978	Ramp Junction Speed (S), mi/h	40.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5739	Average Density (D), pc/mi/ln	51.9
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	42.4

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	12187	670	45	821
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	12965	713	48	873
Weaving Flow Rate (v_W), pc/h	1586	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	13013	Density-Based Capacity (c_{IWL}), pc/h/ln		2164
Total Flow Rate (v), pc/h	14599	Demand Flow-Based Capacity (c_{IW}), pc/h		22018
Volume Ratio (VR)	0.109	Weaving Segment Capacity (c_W), veh/h		17312
Minimum Lane Change Rate (LC_{MIN}), lc/h	713	Adjusted Weaving Area Capacity, pc/h		17312
Maximum Weaving Length (L_{MAX}), ft	3627	Volume-to-Capacity Ratio (v/c)		0.84

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	1827	Average Weaving Speed (S_W), mi/h	53.9
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-480	Average Non-Weaving Speed (S_{NW}), mi/h	51.1
Weaving Lane Change Rate (LC_W), lc/h	2105	Average Speed (S), mi/h	51.4
Weaving Lane Change Rate (LC_{All}), lc/h	1625	Density (D), pc/mi/ln	35.5
Weaving Intensity Factor (W)	0.287	Level of Service (LOS)	E

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0

Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	10558	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	1872
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	32.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	10558	556
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	11232	591
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.30

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.477
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2527
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.144	Outer Lanes Freeway Speed (S_O), mi/h	57.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3370	Ramp Junction Speed (S), mi/h	55.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3961	Average Density (D), pc/mi/ln	35.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	31.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11114	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	1970
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	57.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	34.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11114	590
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	11823	628
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.90	0.31

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.533
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2660
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.139	Outer Lanes Freeway Speed (S_O), mi/h	56.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3547	Ramp Junction Speed (S), mi/h	54.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4175	Average Density (D), pc/mi/ln	37.9
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	34.1

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11704	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2075
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	37.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11704	245
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12451	261
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.92	0.13

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.532
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	52.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.185	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3938	Ramp Junction Speed (S), mi/h	54.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4199	Average Density (D), pc/mi/ln	38.8
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1639	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	15667	826
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	16667	879
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.21	0.22

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	0.0	Number of Outer Lanes on Freeway (NO)	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	0.0	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	53.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	7100	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	7100	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	51.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14841	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2631
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.14
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14841	905
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15788	963
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.21	0.48

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2701.1	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.097	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6441	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7404	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	55.3

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	15746	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2393
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	15746	1193
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	16751	1269
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.12	0.63

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2921.1	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.059	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	7163	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8432	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	63.2

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	15223	1153	40	523
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	16195	1227	43	556
Weaving Flow Rate (v_W), pc/h	1783	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	16238	Density-Based Capacity (c_{IWL}), pc/h/ln		2172
Total Flow Rate (v), pc/h	18021	Demand Flow-Based Capacity (c_{IW}), pc/h		24242
Volume Ratio (VR)	0.099	Weaving Segment Capacity (c_W), veh/h		17376
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity, pc/h		17376
Maximum Weaving Length (L_{MAX}), ft	3530	Volume-to-Capacity Ratio (v/c)		1.04

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0

Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2327
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.37
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11627	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2062
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	36.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11627	542
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12369	577
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.94	0.29

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.607
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.146	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3877	Ramp Junction Speed (S), mi/h	53.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4454	Average Density (D), pc/mi/ln	40.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	35.6

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12169	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2158
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	39.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12169	649
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12946	690
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.99	0.35

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.858
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	45.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.132	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4310	Ramp Junction Speed (S), mi/h	50.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5000	Average Density (D), pc/mi/ln	45.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	40.5

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12818	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2273
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	44.0
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12818	836
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13636	889
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.05	0.44

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2117.8	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	31.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.107	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4827	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5716	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	45.3

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	12961	956
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13788	1017
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.00	0.25

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.520
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	53.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	64.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	4941	Ramp Junction Speed (S), mi/h	58.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	39.3
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	33.2

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12005	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2128
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	39.0
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12005	1044
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12771	1111
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.01	0.56

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2248.5	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	41.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.079	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4178	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5289	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	38.8

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13049	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	1983
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	35.2
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13049	715
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13882	761
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	0.91	0.38

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	1.491
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	30.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.123	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	5012	Ramp Junction Speed (S), mi/h	39.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5773	Average Density (D), pc/mi/ln	53.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	42.7

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Existing WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	12228	670	45	821
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	13009	713	48	873
Weaving Flow Rate (v_W), pc/h	1586	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	13057	Density-Based Capacity (c_{IWL}), pc/h/ln		2165
Total Flow Rate (v), pc/h	14643	Demand Flow-Based Capacity (c_{IW}), pc/h		22222
Volume Ratio (VR)	0.108	Weaving Segment Capacity (c_W), veh/h		17320
Minimum Lane Change Rate (LC_{MIN}), lc/h	713	Adjusted Weaving Area Capacity, pc/h		17320
Maximum Weaving Length (L_{MAX}), ft	3617	Volume-to-Capacity Ratio (v/c)		0.85

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	1833	Average Weaving Speed (S_W), mi/h	53.9
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-498	Average Non-Weaving Speed (S_{NW}), mi/h	51.1
Weaving Lane Change Rate (LC_W), lc/h	2105	Average Speed (S), mi/h	51.4
Weaving Lane Change Rate (LC_{All}), lc/h	1607	Density (D), pc/mi/ln	35.6
Weaving Intensity Factor (W)	0.285	Level of Service (LOS)	E

Managed Lane Geometric Data

Managed Lane Type	Continuous Access	Free-Flow Speed (FFS), mi/h	65.0

Number of Managed Lanes, ln	1	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1761	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1873
Total Trucks, %	0.00	Capacity (c), pc/h/ln	1700
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	1700
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	500	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11405	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2022
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	35.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11405	603
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12133	641
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.93	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.571
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.138	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3700	Ramp Junction Speed (S), mi/h	54.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4341	Average Density (D), pc/mi/ln	39.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	34.7

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12008	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2129
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	38.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12008	662
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12774	704
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.98	0.35

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.794
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	46.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.130	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4180	Ramp Junction Speed (S), mi/h	51.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4884	Average Density (D), pc/mi/ln	43.9
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	39.6

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12670	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2246
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	42.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12670	257
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13479	273
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.14

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.840
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	45.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.184	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4709	Ramp Junction Speed (S), mi/h	50.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4982	Average Density (D), pc/mi/ln	45.3
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	39.9

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Diverge Report

Project Information			
Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	17140	1110
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	18234	1181
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.32	0.30

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8276	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8276	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	61.9

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	16030	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2842
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.24
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	16030	950
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	17053	1011
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.31	0.51

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2914.4	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.091	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	7390	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8401	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	63.1

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	16980	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2581
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.12
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	16980	1288
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	18064	1370
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.21	0.69

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	3153.5	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.047	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8148	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	9518	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	71.6

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	16412	1245	43	568
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	17460	1324	46	604
Weaving Flow Rate (v_W), pc/h	1928	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	17506	Density-Based Capacity (c_{IWL}), pc/h/ln		2172
Total Flow Rate (v), pc/h	19434	Demand Flow-Based Capacity (c_{IW}), pc/h		24242
Volume Ratio (VR)	0.099	Weaving Segment Capacity (c_W), veh/h		17376
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity, pc/h		17376
Maximum Weaving Length (L_{MAX}), ft	3530	Volume-to-Capacity Ratio (v/c)		1.12

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12559	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2227
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	42.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12559	589
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13361	627
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.01	0.31

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2017.6	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	41.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.139	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4621	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5248	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	41.8

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13148	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2331
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13148	716
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13987	762
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.07	0.38

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2102.6	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	27.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.123	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5090	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5852	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	47.1

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13864	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2458
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.07
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13864	1087
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14749	1156
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.15	0.58

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2353.6	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.073	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5662	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6818	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	53.8

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Diverge Report

Project Information			
Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14017	1051
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14912	1118
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.08	0.28

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5784	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5784	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	40.5

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12965	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2299
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	45.0
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12965	1298
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13793	1381
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.10	0.69

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2470.3	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	9.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.045	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4945	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6326	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	46.7

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14263	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2168
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.94
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	40.3
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14263	772
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15173	821
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	0.99	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	3.742
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.115	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	5980	Ramp Junction Speed (S), mi/h	1.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6801	Average Density (D), pc/mi/ln	1269.4
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	50.7

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	13372	724	48	892
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	14226	770	51	949
Weaving Flow Rate (v_W), pc/h	1719	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	14277	Density-Based Capacity (c_{IWL}), pc/h/ln		2166
Total Flow Rate (v), pc/h	15996	Demand Flow-Based Capacity (c_{IW}), pc/h		22430
Volume Ratio (VR)	0.107	Weaving Segment Capacity (c_W), veh/h		17328
Minimum Lane Change Rate (LC_{MIN}), lc/h	770	Adjusted Weaving Area Capacity, pc/h		17328
Maximum Weaving Length (L_{MAX}), ft	3608	Volume-to-Capacity Ratio (v/c)		0.92

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	2004	Average Weaving Speed (S_W), mi/h	41.2
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	4873	Average Non-Weaving Speed (S_{NW}), mi/h	49.9
Weaving Lane Change Rate (LC_W), lc/h	2162	Average Speed (S), mi/h	48.8
Weaving Lane Change Rate (LC_{All}), lc/h	7035	Density (D), pc/mi/ln	41.0
Weaving Intensity Factor (W)	0.912	Level of Service (LOS)	E

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11405	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2022
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	35.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11405	603
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12133	641
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.93	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.571
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	51.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.138	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3700	Ramp Junction Speed (S), mi/h	54.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4341	Average Density (D), pc/mi/ln	39.4
Level of Service (LOS)	D	Density in Ramp Influence Area (D_R), pc/mi/ln	34.7

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12008	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2129
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	38.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12008	662
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12774	704
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.98	0.35

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.794
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	46.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.130	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4180	Ramp Junction Speed (S), mi/h	51.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4884	Average Density (D), pc/mi/ln	43.9
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	39.6

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12670	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2246
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	42.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12670	296
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13479	315
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.16

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.865
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	45.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.178	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4709	Ramp Junction Speed (S), mi/h	50.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5024	Average Density (D), pc/mi/ln	45.8
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	40.2

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1770	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	942
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.8
Speed 2 (S_2), mi/h	0.2	Density (D_{ML}), pc/mi/ln	14.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Diverge Report

Project Information			
Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	17147	1117
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	18241	1188
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.32	0.30

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8281	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8281	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	62.0

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	16030	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2842
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.24
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	16030	1017
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	17053	1082
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.31	0.54

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2929.6	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.083	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	7390	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8472	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	63.6

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	17047	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2591
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.13
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	17047	1288
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	18135	1370
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.21	0.69

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	3164.9	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.047	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8201	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	9571	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	72.0

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	16479	1245	43	568
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	17531	1324	46	604
Weaving Flow Rate (v_W), pc/h	1928	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	17577	Density-Based Capacity (c_{IWL}), pc/h/ln		2172
Total Flow Rate (v), pc/h	19505	Demand Flow-Based Capacity (c_{IW}), pc/h		24242
Volume Ratio (VR)	0.099	Weaving Segment Capacity (c_W), veh/h		17376
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity, pc/h		17376
Maximum Weaving Length (L_{MAX}), ft	3530	Volume-to-Capacity Ratio (v/c)		1.12

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2362	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1256
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	61.2
Speed 2 (S_2), mi/h	3.8	Density (D_{ML}), pc/mi/ln	20.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	C

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12559	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2227
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	42.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12559	589
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13361	627
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.01	0.31

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2017.6	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	41.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.139	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4621	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5248	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	41.8

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13148	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2331
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13148	716
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13987	762
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.07	0.38

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2102.6	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	27.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.123	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5090	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5852	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	47.1

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13864	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2458
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.07
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13864	1111
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14749	1182
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.15	0.59

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2359.2	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.070	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5662	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6844	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	54.0

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	2014	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1072
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	63.7
Speed 2 (S_2), mi/h	1.3	Density (D_{ML}), pc/mi/ln	16.8
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Diverge Report

Project Information			
Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14058	1092
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14955	1162
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.08	0.29

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5816	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5816	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	40.8

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12965	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2299
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	45.0
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	12965	1339
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13793	1424
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.10	0.71

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2479.5	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	7.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.040	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4945	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6369	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	47.0

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14304	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2174
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.95
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	40.5
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14304	772
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15217	821
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.00	0.41

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	3.860
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.115	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	6013	Ramp Junction Speed (S), mi/h	1.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6834	Average Density (D), pc/mi/ln	1272.9
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	51.0

Managed Lane Geometric Data			
Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	Future Short-Term Cumulative (2027) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	13413	724	48	892
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	14269	770	51	949
Weaving Flow Rate (v_W), pc/h	1719	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	14320	Density-Based Capacity (c_{IWL}), pc/h/ln		2166
Total Flow Rate (v), pc/h	16039	Demand Flow-Based Capacity (c_{IW}), pc/h		22430
Volume Ratio (VR)	0.107	Weaving Segment Capacity (c_W), veh/h		17328
Minimum Lane Change Rate (LC_{MIN}), lc/h	770	Adjusted Weaving Area Capacity, pc/h		17328
Maximum Weaving Length (L_{MAX}), ft	3608	Volume-to-Capacity Ratio (v/c)		0.93

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	2011	Average Weaving Speed (S_W), mi/h	41.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	4882	Average Non-Weaving Speed (S_{NW}), mi/h	49.8
Weaving Lane Change Rate (LC_W), lc/h	2162	Average Speed (S), mi/h	48.7
Weaving Lane Change Rate (LC_{All}), lc/h	7044	Density (D), pc/mi/ln	41.2
Weaving Intensity Factor (W)	0.913	Level of Service (LOS)	E

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	1902	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	64.3
Speed 2 (S_2), mi/h	0.7	Density (D_{ML}), pc/mi/ln	15.7
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	B

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11975	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2123
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	38.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11975	634
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12739	674
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.97	0.34

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.759
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	47.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.134	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4154	Ramp Junction Speed (S), mi/h	51.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4828	Average Density (D), pc/mi/ln	43.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	38.5

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12609	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2236
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	42.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	12609	695
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	13414	739
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.03	0.37

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	2005.7	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	38.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.125	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	4660	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5399	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	43.6

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13304	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2359
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	13304	269
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	14153	286
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.05	0.14

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	2071.8	Number of Outer Lanes on Freeway (NO)	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	0.0	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	36.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.182	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	5215	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5501	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	43.9

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	17997	1166
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	19146	1240
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.39	0.31

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8960	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8960	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	67.8

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	16831	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.30
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	16831	994
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	17905	1057
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.37	0.53

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	3061.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.086	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8029	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	9086	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	68.4

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	17828	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2709
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	17828	1353
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	18966	1439
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.27	0.72

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	3313.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.038	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8824	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	10263	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	77.4

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	17233	1308	45	595
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	18333	1391	48	633
Weaving Flow Rate (v_W), pc/h	2024	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	18381	Density-Based Capacity (c_{IWL}), pc/h/ln		2172
Total Flow Rate (v), pc/h	20405	Demand Flow-Based Capacity (c_{IW}), pc/h		24242
Volume Ratio (VR)	0.099	Weaving Segment Capacity (c_W), veh/h		17376
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity, pc/h		17376
Maximum Weaving Length (L_{MAX}), ft	3530	Volume-to-Capacity Ratio (v/c)		1.17

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2338
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.02
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	13187	618
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14029	657
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.06	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	2131.3	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	29.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.136	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5122	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5779	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	45.9

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13805	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2448
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13805	752
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14686	800
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.12	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2222.9	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	3.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.118	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5614	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6414	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	51.4

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14557	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2581
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.12
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	14557	1141
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15486	1214
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.21	0.61

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	2484.3	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.066	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6214	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7428	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	58.5

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	14718	1104
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15657	1174
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.13	0.29

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6343	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6343	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	45.3

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13613	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2414
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.05
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13613	1363
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14482	1450
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.15	0.73

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2595.7	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.037	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5462	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6912	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	51.3

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) Existing NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14976	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2276
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	44.1
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14976	811
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15932	863
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.04	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2702.8	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.110	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6549	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7412	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	55.4

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) NP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	14040	760	51	936
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	14936	809	54	996
Weaving Flow Rate (v_W), pc/h	1805	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	14990	Density-Based Capacity (c_{IWL}), pc/h/ln		2166
Total Flow Rate (v), pc/h	16795	Demand Flow-Based Capacity (c_{IW}), pc/h		22430
Volume Ratio (VR)	0.107	Weaving Segment Capacity (c_W), veh/h		17328
Minimum Lane Change Rate (LC_{MIN}), lc/h	809	Adjusted Weaving Area Capacity, pc/h		17328
Maximum Weaving Length (L_{MAX}), ft	3608	Volume-to-Capacity Ratio (v/c)		0.97

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	11975	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2123
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	38.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	11975	634
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	12739	674
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	0.97	0.34

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.759
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	47.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.134	Outer Lanes Freeway Speed (S_O), mi/h	56.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	4154	Ramp Junction Speed (S), mi/h	51.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4828	Average Density (D), pc/mi/ln	43.2
Level of Service (LOS)	E	Density in Ramp Influence Area (D_R), pc/mi/ln	38.5

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	12609	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2236
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	42.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	12609	695
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	13414	739
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.03	0.37

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	2005.7	Number of Outer Lanes on Freeway (NO)	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	-
Downstream Equilibrium Distance (LEQ), ft	0.0	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	38.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.125	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	4660	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5399	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	43.6

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13304	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2359
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13304	308
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14153	328
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.05	0.16

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2080.8	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	35.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.177	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5215	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5543	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	44.2

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	4450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	2367
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	18004	1173
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	19153	1248
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.39	0.31

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	0.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.260	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8965	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	8965	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	67.9

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	16831	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2984
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.30
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	16831	1064
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	17905	1132
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.38	0.57

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	3077.0	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.076	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8029	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	9161	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	69.0

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	17895	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2720
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.18
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	17895	1353
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	19037	1439
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.27	0.72

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	3324.4	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.038	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	8878	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	10317	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	77.8

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	AM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	17300	1308	45	595
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	18404	1391	48	633
Weaving Flow Rate (v_W), pc/h	2024	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	18452	Density-Based Capacity (c_{IWL}), pc/h/ln		2172
Total Flow Rate (v), pc/h	20476	Demand Flow-Based Capacity (c_{IW}), pc/h		24242
Volume Ratio (VR)	0.099	Weaving Segment Capacity (c_W), veh/h		17376
Minimum Lane Change Rate (LC_{MIN}), lc/h	0	Adjusted Weaving Area Capacity, pc/h		17376
Maximum Weaving Length (L_{MAX}), ft	3530	Volume-to-Capacity Ratio (v/c)		1.18

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	6730	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	3580
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.79
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2338
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.02
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i)	13187	618
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14029	657
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.06	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	2131.3	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	29.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.136	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5122	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	5779	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	45.9

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.004
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13805	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2448
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2301
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	600
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13805	752
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14686	800
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.12	0.40

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2222.9	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	3.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.118	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5614	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6414	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	51.4

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	14557	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2581
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.12
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	700
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	14557	1165
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15486	1239
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.21	0.62

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2489.7	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.063	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6214	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7453	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	58.7

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	7942	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	4224
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	2.11
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	-
Speed 1 (S_1), mi/h	-	Average Speed (S_{ML}), mi/h	-
Speed 2 (S_2), mi/h	-	Density (D_{ML}), pc/mi/ln	-
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	F

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HCS7 Freeway Diverge Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	6	2
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	14759	1145
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	1.000	1.000
Flow Rate (vi),pc/h	15701	1218
Capacity (c), pc/h	13804	4000
Volume-to-Capacity Ratio (v/c)	1.14	0.30

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	0.0	Number of Outer Lanes on Freeway (NO)	2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	-
Downstream Equilibrium Distance (LEQ), ft	0.0	Flow Outer Lanes (vOA), pc/h/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	52.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	-
Flow in Lanes 1 and 2 (v12), pc/h	6376	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	6376	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (DR), pc/mi/ln	45.6

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	6	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.007
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	13613	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2414
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.05
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	6	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	13613	1404
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	14482	1494
Capacity (c), pc/h	13804	2000
Volume-to-Capacity Ratio (v/c)	1.16	0.75

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2605.1	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.031	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	5462	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	6956	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	51.6

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Basic Freeway Report

Project Information

Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

General Purpose Geometric Data

Number of General Purpose Lanes, ln	7	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	57.7
Right-Side Lateral Clearance, ft	10		

General Purpose Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.010
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

General Purpose Demand and Capacity

Demand Volume veh/h	15017	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,GP}$), pc/h/ln	2282
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2277
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2300
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

General Purpose Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D_{GP}), pc/mi/ln	44.3
Total Ramp Density Adjustment	7.3	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	57.7		

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-

Managed Lane Adjustment Factors

Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000

Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Freeway Merge Report

Project Information			
Analyst	LSA	Date	5/11/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	7	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1200	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	0.979	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i)	15017	811
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	0.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000
Flow Rate (v_i),pc/h	15976	863
Capacity (c), pc/h	16105	2000
Volume-to-Capacity Ratio (v/c)	1.05	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	2709.8	Number of Outer Lanes on Freeway (N_O)	2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	-
Downstream Equilibrium Distance (L_{EQ}), ft	0.0	Flow Outer Lanes (v_{OA}), pc/h/ln	2700
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.110	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	6582	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	7445	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F	Density in Ramp Influence Area (D_R), pc/mi/ln	55.7

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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HCS7 Freeway Weaving Report

Project Information

Analyst	LSA	Date	5/13/2019
Agency	LSA	Analysis Year	General Plan Build Out (2040) WP
Jurisdiction	Caltrans	Time Period Analyzed	PM Peak Hour
Project Description	RSE1801 - South Coast Metro	Unit	United States Customary

Geometric Data

Number of Lanes (N), ln	8	Segment Type	Freeway
Segment Length (L_S), ft	1200	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	0
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.17	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	14081	760	51	936
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	0.00	0.00	0.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	1.000	1.000	1.000	1.000
Flow Rate (v_i), pc/h	14980	809	54	996
Weaving Flow Rate (v_W), pc/h	1805	Freeway Max Capacity (c_{IFL}), pc/h/ln		2350
Non-Weaving Flow Rate (v_{NW}), pc/h	15034	Density-Based Capacity (c_{IWL}), pc/h/ln		2166
Total Flow Rate (v), pc/h	16839	Demand Flow-Based Capacity (c_{IW}), pc/h		22430
Volume Ratio (VR)	0.107	Weaving Segment Capacity (c_W), veh/h		17328
Minimum Lane Change Rate (LC_{MIN}), lc/h	809	Adjusted Weaving Area Capacity, pc/h		17328
Maximum Weaving Length (L_{MAX}), ft	3608	Volume-to-Capacity Ratio (v/c)		0.97

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W), mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Managed Lane Geometric Data

Managed Lane Type	Barrier 2	Free-Flow Speed (FFS), mi/h	65.0
Number of Managed Lanes, ln	2	Terrain Type	Level
Managed Lane Length, ft	5280	Percent Grade, %	-
Managed Lane Adjustment Factors			
Driver Population	All Familiar	Driver Population CAF	1.000
Weather Type	Non-Severe Weather	Weather Type CAF	1.000
Driver Population SAF	1.000	Final Speed Adjustment Factor (SAF)	1.000
Weather Type SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Demand Adjustment Factor (DAF)	1.000		
Managed Lane Demand and Capacity			
Volume (V_{ML}), veh/h	3194	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate ($V_{p,ML}$), pc/h/ln	1699
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Cpacity (c_{adj}), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Managed Lane Speed and Density			
Breakpoint (BP_{ML})	900	Indicator Variable (I_c)	0
Speed 1 (S_1), mi/h	65.0	Average Speed (S_{ML}), mi/h	52.3
Speed 2 (S_2), mi/h	12.7	Density (D_{ML}), pc/mi/ln	32.5
Speed 3 (S_3), mi/h	-	Level of Service (LOS)	D

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APPENDIX G:

QUEUING ANALYSIS WORKSHEETS

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	157	308	291	60
v/c Ratio	0.42	0.19	0.25	0.04
Control Delay	18.3	0.3	5.6	0.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.3	0.3	5.6	0.0
Queue Length 50th (ft)	36	0	29	0
Queue Length 95th (ft)	68	0	73	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	745	1583	1174	1583
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	0.21	0.19	0.25	0.04

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	465	824	369	370
v/c Ratio	0.72	0.52	0.43	0.23
Control Delay	21.4	1.2	12.7	0.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.4	1.2	12.7	0.3
Queue Length 50th (ft)	128	0	72	0
Queue Length 95th (ft)	174	0	163	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	863	1583	861	1583
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	0.54	0.52	0.43	0.23

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	157	325	360	102
v/c Ratio	0.42	0.21	0.31	0.06
Control Delay	18.3	0.3	6.0	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.3	0.3	6.0	0.1
Queue Length 50th (ft)	36	0	38	0
Queue Length 95th (ft)	68	0	92	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	745	1583	1174	1583
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	0.21	0.21	0.31	0.06

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	465	891	407	396
v/c Ratio	0.72	0.56	0.47	0.25
Control Delay	21.4	1.5	13.4	0.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.4	1.5	13.4	0.4
Queue Length 50th (ft)	128	0	82	0
Queue Length 95th (ft)	174	0	183	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	863	1583	861	1583
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	0.54	0.56	0.47	0.25

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	197	339	316	73
v/c Ratio	0.47	0.21	0.28	0.05
Control Delay	18.3	0.3	6.4	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.3	0.3	6.4	0.1
Queue Length 50th (ft)	44	0	35	0
Queue Length 95th (ft)	79	0	86	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	745	1583	1141	1583
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	0.26	0.21	0.28	0.05

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	663	894	404	454
v/c Ratio	0.84	0.56	0.55	0.29
Control Delay	25.2	1.5	16.9	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.2	1.5	16.9	0.5
Queue Length 50th (ft)	168	0	104	0
Queue Length 95th (ft)	#336	0	182	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	863	1583	728	1583
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	0.56	0.55	0.29

Intersection Summary

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

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	197	357	385	115
v/c Ratio	0.47	0.23	0.34	0.07
Control Delay	18.3	0.3	6.8	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.3	0.3	6.8	0.1
Queue Length 50th (ft)	44	0	45	0
Queue Length 95th (ft)	79	0	108	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	745	1583	1141	1583
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	0.26	0.23	0.34	0.07

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	663	961	443	480
v/c Ratio	0.84	0.61	0.61	0.30
Control Delay	25.2	1.7	18.1	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.2	1.7	18.1	0.5
Queue Length 50th (ft)	168	0	117	0
Queue Length 95th (ft)	#336	0	204	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	863	1583	728	1583
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	0.61	0.61	0.30

Intersection Summary

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

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	207	357	333	76
v/c Ratio	0.49	0.23	0.29	0.05
Control Delay	18.4	0.3	6.6	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.4	0.3	6.6	0.1
Queue Length 50th (ft)	47	0	38	0
Queue Length 95th (ft)	82	0	93	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	745	1583	1133	1583
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	0.28	0.23	0.29	0.05

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	696	938	424	477
v/c Ratio	0.86	0.59	0.59	0.30
Control Delay	27.3	1.6	17.9	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.3	1.6	17.9	0.5
Queue Length 50th (ft)	182	0	110	0
Queue Length 95th (ft)	#362	0	193	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	863	1583	714	1583
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	0.81	0.59	0.59	0.30

Intersection Summary

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

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	207	374	401	118
v/c Ratio	0.49	0.24	0.35	0.07
Control Delay	18.4	0.4	7.1	0.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.4	0.4	7.1	0.1
Queue Length 50th (ft)	47	0	48	0
Queue Length 95th (ft)	82	0	115	0
Internal Link Dist (ft)	134		197	
Turn Bay Length (ft)				
Base Capacity (vph)	745	1583	1133	1583
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	0.28	0.24	0.35	0.07

Intersection Summary

Lane Group	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	696	1005	463	502
v/c Ratio	0.86	0.63	0.65	0.32
Control Delay	27.3	2.0	19.6	0.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.3	2.0	19.6	0.5
Queue Length 50th (ft)	182	0	124	0
Queue Length 95th (ft)	#362	0	#224	0
Internal Link Dist (ft)	208		197	
Turn Bay Length (ft)				
Base Capacity (vph)	863	1583	714	1583
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	0.81	0.63	0.65	0.32

Intersection Summary

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

Queuing and Blocking Report

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	2
95th Queue (ft)	15
Link Distance (ft)	28
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Intersection: 26: Driveway 2 & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Intersection: 26: Driveway 2 & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	29
Average Queue (ft)	29
95th Queue (ft)	29
Link Distance (ft)	27
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	58
Average Queue (ft)	38
95th Queue (ft)	56
Link Distance (ft)	43
Upstream Blk Time (%)	3
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	56
Average Queue (ft)	8	37
95th Queue (ft)	29	56
Link Distance (ft)		47
Upstream Blk Time (%)		2
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	52	67	29
Average Queue (ft)	15	43	2
95th Queue (ft)	44	67	14
Link Distance (ft)		49	39
Upstream Blk Time (%)		2	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Queuing and Blocking Report

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	48	71
Average Queue (ft)	7	34
95th Queue (ft)	31	53
Link Distance (ft)	43	43
Upstream Blk Time (%)	0	2
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	75	58
Average Queue (ft)	21	39
95th Queue (ft)	55	59
Link Distance (ft)		47
Upstream Blk Time (%)		2
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Queuing and Blocking Report

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	56	74	54
Average Queue (ft)	28	34	23
95th Queue (ft)	56	54	58
Link Distance (ft)		49	39
Upstream Blk Time (%)		1	4
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	1		
Queuing Penalty (veh)	3		

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	2
95th Queue (ft)	13
Link Distance (ft)	28
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	5
95th Queue (ft)	22
Link Distance (ft)	28
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	29
Average Queue (ft)	29
95th Queue (ft)	30
Link Distance (ft)	27
Upstream Blk Time (%)	4
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	56
Average Queue (ft)	34
95th Queue (ft)	57
Link Distance (ft)	43
Upstream Blk Time (%)	3
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	77
Average Queue (ft)	6	40
95th Queue (ft)	27	63
Link Distance (ft)		47
Upstream Blk Time (%)		2
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	68	64	29
Average Queue (ft)	16	44	2
95th Queue (ft)	49	68	14
Link Distance (ft)		49	39
Upstream Blk Time (%)		4	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	1		
Queuing Penalty (veh)	2		

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	30	31	57
Average Queue (ft)	8	5	32
95th Queue (ft)	30	23	55
Link Distance (ft)	43		43
Upstream Blk Time (%)	0		2
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	74	66
Average Queue (ft)	23	36
95th Queue (ft)	56	57
Link Distance (ft)		47
Upstream Blk Time (%)		1
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	1	
Queuing Penalty (veh)	2	

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	55	76	54
Average Queue (ft)	22	30	25
95th Queue (ft)	55	60	54
Link Distance (ft)		49	39
Upstream Blk Time (%)		1	3
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	1		
Queuing Penalty (veh)	3		

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	28
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	30
Average Queue (ft)	1	4
95th Queue (ft)	10	20
Link Distance (ft)		35
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	29
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	27
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	NB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	7
95th Queue (ft)	25
Link Distance (ft)	28
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	SB
Directions Served	LTR
Maximum Queue (ft)	53
Average Queue (ft)	28
95th Queue (ft)	46
Link Distance (ft)	27
Upstream Blk Time (%)	6
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	28	58
Average Queue (ft)	1	39
95th Queue (ft)	9	65
Link Distance (ft)	43	43
Upstream Blk Time (%)	0	4
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	62
Average Queue (ft)	5	44
95th Queue (ft)	24	65
Link Distance (ft)		47
Upstream Blk Time (%)		4
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	51	76	29
Average Queue (ft)	15	45	3
95th Queue (ft)	41	73	17
Link Distance (ft)		49	39
Upstream Blk Time (%)		3	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 25: Driveway 1 & Cadillac Ave/Sunflower Ave

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	30	52	58
Average Queue (ft)	6	4	34
95th Queue (ft)	25	26	57
Link Distance (ft)	43		43
Upstream Blk Time (%)	0		3
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 26: Driveway 2 & Sunflower Ave

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	55	77
Average Queue (ft)	15	38
95th Queue (ft)	44	65
Link Distance (ft)		47
Upstream Blk Time (%)		2
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 27: Driveway 3/Fed Ex Driveway & Sunflower Ave

Movement	WB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	50	64	54
Average Queue (ft)	26	38	27
95th Queue (ft)	49	59	53
Link Distance (ft)		49	39
Upstream Blk Time (%)		2	5
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	1		

APPENDIX H:

VMT DEVELOPMENT CALCULATIONS

LSA

Appendix H: VMT Calculation Worksheet

Residential VMT Calculation

OCTAM 2040 Scenario

Project Homebased VMT	43,641
Orange County Homebased VMT	62,078,922

2040	Orange County (Region)	Project
Population	3,462,894	2,886
VMT/Capita	**17.9**	**15.1**

OCTAM 2012 Scenario

Project Homebased VMT	42,421
Orange County Homebased VMT	55,472,398

2012	Orange County (Region)	Project
Population	3,071,460	2,886
VMT/Capita	**18.1**	**14.7**

2019 Existing (Interpolation)

Project Homebased VMT	42,726
Orange County Homebased VMT	57,124,029

2019	Orange County (Region)	Project	Percentage Change
Population	3,169,319	2,886	
VMT/Capita	**18.0**	**14.8**	**-18%**

Non-Residential VMT Calculation

OCTAM 2040 Scenario

Project Homebased Work VMT	3,308
Orange County Homebased Work VMT	47,585,818

2040	Orange County (Region)	Project
Employment	1,896,173	122
VMT/Emp	**25.1**	**27.1**

OCTAM 2012 Scenario

Project Homebased Work VMT	3,108
Orange County Homebased Work VMT	38,014,028

2012	Orange County (Region)	Project
Employment	1,522,467	122
VMT/Emp	**25.0**	**25.5**

2019 Existing (Interpolation)

Project Homebased Work VMT	3,158
Orange County Homebased Work VMT	40,406,976

2019	Orange County (Region)	Project	Percentage Change
Employment	1,615,894	122	
VMT/Emp	**25.0**	**25.9**	**3%**