APPENDIX G:

TRAFFIC IMPACT ANALYSIS

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TRAFFIC IMPACT ANALYSIS

GENERAL PLAN LAND USE AND URBAN DESIGN ELEMENTS

LONG BEACH, CALIFORNIA

LSA

June 2019

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TRAFFIC IMPACT ANALYSIS

GENERAL PLAN LAND USE AND URBAN DESIGN ELEMENTS

LONG BEACH, CALIFORNIA

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LONG BEACH GENERAL PLAN LAND USE AND URBAN DESIGN ELEMENTS TRAFFIC IMPACT ANALYSIS

LSA has prepared the following analysis to identify traffic impacts arising from changes to land uses resulting from the City of Long Beach (City) adopting revised Land Use and Urban Design Elements of the General Plan. LSA has prepared this analysis consistent with the City of Long Beach *Traffic Impact Analysis (TIA) Guidelines* (2018), the Los Angeles County *Congestion Management Program* (CMP) (Metro 2010), Caltrans *Guide for Preparation of Traffic Impact Studies* (2002), and applicable provisions of the California Environmental Quality Act (CEQA).

INTRODUCTION

In 2017, the Governor's Office of Planning and Research (OPR) released revised State of California General Plan Guidelines. The elements required to be discussed in a General Plan are: Land Use, Circulation, Housing, Conservation, Open Space, Noise, Safety, Environmental Justice, and Air Quality. General Plans may contain additional elements (such as Urban Design) tailored to a jurisdiction's needs. The Housing Element must be continuously updated and assess current housing needs and include action programs for providing adequate housing for all economic segments of the community. However, the Housing Element must be consistent with the land use designations in the Land Use Element. The Circulation Element and Land Use Elements must be coordinated to ensure that transportation infrastructure and investments are supportive of planned land uses.

In Long Beach, the City Council adopted the latest Mobility Element in October 2013 and the latest Housing Element in January 2014. The current Land Use Element was adopted in 1989. Land use restrictions embodied in the 1989 Land Use Element are not supportive of the city's housing needs. Since 1989, the Long Beach population has grown by 45,000 residents, but fewer than 5,000 housing units have been built to accommodate that population growth. Overcrowding has resulted from the current Land Use Element, as confirmed in the City's own Assessment of Fair Housing (AFH), adopted in 2016 as required by the Department of Housing and Urban Development (HUD). The City has been working to update the Land Use Element since 2004. The Land Use Element is supported by an Urban Design Element guiding the form that development may take within the revised land use designations. In 2016, the City completed a program-level Environmental Impact Report (EIR) for a Land Use Element and an Urban Design Element that incorporated the mobility plans of the Mobility Element and the housing needs addressed in the Housing Element. This EIR, however, was not certified and changes to the land use and height maps were requested by the City Council.

The purpose of this Traffic Impact Analysis (TIA) is to inform the revised EIR and identify potential traffic and circulation impacts alone or cumulatively on intersections and adjacent freeway facilities associated with the changes in land use facilitated by the Land Use and Urban Design Elements. The traffic impact analysis examines traffic conditions in three scenarios:

1. Existing (2018) conditions
2. General Plan Horizon Year (2040) With Current Land Use Element (No Project)
3. General Plan Anticipated Buildout (2040) With Proposed Land Use and Urban Design Elements (Plus Project)

PROJECT DESCRIPTION

The Land Use Element does not propose construction of any new structures within Long Beach. The Land Use Element cannot mandate construction of any new structures within Long Beach. As is evident by the documented increase in population growth in Long Beach despite lack of requisite housing to support that growth, the Land Use Element does not influence demographic trends. The Land Use Element guides growth by affecting the location and density of development as it occurs in response to market demands. The Urban Design Element affects the form this development takes when designed and constructed. Developing the Land Use and Urban Design Elements begins with identifying projected growth in population, housing, and employment (i.e., demographic data). The appropriate location for development to accommodate socioeconomic growth is then identified in the Land Use Element, and the form and character of such development is specified in the Urban Design Element.

Quantity of Growth

The California State Department of Finance and California Employment Development Department prepare projections of population and employment growth for the State and its regions. For the Southern California region, the Metropolitan Planning Organization (MPO) is the Southern California Association of Governments (SCAG). SCAG uses the data provided by the State and projects population and employment growth for subregions and jurisdictions as part of the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) process. For the 2016 RTP/SCS, SCAG forecasts a population growth of 18,230 new residents and employment growth of 28,511 new jobs in Long Beach by 2040.

Projecting housing needs follows a similar process, whereby the State (i.e., the Department of Housing and Community Development) provides regional housing projections to the region (i.e., SCAG), which in turn projects housing growth for local jurisdictions. Unlike other data projections, rather than being simply informative, the housing allocation provided to jurisdictions through the Regional Housing Needs Assessment (RHNA) process is enforceable through the Housing Accountability Act. As an outcome of the most recent RHNA process, the City is required to plan for 7,048 new dwelling units to accommodate future population growth. However, due to insufficient construction of new housing units in the past (within Long Beach and the region), Long Beach has many residential areas where housing units are overcrowded. The City has engaged in an Assessment of Fair Housing (AFH, 2016) with the United States Department of Housing and Urban Development.

The AFH demonstrated that the City needs 21,476 additional housing units to address existing housing needs due to overcrowding. In total, Long Beach requires 28,524 housing units to address future population growth (7,048 units needed) and existing population living in overcrowded conditions (21,476 units needed) housing needs. It is this number of units, which complies with both the State and federal assessments, that must be accommodated in City planning documents.

As a result of the processes described above, the following quantities of demographic data growth are anticipated in the proposed Land Use Element:

- **Population:** 18,230 new residents, for a total of 484,485 by 2040
- **Housing:** 28,524 new dwelling units, for a total of 192,318 by 2040
- **Employment:** 28,511 new jobs anticipated, for a total of 181,665 by 2040

Distribution of Growth

In a departure from the existing Land Use Element, which segregates property with traditional single-use land use designations, the proposed Land Use Element establishes 14 PlaceTypes that would divide Long Beach into district neighborhoods, each with their own sense of character and place. PlaceTypes would allow for a combination of land uses at varying densities and intensities to allow for greater flexibility and a mix of compatible land uses within these areas. Figure 1 displays the proposed locations of PlaceTypes, and Figure 2 displays the proposed height limits throughout Long Beach.

Under the proposed Land Use Element, approximately 13 percent of Long Beach is proposed to result in concentrated land use changes as compared to existing conditions. These areas are referred to "Major Areas of Change" throughout the proposed Land Use Element. The Major Areas of Change signify areas where demographic growth is anticipated to be most profound; however, areas that are not designated as "Major Areas of Change" and/or are not anticipated to result in changes in existing land use patterns may also experience development. Figure 3 displays the Major Areas of Change.

These areas of concentrated land use changes were identified because they are supported by alternative transportation options consistent with the Mobility Element. Figure 4 displays the transit-priority streets in Long Beach. Figure 5 displays the Bicycle Master Plan. Concentrating the increased land use density along the corridors with existing and planned infrastructure to support alternative modes of travel can result in reduced automobile trips generated from these land uses.

Traffic potentially generated by the land uses necessary to accommodate projected future demographic growth, in the Major Areas of Change identified for that growth by the Land Use Element, is analyzed in this TIA.

METHODOLOGY

This TIA has been prepared consistent with the City's *TIA Guidelines*, the Los Angeles County CMP, California Department of Transportation (Caltrans) methodology, and applicable provisions of CEQA.

Study Area Intersections

The City's *TIA Guidelines* require that the following conditions be analyzed in the report:

1. Existing
2. Existing Plus Project
3. Project Buildout Year + Cumulative Project
4. Project Buildout Year + Project + Cumulative Project

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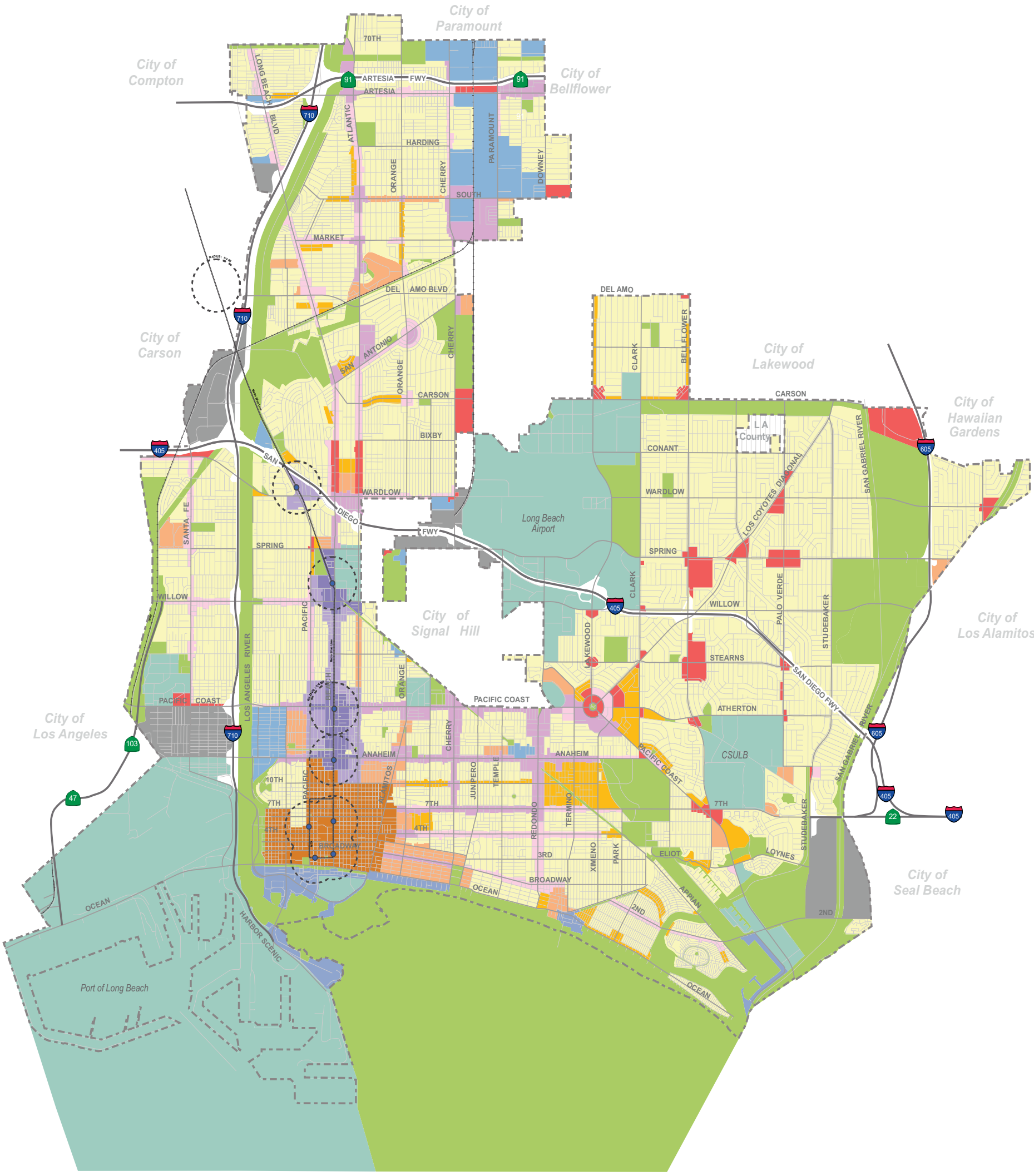

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PlaceTypes

OS - Open Space

Neighborhoods

N - Founding and Contemporary Neighborhood

MFR -L - Multi-Family Residential - Low

MFR -M - Multi-Family Residential - Moderate

Mixed Use

NSC-L - Neighborhood-Serving Center or Corridor - Low

NSC-M - Neighborhood-Serving Center or Corridor - Moderate

TOD -L - Transit-Oriented Development - Low

TOD -M - Transit-Oriented Development - Moderate

Employment

CC - Community Commercial

I - Industrial

NI - Neo-Industrial

Unique

RSF - Regional-Serving Facility

DT - Downtown

WF - Waterfront

Light Rail Transit

Metro Blue Line Station and 1/4 Mile Radius

FIGURE 1

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N

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SOURCE: Proposed Long Beach General Plan Land Use Element, March 2018

Long Beach General Plan

Land Use and Urban Design Elements

Proposed Land Use Element Project PlaceTypes

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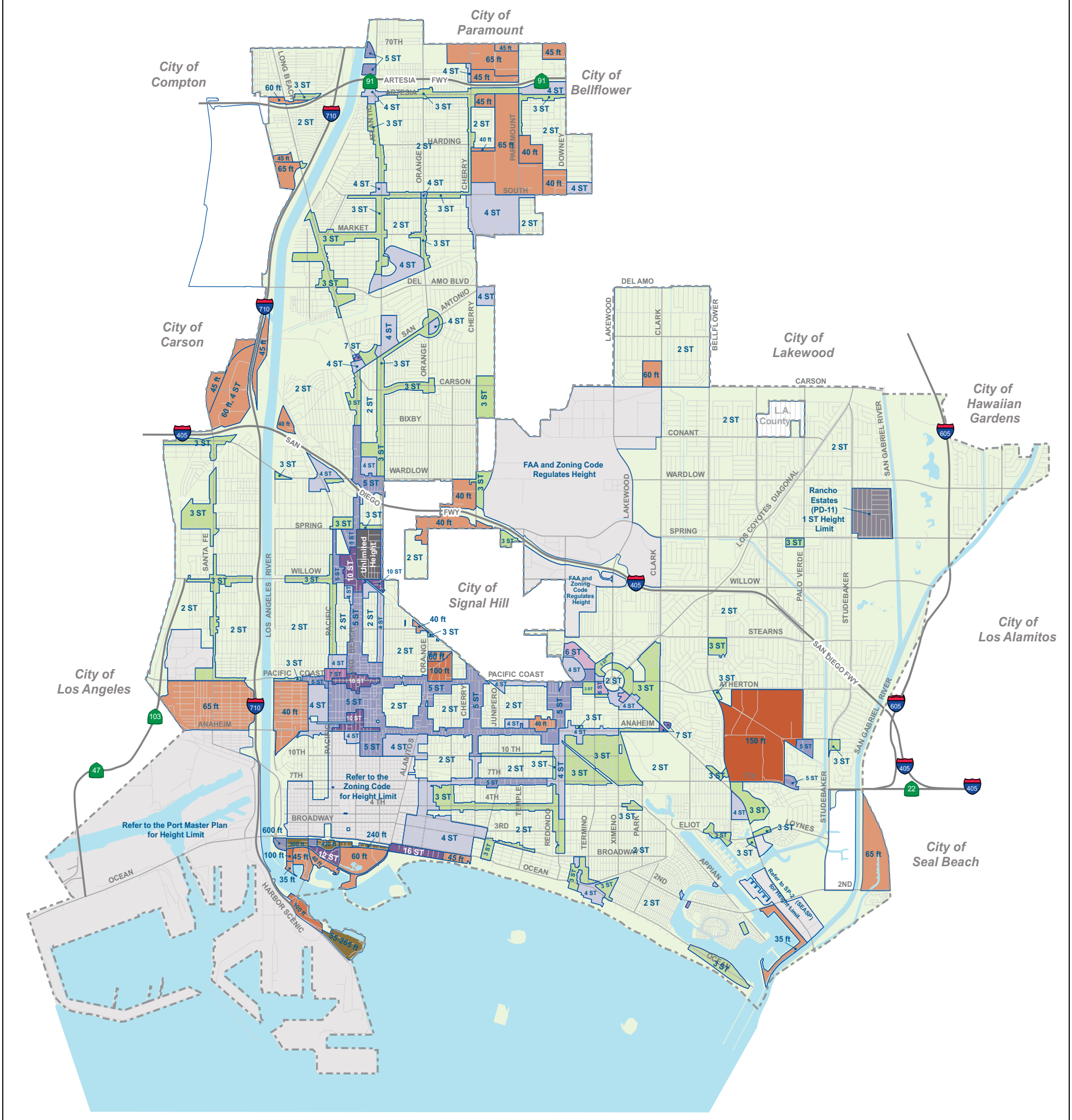

FIGURE 2

Long Beach General Plan
Land Use and Urban Design Elements
Proposed Land Use Element PlaceType Maximum Building Height Limitations

SOURCE: Proposed Land Use Element, City of Long Beach, March 2018

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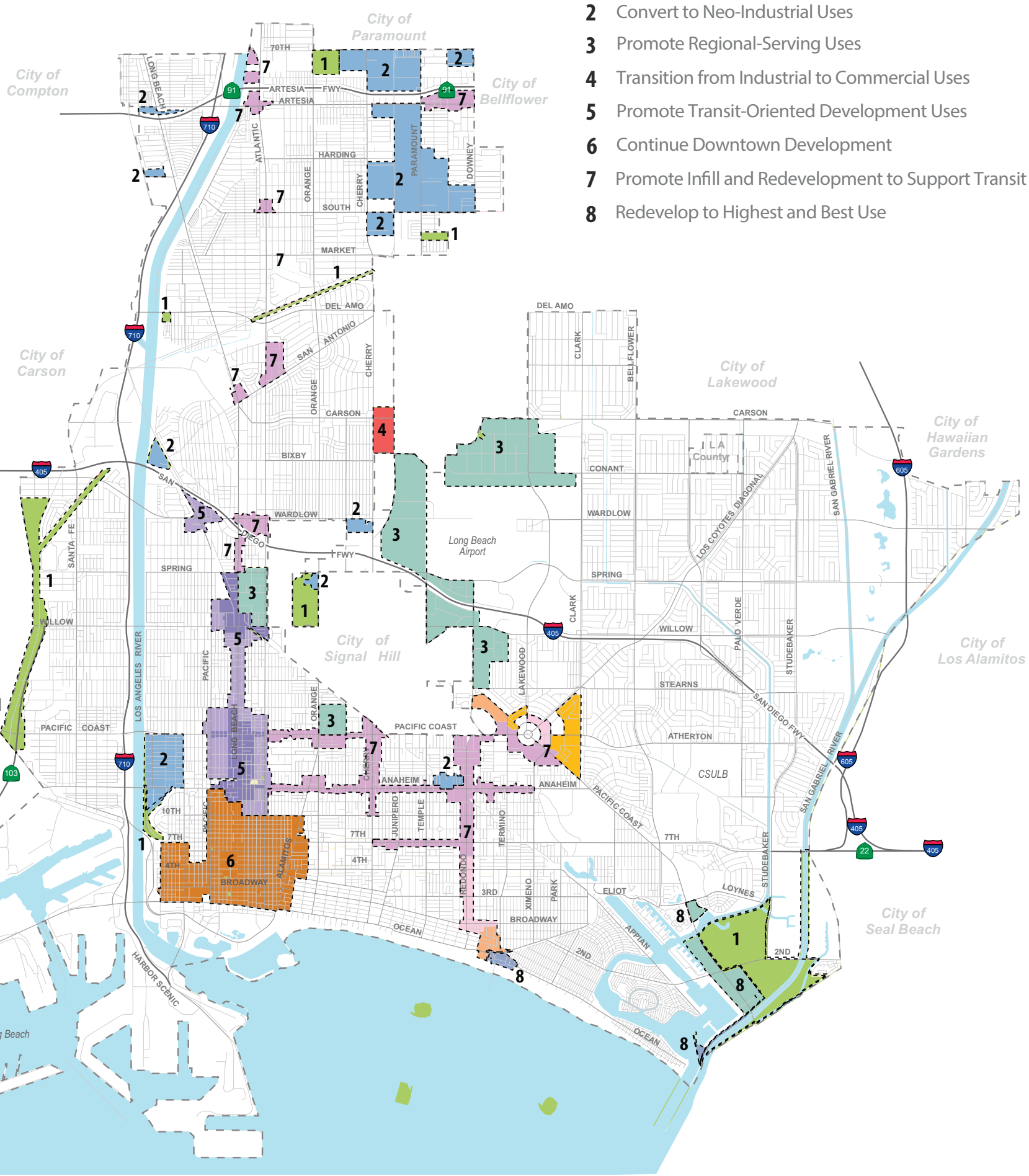
Areas of Change Description

1. More Open Space
2. Convert to Neo-Industrial Uses
3. Promote Regional-Serving Uses
4. Transition from Industrial to Commercial Uses
5. Promote Transit-Oriented Development Uses
6. Continue Downtown Development
7. Promote Infill and Redevelopment to Support Transit
8. Redevelop to Highest and Best Use



Legend

PlaceTypes

- OS - Open Space

Neighborhoods

- N - Founding and Contemporary Neighborhood
- MFR -L - Multi-Family Residential - Low
- MFR -M - Multi-Family Residential - Moderate

Mixed Use

- NSC-L - Neighborhood-Serving Center or Corridor - Low
- NSC-M - Neighborhood-Serving Center or Corridor - Moderate
- TOD-L - Transit-Oriented Development - Low
- TOD-M - Transit-Oriented Development - Moderate

Employment

- CC - Community Commercial
- I - Industrial
- NI - Neo-Industrial

Unique

- RSF - Regional-Serving Facility
- DT - Downtown
- WF - Waterfront

Light Rail Transit

- Metro Blue Line Station and 1/4 Mile Radius

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N

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SOURCE: Proposed Land Use Element, City of Long Beach, March 2018

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FIGURE 3

Long Beach General Plan
Land Use and Urban Design Elements
Proposed Land Use Element Major Areas of Change

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FIGURE 4

Legend

Transit Route Classification

- Secondary
- Primary
- Multimodal Hub
- Metro Rail Stations
- Metro Rail
- Bus Routes (includes LB Transit, Metro, and OCTA)

N

Long Beach General Plan Land Use and Urban Design Elements

Existing Transit-Priority Streets

SOURCE: City of Long Beach, Mobility Element

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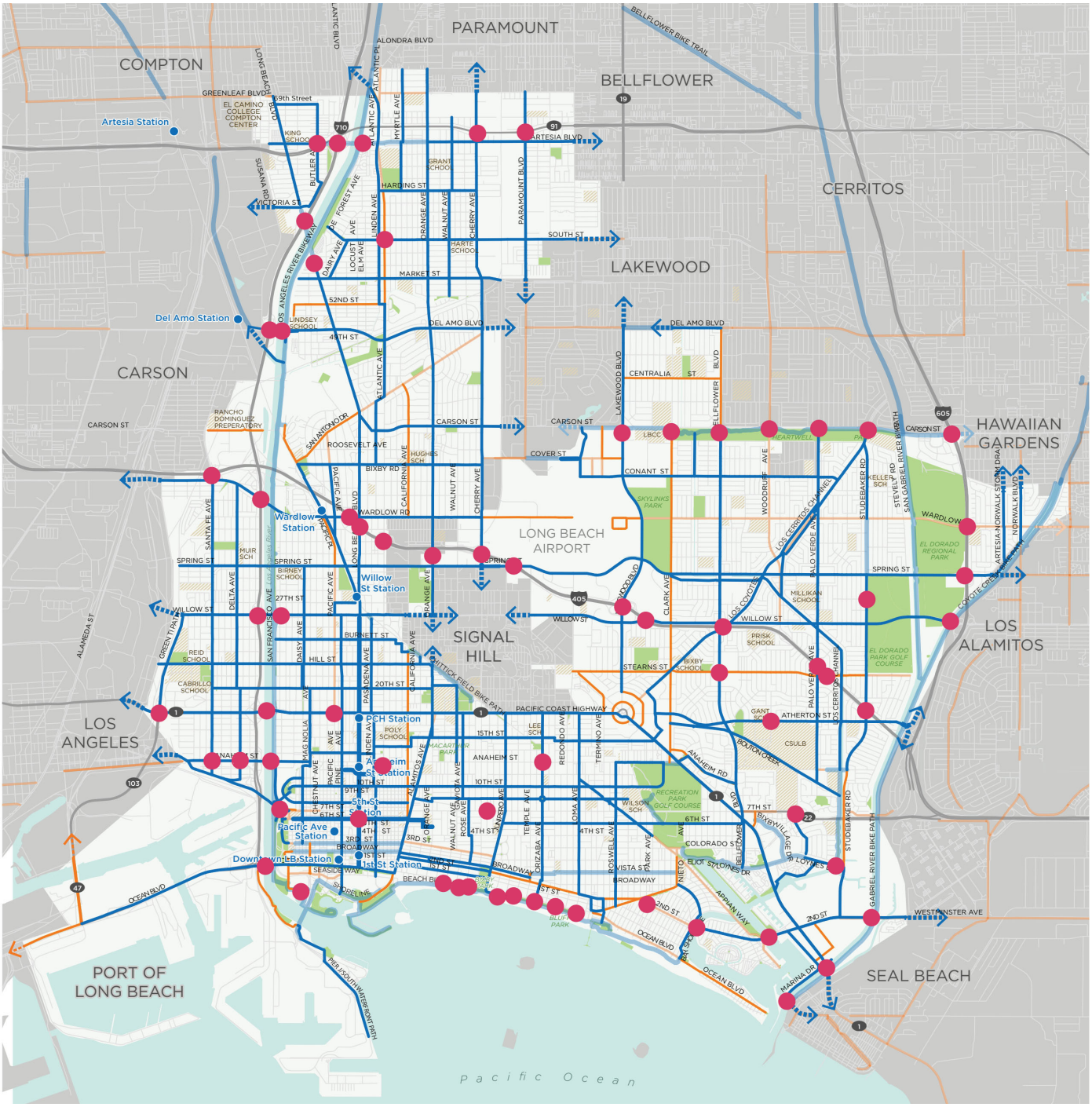

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- Spot Improvement
- Recommended 8-to-80 Bikeway
- Recommended Bike Lane
- Existing 8-to-80 Bikeway
- Existing Bike Lane

N

NO SCALE

FIGURE 5

Long Beach General Plan Land Use and Urban Design Elements
Bicycle Master Plan

SOURCE: City of Long Beach, Bicycle Master Plan (2017)

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Given the planning nature of the General Plan elements being analyzed, the Existing Plus Project conditions include cumulative projects; therefore, Conditions 2 and 4 are the same. Condition 3 is represented by analysis of the General Plan Horizon Year (2040) with no changes to the current Land Use Element. Therefore, this TIA examines traffic conditions in three scenarios:

1. Existing (2018)
2. General Plan Horizon Year (2040) With Current Land Use Element (No Project)
3. General Plan Anticipated Buildout (2040) With Proposed Land Use and Urban Design Elements (Plus Project)

Traffic analysis of the General Plan Mobility Element included a sample of 88 intersections throughout Long Beach. Those intersections did not include any facilities under Caltrans jurisdiction or in jurisdictions outside of Long Beach. This TIA built on the previously analyzed 88 intersections by adding a sample of intersections in each jurisdiction neighboring Long Beach and a sample of intersections under Caltrans jurisdiction. The initial list of sampled intersections was shared with Caltrans, and additional intersections were added at the request of Caltrans. In total, 120 intersections were included in the study area. Figure 6 displays the location for the following 120 intersections

1. Avalon Boulevard/ Pacific Coast Hwy (Caltrans)
2. Avalon Boulevard/Anaheim Street (Carson)
3. Wilmington Avenue/Sepulveda Boulevard (Carson)
4. Wilmington Avenue/223rd Street (Carson)
5. Terminal Island Freeway/Willow Street (Long Beach)
6. Santa Fe Avenue/Wardlow Road (Long Beach)
7. Santa Fe Avenue/Willow Street (Long Beach)
8. Santa Fe Ave/Pacific Coast Hwy (Caltrans, CMP)
9. Santa Fe Avenue/Anaheim Street (Long Beach)
10. I-710/Pacific Coast Hwy Cloverleaf WB (Long Beach)
11. I-710/Pacific Coast Hwy Cloverleaf EB (Long Beach)
12. Magnolia Avenue/Ocean Boulevard (Long Beach)
13. Pacific Avenue/ Pacific Coast Hwy (Caltrans)
14. Pacific Avenue/Anaheim Street (Long Beach)
15. Pacific Avenue/7th Street (Long Beach)
16. Pacific Avenue/6th Street (Long Beach)
17. Pacific Avenue/3rd Street (Long Beach)
18. Pacific Avenue/Broadway (Long Beach)
19. Pacific Avenue/Ocean Boulevard (Long Beach)
20. Long Beach Boulevard/Alondra Boulevard (Compton)
21. Long Beach Boulevard/Artesia Boulevard (Long Beach)
22. Long Beach Boulevard/Market Street (Long Beach)
23. Long Beach Boulevard/Del Amo Boulevard (Long Beach)
24. Long Beach Boulevard/San Antonio Drive (Long Beach)
25. Long Beach Boulevard/Wardlow Road (Long Beach)
26. Long Beach Boulevard/Spring Street (Long Beach)
27. Long Beach Boulevard/Willow Street (Long Beach)
28. Long Beach Boulevard/Pacific Coast Hwy (Caltrans)
29. Long Beach Boulevard/Anaheim Street (Long Beach)
30. Long Beach Boulevard/7th Street (Long Beach)
31. Long Beach Boulevard/6th Street (Long Beach)
32. Long Beach Boulevard/3rd Street (Long Beach)
33. Long Beach Boulevard/Broadway (Long Beach)
34. Long Beach Boulevard/Ocean Boulevard (Long Beach)
35. Atlantic Avenue/Alondra Boulevard (Compton)
36. Atlantic Avenue/SR-91 WB Ramps (Long Beach)
37. Atlantic Avenue/SR-91 EB Ramps (Long Beach)
38. Atlantic Avenue/Artesia Boulevard (Long Beach)
39. Atlantic Avenue/South Street (Long Beach)
40. Atlantic Avenue/Del Amo Boulevard (Long Beach)
41. Atlantic Avenue/33rd Street (Caltrans)
42. Atlantic Avenue/I-405 EB Ramps (Caltrans)
43. Atlantic Avenue/Willow Street (Long Beach)
44. Atlantic Avenue/Pacific Coast Hwy (Caltrans)
45. Atlantic Avenue/Anaheim Street (Long Beach)
46. Atlantic Avenue/7th Street (Long Beach)
47. Atlantic Avenue/6th Street (Long Beach)
48. Atlantic Avenue/3rd Street (Long Beach)
49. Atlantic Avenue/Broadway (Long Beach)
50. Atlantic Avenue/Shoreline Avenue-Ocean Boulevard (Long Beach)
51. Orange Avenue/Wardlow Road (Long Beach)
52. Orange Avenue/ Pacific Coast Hwy (Caltrans, CMP)
53. Alamitos Avenue/Anaheim Street (Long Beach)

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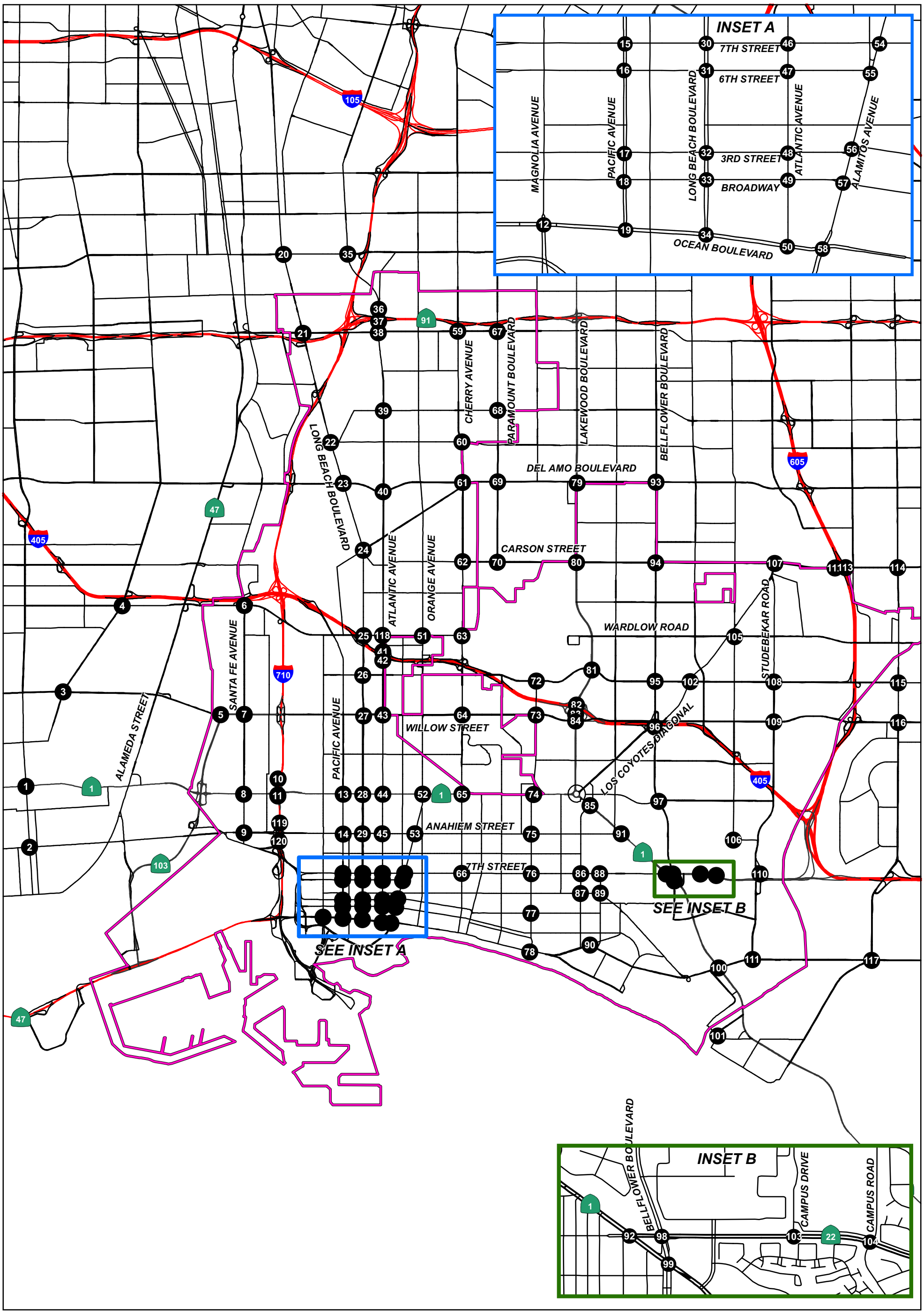

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Study Intersections

City of Long Beach

0 3000 6000

FEET

SOURCE: ESRI Streetmap, 2013.

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FIGURE 6

Long Beach General Plan Land Use and Urban Design Elements

Study Area Intersections

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54. Alamitos Avenue/7th Street (Long Beach, CMP)
55. Alamitos Avenue/6th Street (Long Beach)
56. Alamitos Avenue/3rd Street (Long Beach)
57. Alamitos Avenue/Broadway (Long Beach)
58. Alamitos Avenue/ Shoreline Avenue-Ocean Boulevard (Long Beach, CMP)
59. Cherry Avenue/Artesia Boulevard (Long Beach)
60. Cherry Avenue/Market Street (Long Beach)
61. Cherry Avenue/Del Amo Boulevard (Long Beach/Lakewood)
62. Cherry Avenue/Carson Street (Long Beach)
63. Cherry Avenue/Wardlow Road (Long Beach)
64. Cherry Avenue/Willow Street (Signal Hill)
65. Cherry Avenue/ Pacific Coast Hwy (Caltrans)
66. Cherry Avenue/7th Street (Long Beach)
67. Paramount Boulevard/Artesia Boulevard (Long Beach)
68. Paramount Boulevard/South Street (Long Beach)
69. Paramount Boulevard/Del Amo Boulevard (Lakewood)
70. Paramount Boulevard/Carson Street (Lakewood)
71. Downey Avenue/Alondra Boulevard (Paramount)
72. Redondo Avenue/Spring Street (Long Beach)
73. Redondo Avenue/Willow Street (Long Beach)
74. Redondo Avenue/Pacific Coast Hwy (Caltrans)
75. Redondo Avenue/Anaheim Street (Long Beach)
76. Redondo Avenue/7th Street (Long Beach)
77. Redondo Avenue/3rd Street (Long Beach)
78. Redondo Avenue/Ocean Boulevard (Long Beach)
79. Lakewood Boulevard/Del Amo Boulevard (Long Beach/Lakewood)
80. Lakewood Boulevard/Carson Street (Long Beach/ Lakewood, CMP)
81. Lakewood Boulevard/Spring Street (Long Beach)
82. Lakewood Boulevard/I-405 WB Ramps (Caltrans)
83. Lakewood Boulevard/I-405 EB Ramps (Caltrans)
84. Lakewood Boulevard/Willow Street (Long Beach, CMP)
85. Ximeno Avenue/Pacific Coast Hwy (Caltrans, CMP)
86. Ximeno Avenue/7th Street (Long Beach)
87. Ximeno Avenue/4th Street (Long Beach)
88. Park Avenue/7th Street (Long Beach)
89. Park Avenue/4th Street (Long Beach)
90. Livingston Drive/2nd Street (Long Beach)
91. Pacific Coast Hwy/Anaheim Street (Caltrans)
92. Pacific Coast Hwy/7th Street (Caltrans, CMP)
93. Bellflower Boulevard/Del Amo Boulevard (Long Beach/Lakewood)
94. Bellflower Boulevard/Carson Street (Long Beach/Lakewood)
95. Bellflower Boulevard/Spring Street (Long Beach)
96. Bellflower Boulevard/Los Coyotes Diagonal (Long Beach)
97. Bellflower Boulevard/Atherton Street (Long Beach)
98. Bellflower Boulevard/7th Street (Long Beach)
99. Bellflower Boulevard/Pacific Coast Hwy (Caltrans)
100. Pacific Coast Hwy/2nd Street (Caltrans, CMP)
101. 1st Street/Marina Drive (Long Beach)
102. Los Coyotes Diagonal/Spring Street (Long Beach)
103. West Campus Drive/7th Street (Long Beach)
104. East Campus Road/7th Street (Long Beach)
105. Palo Verde Avenue/Wardlow Road (Long Beach)
106. Palo Verde Avenue/Anaheim Street (Long Beach)
107. Los Coyotes Diagonal/Carson Street (Long Beach/ Lakewood)
108. Studebaker Road/Spring Street (Long Beach)
109. Studebaker Road/Willow Street (Long Beach)
110. 7th Street/College Park Drive (Long Beach)
111. Studebaker Road/2nd Street (Long Beach)
112. I-605 SB Ramps/Carson Street (Caltrans)
113. I-605 NB Ramps/Carson Street (Caltrans)
114. Norwalk Boulevard/Carson Street (Hawaiian Gardens)
115. Norwalk Boulevard/Cerritos Avenue (Los Alamitos)
116. Los Alamitos Boulevard/Katella Avenue (Garden Grove)
117. Seal Beach Boulevard/Westminster Road (Seal Beach)
118. Atlantic Avenue/I-405 WB Ramps (Caltrans)
119. I-710/Anaheim St Cloverleaf WB (Caltrans)
120. I-710/Anaheim St Cloverleaf EB (Caltrans)

Intersection LOS Methodology

As established in the Mobility Element, the City views mobility as the movement of people and does not consider the movement of vehicles to be the only goal of the City. However, the City's *TIA Guidelines* retain a goal for performance of the vehicle network, which has been assessed by this TIA. Specifically, the performance of intersections was examined during the busiest morning commute hour (a.m. peak hour) and busiest afternoon commute hour (p.m. peak hour).

City Jurisdiction

In accordance with the City's *TIA Guidelines*, the study intersections were analyzed using the intersection capacity utilization (ICU) methodology for signalized intersections. The Traffix (Version 8.0) software application was used to determine the levels of service (LOS). This program calculates LOS based on traffic volume and intersection geometry inputs.

The ICU methodology compares the amount of traffic an intersection is able to process (capacity) to the level of traffic during peak hours (volume). Peak hours are defined as the highest hour between 7:00 a.m. and 9:00 a.m., and between 4:00 p.m. and 6:00 p.m. The resulting volume-to-capacity (v/c) ratio of conflicting turn movements at an intersection sums these critical conflicting v/c ratios for each intersection approach and determines the overall ICU. The resulting ICU is expressed in terms of LOS.

Caltrans Jurisdiction

Caltrans prefers the *Highway Capacity Manual* (HCM) methodology for analysis of intersections. Synchro 10 was the software application used to determine the levels of service (LOS) using HCM methodology. The *Highway Capacity Manual*, 6th Edition (HCM) (TRB 2016) methodology calculates the delay (in seconds per vehicle) experienced by all movements through an intersection—as opposed to capacity—as the measure of effectiveness. The resulting delay is expressed in terms of LOS, much like the ICU methodology.

LOS Descriptions

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	Description
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no longstanding traffic queues.
E	Poor operation. Some longstanding vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.
F	Forced flow. Represents jammed conditions. Back-ups from locations downstream or on the cross street restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go-type traffic flow.

Consistent with the City's requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour per lane (vphpl), and a dual turn lane capacity of 2,880. Based on the City's *TIA Guidelines*, a clearance interval of 10 percent has been added to each ICU calculation. The relationship between ICU and LOS is shown below:

Level of Service	Intersection Capacity Utilization
A	< 0.601
B	0.601–0.700
C	0.701–0.800
D	0.801–0.900
E	0.901–1.000
F	> 1.000

The relationship between LOS and the delay (in seconds) at signalized intersections is as follows:

Level of Service	Signalized Intersection Delay (seconds)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board 2016).

Significant Impact Threshold

The City's *TIA Guidelines* state that "the City considers LOS D to be the upper limit of satisfactory operations." However, the Mobility Element suggests that this standard may be flexible on street segments where automobile travel is not emphasized or where widening of an intersection is not practical and pedestrian, bicycle, or transit mobility can be preserved or enhanced by accepting a vehicle LOS below LOS D.

As identified in the City's *TIA Guidelines*, an impact is considered significant where project traffic causes an intersection to deteriorate from LOS D to LOS E or F, or if the project causes an increase in the v/c ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition.

Congestion Management Program Methodology

The Los Angeles County CMP requires analysis of arterial monitoring intersections where the proposed project will add 50 or more trips during either the a.m. or p.m. peak hours and CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips (by direction) during either the a.m. or p.m. peak hour. Ten CMP monitored intersections are located within Long Beach. These intersections are included in the study area as noted in the list above.

The Los Angeles County CMP determines that a project would have a significant impact if project traffic increases the v/c ratio by 0.02 or more at a facility operating at LOS F. This is a similar to the City's significance threshold.

Additionally, Appendix D.8.4 of the CMP provides a methodology for estimating transit ridership generated by a project to determine whether or not the project is anticipated to result in a significant impact to transit service.

Caltrans Methodology

Within the study area, Caltrans has jurisdiction over two types of facilities: State highway segments (freeway mainline facilities and State highways that function as arterials) and intersections between arterial streets and State highways (on/off-ramps and arterial intersections). The methodology for analyzing potential impacts to Caltrans facilities, including the facilities selected for analysis in this TIA, was reviewed and approved by Caltrans prior to conducting the analysis.

State Highway Segments

Traffic volume in the a.m. and p.m. peak hours is compared to capacity to calculate v/c ratios. Freeway mainline segments are estimated to have a capacity for 2,350 vphpl. Arterial segments are estimated to have a capacity for 1,800 vphpl.

In order to determine the peak-hour operations at the ramp merge/diverge junctions with their respective freeway mainlines, freeway on- and off-ramp merge/diverge junctions are analyzed consistent with the methodology described in Chapter 14, Freeway Merge and Diverge Segments in the HCM 6th Edition and calculated utilizing the HCS7 (Version 7.5) software package. The freeway on- and off-ramp merge/diverge junction peak-hour operation performance measures are based on density, in terms of passenger cars per mile per lane. Freeway on- and off-ramp merge/diverge junctions are considered to operate at LOS F if demand on an on- or off-ramp exceeds the ramp capacity, regardless of the calculated density at the merge/diverge junction.

State Highway/Arterial Intersections

Intersections between State highways and arterial roadways are analyzed applying HCM methodology using Synchro 10 software. Where these intersections are part of a closely spaced system of intersections, the delay caused by interaction between the intersections is included in the calculation of average delay. Some of the study intersections form a cloverleaf interchange without typical stop-control. However, these areas still experience delay and congestion. Analysis of the density within the weaving segment was used to calculate the performance of these intersections. Other intersections formed by freeway off-ramps to arterials lacked stop-control and did not form a weaving segment. Some of these intersections were closely spaced with a stop-controlled intersection. At these locations, the queue of the downstream intersection was examined to determine if the queue was likely to reach and block the off-ramp.

Performance Standard and Impact Thresholds

For State highway segments, the performance standards adopted for facilities of regional significance in the Los Angeles County CMP was applied. Namely, a standard of LOS E is considered

satisfactory except where the base year LOS is worse than LOS E, in which case the base year LOS would be the standard. The General Plan is determined to have a cumulative impact on the facility if the LOS is degraded from an acceptable LOS to LOS F or if additional traffic volume is contributed to a facility operating in excess of its operational standard.

On-Ramps and Off-Ramps

Design guidelines contained in Chapter 504.3 of the Caltrans *Highway Design Manual* (HDM) will be utilized for additional on- and off-ramp capacity analysis. In the case of on-ramps, the HDM provides the following hourly capacity recommendations:

- **Metered Single-Lane On-Ramps:** Recommended for up to 900 vehicles per hour (vph), or
- **Metered Multilane On-Ramps:** When ramp volumes exceed 900 vph

When ramp volumes exceed 1,500 vph, a 1,000-foot (ft) minimum length auxiliary lane should be provided beyond the ramp convergence point.

For off-ramps, the HDM provides the following hourly capacity recommendations:

- When design year estimated volumes exceed 1,500 equivalent passenger cars per hour, a two-lane ramp should be provided.

- Provisions should be made for possible widening to three or more lanes at the crossroads intersection. An auxiliary lane approximately 1,400 ft long should be provided in advance of a two-lane exit. For volumes less than 1,500 equivalent passenger cars per hour but more than 900 vph, a one-lane wide exit ramp should be provided with provision for adding an auxiliary lane and an additional lane on the ramp.

For freeway ramps, the General Plan is determined to have a cumulative impact on the facility if the facility is projected to operate in excess of its operational standard.

Vehicle Miles Traveled

On December 28, 2018, the California Office of Administrative Law cleared the revised CEQA Guidelines for use. Among the changes to the CEQA Guidelines was removal of vehicle delay and LOS 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.

As discussed above, the City of Long Beach Mobility Element began a departure from considering vehicle LOS as the only measure of a transportation system's effectiveness, but the City has not yet established thresholds related to VMT. However, the State law provides sufficient guidance to evaluate the General Plan Land Use and Urban Design Elements' impacts related to VMT.

California Public Resources Code (PRC) 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.

To provide an abundance of information on the effects of the Land Use and Urban Design Elements, this analysis includes VMT in absolute terms, per capita, and per household. For context, Long Beach VMT is compared to the larger Los Angeles County and Southern California regions.

EXISTING CONDITIONS

Existing Circulation System

Key roadways in the vicinity of the proposed project are as follows:

- **Interstate 405 (I-405):** A north-south interstate highway that extends from Orange County in the south to San Fernando in the north. This freeway runs east-west through Long Beach. Access to the Long Beach Airport is provided by I-405.

- **Interstate 605 (I-605):** A north-south interstate highway located east of Long Beach that extends from I-405 in the south to the San Gabriel Valley in the north.

- **Interstate 710 (I-710):** A north-south interstate highway that runs through the west side of Long Beach from the Port of Long Beach in the south to Interstate 10 (I-10) in the north. I-710 is one of the major routes for transportation of goods from the Ports of Long Beach and Los Angeles to distribution centers near downtown Los Angeles. As a result, truck volumes on I-710 are very high.

- **State Route 91 (SR-91):** SR-91 runs east-west through the north part of Long Beach and extends from Riverside in the east to Gardena in the west.

- **Terminal Island Freeway:** According to the Long Beach General Plan Mobility Element (Mobility Element), the Terminal Island Freeway is classified as a boulevard and characterized as a long-distance, medium-speed corridor. This roadway is north-south oriented and generally includes four to eight lanes. Bikeways are neither provided nor planned. Between Willow Street and the Pacific Coast Highway (State Route 1 [SR-1]), the Mobility Element recommends a street character change for the Terminal Island Freeway that includes removal of the truck route designation and better accommodation of the needs for pedestrians, bicyclists, and transit riders.

- **Pacific Coast Highway (SR-1):** Pacific Coast Highway is generally a four- to eight-lane, north-south/east-west roadway that is classified in the Mobility Element as a regional corridor (i.e., a roadway designed for integrational and intercommunity mobility). The Mobility Element also identifies Pacific Coast Highway as a transit primary priority area, one that provides for regional transit service between Lakewood Boulevard and Santa Fe Avenue. This roadway has been designated as a State facility truck route. Class II bikeways are provided between San Gabriel River and Lakewood Boulevard, and Class III bikeways are provided between Lakewood Boulevard and Terminal Island Highway. In the Mobility Element, Pacific Coast Highway has

been described as a congestion "hot spot" (i.e., a roadway that currently suffers from congestion and will continue in future conditions) between Cherry Avenue and Bellflower Boulevard. The City has identified Pacific Coast Highway as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Lakewood Boulevard (State Route 19 [SR-19]):** Lakewood Boulevard is generally a four- to eight-lane, north-south roadway that is classified in the Mobility Element as a regional corridor (i.e., a roadway designed for integrational and intercommunity mobility). The Mobility Element also identifies Lakewood Boulevard as a transit primary priority area, one that provides for regional transit service. The City has designated Lakewood Boulevard as a regional truck route.

- **7th Street (State Route 22 [SR-22]):** 7th Street is generally a four- to eight-lane, north-south roadway that is classified as a boulevard and characterized in the Mobility Element as a long-distance, medium-speed corridor. Between the termination of the Garden Grove Freeway and the Pacific Coast Highway, 7th Street is part of SR-22. The Mobility Element identifies 7th Street as a pedestrian-priority area between Pacific Avenue and Alamitos Avenue and a transit primary priority area, one that provides for regional transit service. Class II bikeways are provided between West Shoreline Drive and Chestnut Avenue. The Mobility Element describes 7th Street as a current and future congested corridor (i.e., a roadway operating unacceptably and predicted to continue to operate unacceptably [LOS E or F]). The City has identified 7th Street as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Atlantic Avenue and Alamitos Avenue.

- **Santa Fe Avenue:** Santa Fe Avenue is generally a four- to six-lane, north-south roadway that is classified as a major avenue and defined in the Mobility Element as a major route for the movement of traffic. The Mobility Element identifies Santa Fe Avenue as a pedestrian-priority area and transit secondary priority area, one that provides for local and neighborhood transit service without physical priority treatments. A bikeway is planned for this corridor; however, classification of this bikeway is yet to be determined. This roadway is designated as a truck route appropriate for local delivery. In the Mobility Element, Santa Fe Avenue is described as a congested corridor or a roadway operating unacceptably (i.e., LOS E or F). The City has identified Santa Fe Avenue north of Anaheim Street and south of Willow Street as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Magnolia Avenue:** Magnolia Avenue is generally a two- to four-lane, north-south roadway that is classified as a Neighborhood Connector and defined in the Mobility Element as serving trips generated in the surrounding or adjacent neighborhoods. The Mobility Element identifies Magnolia Avenue between Anaheim Avenue and Harbor Scenic as a transit secondary priority area, one that provides for local and neighborhood transit service without physical priority treatments.

- **Pacific Avenue:** Pacific Avenue is generally a two- to six-lane, north-south roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the

movement of traffic) south of Pacific Coast Highway and as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers) north of Pacific Coast Highway. The Mobility Element identifies Pacific Avenue as a pedestrian-priority area, a transit secondary priority area (one that provides for local and neighborhood transit service without physical priority treatments) between Pacific Coast Highway and 7th Street, and as a transit primary priority area (one that provides for regional transit service) between 7th Street and Broadway. This roadway is designated as a truck route appropriate for local delivery. Class I and II bikeways are provided along this corridor. In the Mobility Element, Pacific Avenue has been determined as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Long Beach Boulevard:** Long Beach Boulevard is generally a four- to eight-lane, north-south roadway that is classified as a boulevard and is characterized in the Mobility Element as a long-distance, medium-speed corridor. The Mobility Element identifies Long Beach Boulevard as a pedestrian-priority area and transit primary priority area, one that provides for regional transit service. Class III bikeways are proposed for this corridor. This roadway is designated as a regional truck route within Long Beach. In the Mobility Element, Long Beach Boulevard is an Intelligent Transportation System (ITS) corridor between Del Amo Boulevard and Carson Street and between Anaheim Street and Ocean Boulevard. Long Beach Boulevard has been determined as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Atlantic Avenue:** Atlantic Avenue is generally a four- to six-lane, north-south roadway that is classified as a major avenue (defined as serving as a major route for the movement of traffic) in the Mobility Element. The Mobility Element identifies Atlantic Avenue as a pedestrian-priority area and transit primary priority area, one that provides for regional transit service. This roadway has been designated as a truck route appropriate for local delivery. In the Mobility Element, Atlantic Avenue is described as a congested corridor, or a roadway operating unacceptably (i.e., LOS E or F). In the Mobility Element, Atlantic Avenue is an ITS corridor between the SR-91 westbound ramps and Spring Street, between Columbia Street and Willow Street, and between Willow Street and Ocean Boulevard. The City has identified Atlantic Avenue as a roadway with opportunity for street character change to better accommodate the needs of pedestrians, bicyclists, and transit riders between Pacific Coast Highway and 7th Street.

- **Orange Avenue:** Orange Avenue is generally a two- to four-lane, north-south roadway that is classified in the Mobility Element as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers). Class II bikeways are provided between Bixby Road and 70th Street, and Class III bikeways are provided between Bixby Road and Wardlow Avenue. Class III bikeways are proposed between Wardlow Avenue and East Hill Street, and a Bike Boulevard is proposed between East Hill Street and the Pacific Coast Highway.

- **Alamitos Avenue:** Alamitos Avenue is generally a four- to eight-lane, north-south roadway that is classified as a boulevard and characterized in the Mobility Element as a long-distance, medium-speed corridor. The Mobility Element identifies Alamitos Avenue as a pedestrian-priority area. Class III bikeways are provided along this corridor. This roadway is designated as a

truck route appropriate for local delivery. In the Mobility Element, Alamitos Avenue has been described as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F] and a "hot spot" for congestion). In the Mobility Element, Alamitos Avenue is an ITS corridor between 6th Street and Ocean Boulevard. The City has identified Alamitos Avenue as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Cherry Avenue:** Cherry Avenue is generally a two- to six-lane, north-south roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic) between Pacific Coast Highway and 70th Street, a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers) between Pacific Coast Highway and 7th Street, and a neighborhood connector (defined as serving trips generated in the surrounding or adjacent neighborhoods) between 7th Street and Ocean Boulevard. The Mobility Element identifies Cherry Avenue as a secondary priority transit area, one that provides for local and neighborhood transit service without physical priority treatments. This roadway has been designated as a regional truck route. In the Mobility Element, Cherry Avenue has been described as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F]). The City has identified Cherry Avenue as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Paramount Boulevard:** Paramount Boulevard is generally a four- to six-lane, north-south roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). This roadway has been designated as a regional truck route. Class II bikeways on Paramount Boulevard are provided between Market Street and Artesia Boulevard.

- **Redondo Avenue:** Redondo Avenue is generally a two- to six-lane, north-south roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic) between Pacific Coast Highway and 4th Street, a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers) between 4th Street and Broadway, and a neighborhood connector (defined as serving trips generated in the surrounding or adjacent neighborhoods) between Broadway and Ocean Boulevard. The Mobility Element identifies Redondo Avenue as a pedestrian-priority area. This roadway is designated as a truck route appropriate for local delivery. The City has identified Redondo Avenue as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Ximeno Avenue:** Ximeno Avenue is generally a two- to four-lane, north-south roadway that is classified in the Mobility Element as a neighborhood connector (defined as serving trips generated in the surrounding or adjacent neighborhoods). The Mobility Element identifies Ximeno Avenue as a transit secondary priority area, one that provides for local and neighborhood transit service without physical priority treatments).

- **Park Avenue:** Park Avenue is generally a two- to four-lane, north-south roadway that is classified in the Mobility Element as a neighborhood connector (defined as serving trips generated in the surrounding or adjacent neighborhoods).

- **Los Coyotes Diagonal:** Los Coyotes Diagonal is generally a four- to eight-lane, north-south roadway that is classified in the Mobility Element as a boulevard and characterized as a long-distance, medium-speed corridor. This roadway has been designated as a truck route appropriate for local delivery. Class II bikeways are provided along this corridor.

- **Bellflower Boulevard:** Bellflower Boulevard is generally a four- to eight-lane, north-south roadway that is classified in the Mobility Element as a boulevard and characterized as a long-distance, medium-speed corridor. The Mobility Element identifies Bellflower Boulevard as a pedestrian-priority area between Willow Street and Anaheim Street and as a transit primary priority area (one that provides for regional transit service) between Willow Street and 7th Street. This roadway has been designated as a regional truck route. Class II bikeways are provided between Carson Street and 7th Street along the corridor. In the Mobility Element, Bellflower Boulevard is an ITS corridor between the SR-91 westbound ramps and 29th Street/28th Street and between 27th Street and Los Coyotes Diagonal. The Mobility Element describes Bellflower Boulevard as a congestion "hot spot" and future congested corridor (i.e., a roadway operating unacceptably [LOS E or F]). The City has identified Bellflower Boulevard as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Atherton Street and Loynes Drive.

- **Studebaker Road:** Studebaker Road is generally a two- to six-lane, north-south roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic) between Spring Street and 2nd Street and as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers) between Spring Street and Carson Street. The Mobility Element identifies Studebaker Road as a pedestrian-priority area between Spring Street and Willow Street. This roadway has been designated as a truck route appropriate for local delivery. Class II bikeways are provided along this corridor.

- **Norwalk Boulevard:** Norwalk Boulevard is generally a four- to six-lane, north-south roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). This roadway is designated as a regional truck route. Class II bikeways are provided between 226th Street and Wardlow Road

- **Artesia Boulevard:** Artesia Boulevard is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). The Mobility Element identifies Artesia Boulevard as a pedestrian-priority area between Long Beach Boulevard and Cherry Avenue and as a transit primary priority area (one that provides for regional transit service) between Susan Road and Atlantic Avenue. This roadway is designated as a truck route appropriate for local delivery. Class II bikeways are proposed along this corridor. The Mobility Element describes Artesia Boulevard as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F]) and a congestion "hot spot" between Long Beach Boulevard and Paramount Boulevard. The City has identified Artesia

Boulevard as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **South Street:** South Street is generally a two- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic) between Cherry Avenue and Lakewood Boulevard, and as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers) between Atlantic Avenue and Cherry Avenue. This roadway is designated as a regional truck route between Cherry Avenue and Lakewood Boulevard and as a truck route appropriate for local delivery between Locust Avenue and Cherry Avenue. Class II bikeways are proposed along this corridor between Cherry Avenue and Lakewood Boulevard. The City has identified South Street as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Orange Avenue and Atlantic Avenue.

- **Market Street:** Market Street is generally a two- to four-lane, east-west roadway that is classified in the Mobility Element as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers). The Mobility Element identifies Market Street as a pedestrian-priority area between Long Beach Boulevard and Atlantic Avenue. This roadway has been designated a truck route appropriate for local delivery between Orange Avenue and Deeboyar Avenue. Class II bikeways are proposed along this corridor. Market Street has been determined as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Del Amo Boulevard:** Del Amo Boulevard is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). The Mobility Element identifies Del Amo Boulevard as a transit secondary priority area, one that provides for local and neighborhood transit service without physical priority treatments. Class II bikeways are provided between Atlantic Avenue and Orange Avenue and proposed between Orange Avenue and Paramount Boulevard. In the Mobility Element, Del Amo Boulevard is an ITS corridor west of Atlantic Avenue and east of I-605. The Mobility Element describes Del Amo Boulevard as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F]) and a congestion "hot spot" between Atlantic Avenue and Lakewood Boulevard.

- **Carson Street:** Carson Street is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). The Mobility Element identifies Carson Street as a transit secondary priority area, one that provides for local and neighborhood transit service without physical priority treatments. This roadway has been designated as a regional truck route. Class I bikeways are provided between Lakewood Boulevard and the San Gabriel River Freeway, and Class II bikeways are proposed between Atlantic Avenue and Paramount Boulevard. In the Mobility Element, Carson Street is an ITS corridor from Long Beach Boulevard to east of I-605. The Mobility Element describes Carson Street as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F]) and a congestion "hot spot" between Bellflower Boulevard and Los Coyotes Diagonal. The City has identified Carson Street as a roadway with opportunity for street

character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Long Beach Boulevard and Cherry Avenue.

- **Wardlow Road:** Wardlow Road is generally a two- to four-lane, east-west roadway that is classified in the Mobility Element as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers). The Mobility Element identifies Wardlow Road as a pedestrian-priority area between Orange Avenue and Cherry Avenue and as a transit secondary priority area (one that provides for local and neighborhood transit service without physical priority treatments) between Cherry Avenue and Santa Fe Avenue. This roadway has been designated as a truck route appropriate for local delivery. Class II bikeways are provided between Clark Avenue and Norwalk Boulevard. In the Mobility Element, Wardlow Road is an ITS corridor between Walnut Avenue and Cherry Avenue and between Clark Avenue and Bellflower Boulevard. The Mobility Element describes Bellflower Boulevard as a future congested corridor, which is a roadway operating unacceptably (i.e., LOS E or F).

- **Spring Street:** Spring Street is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). The Mobility Element identifies Spring Street as a pedestrian-priority area between Los Coyotes Diagonal and Palo Verde Avenue. This roadway has been designated as a regional truck route. Class II bikeways are provided between Pacific Avenue and Orange Avenue, and a Bike Boulevard is proposed between Santa Fe Avenue and Pacific Avenue. A bikeway between Orange Avenue and Norwalk Boulevard is planned for this corridor; however, classification of this bikeway is yet to be determined. In the Mobility Element, Spring Street is an ITS corridor between Atlantic Avenue and Temple Avenue and from Redondo Avenue to east of I-605. ITS is proposed between Cherry Avenue and southeast of Redondo Avenue.

- **Willow Street:** Willow Street is generally a four- to eight-lane, east-west roadway that is classified in the Mobility Element as a boulevard and characterized as a long-distance, medium-speed corridor. The Mobility Element identifies Willow Street as a pedestrian-priority area between the Terminal Island Freeway and Orange Avenue, as a transit primary priority area (one that provides for regional transit service) between the Terminal Island Freeway and Long Beach Boulevard, and as a transit secondary priority area (one that provides for local and neighborhood transit service without physical priority treatments) between Long Beach Boulevard and the San Gabriel Freeway. This roadway has been designated as a truck route appropriate for local delivery between the Terminal Island Freeway and the Long Beach Freeway and between Clark Avenue and the San Gabriel River. This roadway has also been designated as a regional truck route between Long Beach Boulevard and Lakewood Boulevard. Class II bikeways are proposed west of Delta Avenue. In the Mobility Element, Willow Street is an ITS corridor between Atlantic Avenue and the I-605 southbound exit. The Mobility Element describes Willow Street as a congestion “hot spot” and future congested corridor (i.e., a roadway predicted to operate unacceptably [LOS E or F]) between Santa Fe Avenue and Redondo Avenue. The City has identified Willow Street as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between the Terminal Island Freeway and Atlantic Avenue.

- **Anaheim Street:** Anaheim Street is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). The Mobility Element identifies Anaheim Street as a pedestrian-priority area between Alamitos Avenue and Redondo Avenue and as a transit primary priority area, one that provides for regional transit service. This roadway has been designated as a truck route appropriate for local delivery. Class I bikeways are proposed between Ximeno Avenue and Clark Avenue, and Class II bikeways are provided between Palo Verde Avenue and Studebaker Road. In the Mobility Element, Anaheim Street is an ITS corridor between San Francisco Avenue and Cherry Avenue. The Mobility Element describes Anaheim Street as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F]) and a congestion "hot spot" east of Redondo Avenue. The City has identified Anaheim Street as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Cherry Avenue and Redondo Avenue.

- **6th Street:** 6th Street is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). Class II bikeways are provided between West Shoreline Drive and Chestnut Avenue along this corridor.

- **3rd Street:** 3rd Street is generally a four- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic). Class I bikeways are provided between Golden Avenue and Alamitos Avenue.

- **Broadway:** Broadway is generally a two- to six-lane, east-west roadway that is classified in the Mobility Element as a major avenue (defined as serving as a major route for the movement of traffic) between Main Avenue and Alamitos Avenue, as a minor avenue (defined as providing for the movement of traffic to neighborhood activity centers) between Alamitos Avenue and Redondo Avenue, and as a neighborhood connector (defined as serving trips generated in the surrounding or adjacent neighborhoods) between Redondo Avenue and Park Avenue. The Mobility Element identifies Broadway as a pedestrian-priority area and a transit primary priority area (one that provides for regional transit service) between Pacific Avenue and Long Beach Boulevard. This roadway has been designated as a truck route appropriate for local delivery between Alamitos Avenue and Redondo Avenue. Class I bikeways are provided between Golden Avenue and Alamitos Avenue. The City has identified Broadway as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **Ocean Boulevard:** Ocean Boulevard is generally a four- to eight-lane, north-south roadway that is classified in the Mobility Element as a boulevard and characterized as a long-distance, medium-speed corridor. Ocean Boulevard has also been designated as a scenic route. The Mobility Element identifies Ocean Boulevard as a transit primary priority area, one that provides for regional transit service. This roadway has been designated as a truck route appropriate for local delivery. Ocean Boulevard is a proposed ITS corridor between Biona Court and Livingston Drive. In the Mobility Element, Ocean Boulevard has been described as a congested corridor and "hot spot" (defined as a roadway that currently suffers from congestion and is predicted to

continue in future conditions) east of Redondo Avenue. The City has identified Ocean Boulevard as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Livingston Drive and Bay Shore Avenue.

- **Livingston Drive:** Livingston Drive is generally a four- to eight-lane, east-west roadway that is classified in the Mobility Element as a boulevard and characterized as a long-distance, medium-speed corridor. Livingston Drive has also been designated as a scenic route. The Mobility Element has identified Livingston Drive as a pedestrian-priority area and a transit primary priority area, one that provides for regional transit service. Livingston Drive is a proposed ITS corridor between Ocean Boulevard and 2nd Street. The City has identified Livingston Drive as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders.

- **2nd Street:** 2nd Street is generally a four- to eight-lane, east-west roadway that is classified in the Mobility Element as a boulevard and characterized as a long-distance, medium-speed corridor. 2nd Street has also been designated as a scenic route. The Mobility Element identifies 2nd Street as a pedestrian-priority area and a transit primary priority area, one that provides for regional transit service. This roadway has been designated as a truck route appropriate for local delivery. Class II bikeways are provided along this corridor. The Mobility Element describes 2nd Street as a congested corridor (i.e., a roadway operating unacceptably [LOS E or F]). The City has identified 2nd Street as a roadway with opportunity for street character change to better accommodate the needs for pedestrians, bicyclists, and transit riders between Marina Drive and Studebaker Road.

Existing Transit Service

Long Beach is served by a robust network of transit options from multiple operators, including rail, fixed-route bus service, shuttles, and boats. Long Beach has a municipal transit agency, Long Beach Transit (LBT) (which provides 34 fixed-route bus routes), the free Downtown Passport circulator, demand-response transit, the AquaLink water bus between Alamitos Bay Landing and downtown Long Beach, and the AquaBus water taxi between marinas and docks along the downtown waterfront.

Other transit operators in Long Beach include the Orange County Transportation Authority (OCTA), Torrance Transit, the Los Angeles Department of Transportation (LADOT), and Metro. Metro operates fixed-route local and express bus service on a limited number of routes within Long Beach. Metro also operates the Blue Line passenger rail service between downtown Long Beach and downtown Los Angeles. The Blue Line connects to the larger and expanding Metro Rail system, providing a convenient transit link between Long Beach and the larger metropolitan region. Figure 7 illustrates the existing transit network within Long Beach.

Existing Intersection LOS Analysis

For a few of the study intersections, traffic volume data had been recently collected that could also be used for this traffic analysis. Depending on the age of the traffic data, an ambient traffic growth rate of 1 percent per year was added to estimate 2018 traffic volume. For most of the study intersections, vehicle turning volumes were collected during the peak morning (7:00 a.m.–9:00 a.m.)

LSA

FIGURE 7

Legend

- Metro Rail Stations
- Metro Rail
- Bus Routes (includes LB Transit, Metro, and OCTA)
- ★ Multimodal Hub

N

Long Beach General Plan Land Use and Urban Design Elements

Existing Transit Service

SOURCE: City of Long Beach, Mobility Element

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and evening (4:00 p.m.–6:00 p.m.) commute periods. Peak-hour intersection turn volumes were surveyed on a typical weekday (i.e., Wednesday, May 9, 2018; Thursday, May 10, 2018; Wednesday, May 23, 2018; and Thursday, November 1, 2018). These volumes were taken in 15-minute increments and then totaled as hourly volumes, which is the standard procedure for volume data collection. Appendix A provides the traffic volume data sheets.

Table A summarizes the results of the existing a.m. and p.m. peak-hour LOS analysis for the study area intersections. Existing condition analysis worksheets are provided in Appendix B. As Table A indicates, while most intersections operate at a satisfactory LOS (i.e., LOS D or better) in the a.m. and p.m. peak hours, 20 of the sampled intersections (approximately 17 percent) operate at unsatisfactory LOS E or F during one or both peak hours.

GENERAL PLAN HORIZON YEAR (2040) NO PROJECT

As mentioned previously, State agencies forecast regional demographic growth and the MPO (i.e., SCAG) uses the data provided by the State for the RTP/SCS process. As part of the RTP/SCS, SCAG updates and validates the RTP Travel Demand Model. For the 2016 RTP, demographic data in Long Beach was allocated to the Traffic Analysis Zones (TAZs) within the City according to the currently adopted Land Use Element. LSA compared the RTP 2040 traffic projections to the RTP Existing Base Year traffic projections and calculated an annual growth rate. In some instances, the annual growth rate for Long Beach provided in the Los Angeles County CMP was higher. LSA applied the higher annual growth rate to the Existing (2018) traffic volumes at each study area intersection to calculate General Plan Horizon Year (2040) No Project traffic volumes. This scenario is included for informational purposes to help illustrate how the proposed project affects conditions in the horizon year. For the purposes of CEQA, however, project conditions are compared to existing conditions.

Table B summarizes the results of the General Plan Horizon Year (2040) No Project a.m. and p.m. peak-hour LOS analysis for the study area intersections. This condition is included in the analysis worksheets in Appendix B. As Table B indicates, 52 of the sampled intersections (approximately 43 percent) are projected to operate at unsatisfactory LOS E or F during one or both peak hours.

GENERAL PLAN ANTICIPATED BUILDOUT (2040) WITH PROPOSED PROJECT

The RTP Travel Demand Model was modified to reflect the changes included in the proposed Land Use Element. Although the projections of population and employment growth are not affected by the proposed Land Use Element, the number of housing units is anticipated to increase. The proposed Land Use Element will also affect the location of future land uses.

A detailed description of the methodology of calculating changes to socioeconomic data for each Long Beach TAZ in the RTP Travel Demand Model is provided in the *Methodology for Calculating Growth in Socioeconomic Data Associated with the Long Beach General Plan Land Use Element* memorandum (LSA 2019). In summary, previously calculated changes in demographic data disclosed in previous Specific Plan documents (e.g., Downtown Plan, Midtown Specific Plan, Douglas Park Rezone Project, and Southeast Area Specific Plan) were accounted for, the remaining new employment outside of these areas was allocated according to existing employment density, the remaining new housing outside of these areas was allocated according to planned density levels, and population was allocated proportionate to the

Table A: Existing Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
1	Avalon Boulevard/Pacific Coast Hwy	Caltrans	0.75	C	0.72	C
2	Avalon Boulevard/Anaheim Street	Carson	0.56	A	0.62	B
3	Wilmington Avenue/Sepulveda Boulevard	Carson	0.70	B	0.67	B
4	Wilmington Avenue/223rd Street	Carson	>1.00	F	1.00	E
5	Terminal Island Freeway/Willow Street	Long Beach	0.40	A	0.56	A
6	Santa Fe Avenue/Wardlow Road	Long Beach	0.57	A	0.72	C
7	Santa Fe Avenue/Willow Street	Long Beach	0.80	C	0.89	D
8	Santa Fe Avenue/Pacific Coast Hwy	Caltrans	0.76	C	0.77	C
9	Santa Fe Avenue/Anaheim Street	Long Beach	0.48	A	0.55	A
10	I-710/SR-1 Cloverleaf WB	Long Beach	N/A[1]		N/A[1]	
11	I-710/SR-1 Cloverleaf EB	Long Beach	N/A[1]		N/A[1]	
12	Magnolia Avenue/Ocean Boulevard	Long Beach	0.65	B	0.60	A
13	Pacific Avenue/Pacific Coast Hwy	Caltrans	0.64	B	0.75	C
14	Pacific Avenue/Anaheim Street	Long Beach	0.65	B	0.74	C
15	Pacific Avenue/7th Street	Long Beach	0.50	A	0.38	A
16	Pacific Avenue/6th Street	Long Beach	0.35	A	0.65	B
17	Pacific Avenue/3rd Street	Long Beach	0.52	A	0.38	A
18	Pacific Avenue/Broadway	Long Beach	0.37	A	0.55	A
19	Pacific Avenue/Ocean Boulevard	Long Beach	>1.00	F	0.87	D
20	Long Beach Boulevard/Alondra Boulevard	Compton	0.69	B	0.87	D
21	Long Beach Boulevard/Artesia Boulevard	Long Beach	0.74	C	0.81	D
22	Long Beach Boulevard/Market Street	Long Beach	0.64	B	0.79	C
23	Long Beach Boulevard/Del Amo Boulevard	Long Beach	0.82	D	0.70	B
24	Long Beach Boulevard/San Antonio Drive	Long Beach	0.60	A	0.79	C
25	Long Beach Boulevard/Wardlow Road	Long Beach	0.89	D	0.91	E
26	Long Beach Boulevard/Spring Street	Long Beach	>1.00	F	>1.00	F
27	Long Beach Boulevard/Willow Street	Long Beach	0.75	C	0.78	C
28	Long Beach Boulevard/Pacific Coast Hwy	Caltrans	0.68	B	0.75	C
29	Long Beach Boulevard/Anaheim Street	Long Beach	0.56	A	0.68	B
30	Long Beach Boulevard/7th Street	Long Beach	>1.00	F	0.79	C
31	Long Beach Boulevard/6th Street	Long Beach	0.39	A	0.64	B
32	Long Beach Boulevard/3rd Street	Long Beach	0.52	A	0.40	A
33	Long Beach Boulevard/Broadway	Long Beach	0.41	A	0.61	B
34	Long Beach Boulevard/Ocean Boulevard	Long Beach	0.60	A	0.51	A
35	Atlantic Avenue/Alondra Boulevard	Compton	0.80	C	0.76	C
36	Atlantic Avenue/SR-91 WB Ramps	Long Beach	0.60	A	0.53	A
37	Atlantic Avenue/SR-91 EB Ramps	Long Beach	0.48	A	0.58	A
38	Atlantic Avenue/Artesia Boulevard	Long Beach	0.79	C	0.86	D
39	Atlantic Avenue/South Street	Long Beach	0.52	A	0.72	C
40	Atlantic Avenue/Del Amo Boulevard	Long Beach	0.77	C	0.79	C
41	Atlantic Avenue/33rd Street	Caltrans	0.48	A	0.72	C
42	Atlantic Avenue/I-405 EB Ramps	Caltrans	0.49	A	0.55	A
43	Atlantic Avenue/Willow Street	Long Beach	0.68	B	0.79	C
44	Atlantic Avenue/Pacific Coast Hwy	Caltrans	0.68	B	0.73	C
45	Atlantic Avenue/Anaheim Street	Long Beach	0.76	C	0.81	D
46	Atlantic Avenue/7th Street	Long Beach	0.70	B	0.55	A
47	Atlantic Avenue/6th Street	Long Beach	0.40	A	0.61	B
48	Atlantic Avenue/3rd Street	Long Beach	0.56	A	0.35	A

Table A: Existing Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
49	Atlantic Avenue/Broadway	Long Beach	0.28	A	0.62	B
50	Atlantic Avenue/Shoreline Avenue-Ocean Boulevard	Long Beach	0.57	A	0.52	A
51	Orange Avenue/Wardlow Road	Long Beach	0.75	C	0.81	D
52	Orange Avenue/Pacific Coast Hwy	Caltrans	0.65	B	0.73	C
53	Alamitos Avenue/Anaheim Street	Long Beach	0.84	D	0.88	D
54	Alamitos Avenue/7th Street	Long Beach	0.80	C	0.73	C
55	Alamitos Avenue/6th Street	Long Beach	0.78	C	>1.00	F
56	Alamitos Avenue/3rd Street	Long Beach	0.86	D	0.59	A
57	Alamitos Avenue/Broadway	Long Beach	0.68	B	0.82	D
58	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	Long Beach	0.79	C	0.73	C
59	Cherry Avenue/Artesia Boulevard	Long Beach	0.82	D	0.87	D
60	Cherry Avenue/Market Street	Long Beach	0.75	C	0.90	D
61	Cherry Avenue/Del Amo Boulevard	Long Beach/Lakewood	0.77	C	0.85	D
62	Cherry Avenue/Carson Street	Long Beach	0.65	B	0.81	D
63	Cherry Avenue/Wardlow Road	Long Beach	0.78	C	0.89	D
64	Cherry Avenue/Willow Street	Signal Hill	0.71	C	0.81	D
65	Cherry Avenue/Pacific Coast Hwy	Caltrans	0.77	C	0.74	C
66	Cherry Avenue/7th Street	Long Beach	0.80	C	0.80	C
67	Paramount Boulevard/Artesia Boulevard	Long Beach	0.67	B	0.67	B
68	Paramount Boulevard/South Street	Long Beach	0.66	B	0.84	D
69	Paramount Boulevard/Del Amo Boulevard	Lakewood	0.84	D	0.92	E
70	Paramount Boulevard/Carson Street	Lakewood	0.64	B	0.86	D
71	Downey Avenue/Alondra Boulevard	Paramount	0.77	C	0.82	D
72	Redondo Avenue/Spring Street	Long Beach	0.63	B	0.69	B
73	Redondo Avenue/Willow Street	Long Beach	0.70	B	0.74	C
74	Redondo Avenue/Pacific Coast Hwy	Caltrans	0.97	E	0.98	E
75	Redondo Avenue/Anaheim Street	Long Beach	0.87	D	0.94	E
76	Redondo Avenue/7th Street	Long Beach	0.97	E	0.91	E
77	Redondo Avenue/3rd Street	Long Beach	0.48	A	0.52	A
78	Redondo Avenue/Ocean Boulevard	Long Beach	0.58	A	0.68	B
79	Lakewood Boulevard/Del Amo Boulevard	Long Beach/Lakewood	0.89	D	0.97	E
80	Lakewood Boulevard/Carson Street	Long Beach/Lakewood	0.63	B	0.77	C
81	Lakewood Boulevard/Spring Street	Long Beach	0.82	D	0.81	D
82	Lakewood Boulevard/I-405 WB Ramps	Caltrans	0.41	A	0.46	A
83	Lakewood Boulevard/I-405 EB Ramps with Lakewood Boulevard/Willow Street	Caltrans	0.45	A	0.43	A
84	Lakewood Boulevard/Willow Street	Long Beach	0.93	E	0.95	E
85	Ximeno Avenue/Pacific Coast Hwy	Caltrans	0.71	C	0.80	C
86	Ximeno Avenue/7th Street	Long Beach	0.92	E	0.85	D
87	Ximeno Avenue/4th Street	Long Beach	0.64	B	0.74	C
88	Park Avenue/7th Street	Long Beach	0.93	E	0.90	D
89	Park Avenue/4th Street	Long Beach	0.74	C	0.76	C
90	Livingston Drive/2nd Street	Long Beach	0.70	B	0.62	B
91	Pacific Coast Hwy/Anaheim Street	Caltrans	0.70	B	0.80	C
92	Pacific Coast Hwy/7th Street	Caltrans	0.95	E	0.96	E
93	Bellflower Boulevard/Del Amo Boulevard	Long Beach/Lakewood	0.82	D	>1.00	F

Table A: Existing Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
94	Bellflower Boulevard/Carson Street	Long Beach/Lakewood	0.79	C	0.93	E
95	Bellflower Boulevard/Spring Street	Long Beach	0.76	C	0.79	C
96	Bellflower Boulevard/Los Coyotes Diagonal	Long Beach	0.65	B	0.82	D
97	Bellflower Boulevard/Atherton Street	Long Beach	0.79	C	0.80	C
98	Bellflower Boulevard/7th Street	Long Beach	0.85	D	0.80	C
99	Bellflower Boulevard/Pacific Coast Hwy	Caltrans	0.71	C	0.79	C
100	Pacific Coast Hwy/2nd Street	Caltrans	0.93	E	0.87	D
101	1st Street/Marina Drive	Long Beach	0.22	A	0.27	A
102	Los Coyotes Diagonal/Spring Street	Long Beach	0.70	B	0.74	C
103	West Campus Drive/7th Street	Long Beach	0.72	C	0.72	C
104	East Campus Road/7th Street	Long Beach	0.77	C	0.80	C
105	Palo Verde Avenue/Wardlow Road	Long Beach	0.50	A	0.65	B
106	Palo Verde Avenue/Anaheim Street	Long Beach	0.51	A	0.75	C
107	Los Coyotes Diagonal/Carson Street	Long Beach/Lakewood	0.71	C	0.78	C
108	Studebaker Road/Spring Street	Long Beach	0.47	A	0.79	C
109	Studebaker Road/Willow Street	Long Beach	0.77	C	0.87	D
110	7th Street/College Park Drive	Long Beach	0.77	C	>1.00	F
111	Studebaker Road/2nd Street	Long Beach	0.82	D	0.88	D
112	I-605 SB Ramps/Carson Street	Caltrans	0.56	A	0.68	B
113	I-605 NB Ramps/Carson Street	Caltrans	0.56	A	0.60	A
114	Norwalk Boulevard/Carson Street	Hawaiian Gardens	0.77	C	0.83	D
115	Norwalk Boulevard/Cerritos Avenue	Los Alamitos	0.78	C	0.90	D
116	Los Alamitos Boulevard/Katella Avenue	Garden Grove	0.88	D	0.88	D
117	Seal Beach Boulevard/Westminster Road	Seal Beach	0.80	C	0.93	E
118	Atlantic Avenue/I-405 WB Ramps	Caltrans	0.37	A	0.48	A
119	I-710/Anaheim Street Cloverleaf WB	Caltrans	N/A[1]		N/A[1]	
120	I-710/Anaheim Street Cloverleaf EB	Caltrans	N/A[1]		N/A[1]	

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per the City's TIA guidelines.
[1] Intersection is not stop controlled

Caltrans = California Department of Transportation
EB = eastbound
Hwy = Highway
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
LOS = level of service
N/A = Not Applicable
NB = northbound
SB = southbound
SR-1 = State Route 1
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

Table B: General Plan Horizon Year (2040) No Project Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
1	Avalon Boulevard/Pacific Coast Hwy	Caltrans	0.85	D	0.81	D
2	Avalon Boulevard/Anaheim Street	Carson	0.59	A	0.68	B
3	Wilmington Avenue/Sepulveda Boulevard	Carson	0.79	C	0.78	C
4	Wilmington Avenue/223rd Street	Carson	>1.00	F	>1.00	F
5	Terminal Island Freeway/Willow Street	Long Beach	0.48	A	0.68	B
6	Santa Fe Avenue/Wardlow Road	Long Beach	0.62	B	0.79	C
7	Santa Fe Avenue/Willow Street	Long Beach	0.85	D	1.00	E
8	Santa Fe Avenue/Pacific Coast Hwy	Caltrans	0.86	D	0.87	D
9	Santa Fe Avenue/Anaheim Street	Long Beach	0.54	A	0.61	B
10	I-710/SR-1 Cloverleaf WB	Long Beach	N/A[1]		N/A[1]	
11	I-710/SR-1 Cloverleaf EB	Long Beach	N/A[1]		N/A[1]	
12	Magnolia Avenue/Ocean Boulevard	Long Beach	0.75	C	0.68	B
13	Pacific Avenue/Pacific Coast Hwy	Caltrans	0.71	C	0.84	D
14	Pacific Avenue/Anaheim Street	Long Beach	0.73	C	0.84	D
15	Pacific Avenue/7th Street	Long Beach	0.55	A	0.41	A
16	Pacific Avenue/6th Street	Long Beach	0.37	A	0.73	C
17	Pacific Avenue/3rd Street	Long Beach	0.57	A	0.42	A
18	Pacific Avenue/Broadway	Long Beach	0.41	A	0.62	B
19	Pacific Avenue/Ocean Boulevard	Long Beach	>1.00	F	0.94	E
20	Long Beach Boulevard/Alondra Boulevard	Compton	0.77	C	0.97	E
21	Long Beach Boulevard/Artesia Boulevard	Long Beach	0.83	D	0.93	E
22	Long Beach Boulevard/Market Street	Long Beach	0.69	B	0.87	D
23	Long Beach Boulevard/Del Amo Boulevard	Long Beach	0.93	E	0.79	C
24	Long Beach Boulevard/San Antonio Drive	Long Beach	0.68	B	0.89	D
25	Long Beach Boulevard/Wardlow Road	Long Beach	0.98	E	>1.00	F
26	Long Beach Boulevard/Spring Street	Long Beach	>1.00	F	>1.00	F
27	Long Beach Boulevard/Willow Street	Long Beach	0.85	D	0.88	D
28	Long Beach Boulevard/Pacific Coast Hwy	Caltrans	0.78	C	0.84	D
29	Long Beach Boulevard/Anaheim Street	Long Beach	0.63	B	0.77	C
30	Long Beach Boulevard/7th Street	Long Beach	>1.00	F	0.81	D
31	Long Beach Boulevard/6th Street	Long Beach	0.42	A	0.76	C
32	Long Beach Boulevard/3rd Street	Long Beach	0.57	A	0.44	A
33	Long Beach Boulevard/Broadway	Long Beach	0.49	A	0.69	B
34	Long Beach Boulevard/Ocean Boulevard	Long Beach	0.63	B	0.56	A
35	Atlantic Avenue/Alondra Boulevard	Compton	0.90	D	0.87	D
36	Atlantic Avenue/SR-91 WB Ramps	Long Beach	0.66	B	0.59	A
37	Atlantic Avenue/SR-91 EB Ramps	Long Beach	0.54	A	0.65	B
38	Atlantic Avenue/Artesia Boulevard	Long Beach	0.87	D	0.98	E
39	Atlantic Avenue/South Street	Long Beach	0.59	A	0.80	C
40	Atlantic Avenue/Del Amo Boulevard	Long Beach	0.88	D	0.90	D
41	Atlantic Avenue/33rd Street	Caltrans	0.50	A	0.84	D
42	Atlantic Avenue/I-405 EB Ramps	Caltrans	0.53	A	0.61	B
43	Atlantic Avenue/Willow Street	Long Beach	0.79	C	0.87	D
44	Atlantic Avenue/Pacific Coast Hwy	Caltrans	0.77	C	0.85	D
45	Atlantic Avenue/Anaheim Street	Long Beach	0.88	D	0.94	E
46	Atlantic Avenue/7th Street	Long Beach	0.78	C	0.59	A
47	Atlantic Avenue/6th Street	Long Beach	0.49	A	0.66	B

Table B: General Plan Horizon Year (2040) No Project Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
48	Atlantic Avenue/3rd Street	Long Beach	0.63	B	0.41	A
49	Atlantic Avenue/Broadway	Long Beach	0.30	A	0.66	B
50	Atlantic Avenue/Shoreline Avenue-Ocean Boulevard	Long Beach	0.62	B	0.54	A
51	Orange Avenue/Wardlow Road	Long Beach	0.82	D	0.91	E
52	Orange Avenue/Pacific Coast Hwy	Caltrans	0.71	C	0.83	D
53	Alamitos Avenue/Anaheim Street	Long Beach	0.94	E	1.00	E
54	Alamitos Avenue/7th Street	Long Beach	0.92	E	0.83	D
55	Alamitos Avenue/6th Street	Long Beach	>1.00	F	>1.00	F
56	Alamitos Avenue/3rd Street	Long Beach	0.96	E	0.92	E
57	Alamitos Avenue/Broadway	Long Beach	0.84	D	>1.00	F
58	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	Long Beach	0.85	D	0.79	C
59	Cherry Avenue/Artesia Boulevard	Long Beach	0.92	E	0.99	E
60	Cherry Avenue/Market Street	Long Beach	0.88	D	>1.00	F
61	Cherry Avenue/Del Amo Boulevard	Long Beach/Lakewood	0.87	D	0.97	E
62	Cherry Avenue/Carson Street	Long Beach	0.73	C	0.92	E
63	Cherry Avenue/Wardlow Road	Long Beach	0.86	D	0.97	E
64	Cherry Avenue/Willow Street	Signal Hill	0.81	D	0.92	E
65	Cherry Avenue/Pacific Coast Hwy	Caltrans	0.88	D	0.83	D
66	Cherry Avenue/7th Street	Long Beach	0.92	E	0.90	D
67	Paramount Boulevard/Artesia Boulevard	Long Beach	0.76	C	0.75	C
68	Paramount Boulevard/South Street	Long Beach	0.76	C	0.96	E
69	Paramount Boulevard/Del Amo Boulevard	Lakewood	0.96	E	>1.00	F
70	Paramount Boulevard/Carson Street	Lakewood	0.71	C	0.95	E
71	Downey Avenue/Alondra Boulevard	Paramount	0.88	D	0.92	E
72	Redondo Avenue/Spring Street	Long Beach	0.70	B	0.79	C
73	Redondo Avenue/Willow Street	Long Beach	0.78	C	0.84	D
74	Redondo Avenue/Pacific Coast Hwy	Caltrans	>1.00	F	>1.00	F
75	Redondo Avenue/Anaheim Street	Long Beach	0.99	E	>1.00	F
76	Redondo Avenue/7th Street	Long Beach	>1.00	F	>1.00	F
77	Redondo Avenue/3rd Street	Long Beach	0.54	A	0.58	A
78	Redondo Avenue/Ocean Boulevard	Long Beach	0.60	A	0.77	C
79	Lakewood Boulevard/Del Amo Boulevard	Long Beach/Lakewood	>1.00	F	>1.00	F
80	Lakewood Boulevard/Carson Street	Long Beach/Lakewood	0.72	C	0.88	D
81	Lakewood Boulevard/Spring Street	Long Beach	0.93	E	0.91	E
82	Lakewood Boulevard/I-405 WB Ramps	Caltrans	0.46	A	0.51	A
83	Lakewood Boulevard/I-405 EB Ramps with Lakewood Boulevard/Willow Street	Caltrans	0.50	A	0.48	A
84	Lakewood Boulevard/Willow Street	Long Beach	>1.00	F	>1.00	F
85	Ximeno Avenue/Pacific Coast Hwy	Caltrans	0.80	C	0.92	E
86	Ximeno Avenue/7th Street	Long Beach	>1.00	F	0.96	E
87	Ximeno Avenue/4th Street	Long Beach	0.72	C	0.81	D
88	Park Avenue/7th Street	Long Beach	>1.00	F	>1.00	F
89	Park Avenue/4th Street	Long Beach	0.79	C	0.85	D
90	Livingston Drive/2nd Street	Long Beach	0.80	C	0.65	B
91	Pacific Coast Hwy/Anaheim Street	Caltrans	0.99	E	0.91	E

Table B: General Plan Horizon Year (2040) No Project Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
92	Pacific Coast Hwy/7th Street	Caltrans	>1.00	F	>1.00	F
93	Bellflower Boulevard/Del Amo Boulevard	Long Beach/Lakewood	0.93	E	>1.00	F
94	Bellflower Boulevard/Carson Street	Long Beach/Lakewood	0.88	D	>1.00	F
95	Bellflower Boulevard/Spring Street	Long Beach	0.90	D	0.90	D
96	Bellflower Boulevard/Los Coyotes Diagonal	Long Beach	0.70	B	0.88	D
97	Bellflower Boulevard/Atherton Street	Long Beach	0.91	E	0.91	E
98	Bellflower Boulevard/7th Street	Long Beach	0.93	E	0.88	D
99	Bellflower Boulevard/Pacific Coast Hwy	Caltrans	0.80	C	0.90	D
100	Pacific Coast Hwy/2nd Street	Caltrans	>1.00	F	>1.00	F
101	1st Street/Marina Drive	Long Beach	0.24	A	0.29	A
102	Los Coyotes Diagonal/Spring Street	Long Beach	0.75	C	0.82	D
103	West Campus Drive/7th Street	Long Beach	0.80	C	0.82	D
104	East Campus Road/7th Street	Long Beach	0.89	D	0.93	E
105	Palo Verde Avenue/Wardlow Road	Long Beach	0.54	A	0.73	C
106	Palo Verde Avenue/Anaheim Street	Long Beach	0.56	A	0.85	D
107	Los Coyotes Diagonal/Carson Street	Long Beach/Lakewood	0.78	C	0.88	D
108	Studebaker Road/Spring Street	Long Beach	0.54	A	0.89	D
109	Studebaker Road/Willow Street	Long Beach	0.87	D	1.00	E
110	7th Street/College Park Drive	Long Beach	0.86	D	>1.00	F
111	Studebaker Road/2nd Street	Long Beach	0.95	E	>1.00	F
112	I-605 SB Ramps/Carson Street	Caltrans	0.64	B	0.89	D
113	I-605 NB Ramps/Carson Street	Caltrans	0.68	B	0.74	C
114	Norwalk Boulevard/Carson Street	Hawaiian Gardens	0.87	D	0.94	E
115	Norwalk Boulevard/Cerritos Avenue	Los Alamitos	0.88	D	>1.00	F
116	Los Alamitos Boulevard/Katella Avenue	Garden Grove	>1.00	F	1.00	E
117	Seal Beach Boulevard/Westminster Road	Seal Beach	0.95	E	>1.00	F
118	Atlantic Avenue/I-405 WB Ramps	Caltrans	0.38	A	0.50	A
119	I-710/Anaheim Street Cloverleaf WB	Caltrans	N/A[1]		N/A[1]	
120	I-710/Anaheim Street Cloverleaf EB	Caltrans	N/A[1]		N/A[1]	

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per the City's TIA guidelines.
[1] Intersection is not stop controlled

Caltrans = California Department of Transportation
EB = eastbound
Hwy = Highway
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
LOS = level of service
N/A = Not Applicable
NB = northbound
SB = southbound
SR-1 = State Route 1
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

new housing. The RTP Travel Demand Model was re-run with these changes to housing, population, and employment projections in each of the City's TAZs.

LSA then determined how future traffic volumes would be altered by changes to the location of demographic data and generated General Plan Anticipated Buildout (2040) With Proposed Project traffic volumes.

Table C summarizes the results of the General Plan Horizon Year (2040) No Project a.m. and p.m. peak-hour LOS analysis for the study area intersections. This condition is included in the analysis worksheets in Appendix B. As Table C indicates, 48 of the sampled intersections (40 percent) are projected to operate at unsatisfactory LOS E or F during one or both peak hours.

PROJECT IMPACTS

Demographic trends such as population and employment growth are forecast to occur whether or not the proposed Land Use and Urban Design Elements are adopted. This has been shown to be true in Long Beach, where overcrowding resulted from population increase occurring even without a sufficient housing increase to support it. As is required by CEQA, however, the traffic conditions in the future with the Land Use and Urban Design Elements are compared to existing conditions. Table D provides that comparison.

As Table D shows, the traffic volume increase between Existing (2018) and General Plan Anticipated Buildout (2040) With the Proposed Project is considered significant at 48 of the 120 intersections included in the study area (40 percent). The intersections significantly impacted by the proposed project are:

4. Wilmington Avenue/223rd Street
7. Santa Fe Avenue/Willow Street
19. Pacific Avenue/Ocean Boulevard
20. Long Beach Boulevard/Alondra Boulevard
21. Long Beach Boulevard/Artesia Boulevard
25. Long Beach Boulevard/Wardlow Road
26. Long Beach Boulevard/Spring Street
30. Long Beach Boulevard/7th Street
38. Atlantic Avenue/Artesia Boulevard
43. Atlantic Avenue/Willow Street
51. Orange Avenue/Wardlow Road
53. Alamitos Avenue/Anaheim Street
54. Alamitos Avenue/7th Street
55. Alamitos Avenue/6th Street
56. Alamitos Avenue/3rd Street
57. Alamitos Avenue/Broadway
59. Cherry Avenue/Artesia Boulevard
60. Cherry Avenue/Market Street
61. Cherry Avenue/Del Amo Boulevard
62. Cherry Avenue/Carson Street
66. Cherry Avenue/7th Street
68. Paramount Boulevard/South Street
69. Paramount Boulevard/Del Amo Boulevard
70. Paramount Boulevard/Carson Street
71. Downey Avenue/Alondra Boulevard
72. Redondo Avenue/Spring Street
74. Redondo Avenue/Pacific Coast Highway
75. Redondo Avenue/Anaheim Street
76. Redondo Avenue/7th Street
79. Lakewood Boulevard/Del Amo Boulevard
81. Lakewood Boulevard/Spring Street
84. Lakewood Boulevard/Willow Street
86. Ximeno Avenue/7th Street
88. Park Avenue/7th Street
91. Pacific Coast Hwy/Anaheim Street
92. Pacific Coast Highway/7th Street
93. Bellflower Boulevard/Del Amo Boulevard
94. Bellflower Boulevard/Carson Street
98. Bellflower Boulevard/7th Street
100. Pacific Coast Highway/2nd Street
104. East Campus Road/7th Street
109. Studebaker Road/Willow Street
110. 7th Street/College Park Drive
111. Studebaker Road/2nd Street
114. Norwalk Boulevard/Carson Street
115. Norwalk Boulevard/Cerritos Avenue
116. Los Alamitos Boulevard/Katella Avenue
117. Seal Beach Boulevard/Westminster Road

Table C: General Plan Anticipated Buildout (2040) With Proposed Project Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
1	Avalon Boulevard/Pacific Coast Hwy	Caltrans	0.85	D	0.81	D
2	Avalon Boulevard/Anaheim Street	Carson	0.59	A	0.67	B
3	Wilmington Avenue/Sepulveda Boulevard	Carson	0.79	C	0.78	C
4	Wilmington Avenue/223rd Street	Carson	>1.00	F	>1.00	F
5	Terminal Island Freeway/Willow Street	Long Beach	0.49	A	0.67	B
6	Santa Fe Avenue/Wardlow Road	Long Beach	0.63	B	0.78	C
7	Santa Fe Avenue/Willow Street	Long Beach	0.91	E	0.98	E
8	Santa Fe Avenue/Pacific Coast Hwy	Caltrans	0.86	D	0.87	D
9	Santa Fe Avenue/Anaheim Street	Long Beach	0.56	A	0.63	B
10	I-710/SR-1 Cloverleaf WB	Long Beach	N/A[1]		N/A[1]	
11	I-710/SR-1 Cloverleaf EB	Long Beach	N/A[1]		N/A[1]	
12	Magnolia Avenue/Ocean Boulevard	Long Beach	0.74	C	0.68	B
13	Pacific Avenue/Pacific Coast Hwy	Caltrans	0.74	C	0.81	D
14	Pacific Avenue/Anaheim Street	Long Beach	0.73	C	0.84	D
15	Pacific Avenue/7th Street	Long Beach	0.55	A	0.41	A
16	Pacific Avenue/6th Street	Long Beach	0.37	A	0.73	C
17	Pacific Avenue/3rd Street	Long Beach	0.57	A	0.42	A
18	Pacific Avenue/Broadway	Long Beach	0.41	A	0.62	B
19	Pacific Avenue/Ocean Boulevard	Long Beach	>1.00	F	0.95	E
20	Long Beach Boulevard/Alondra Boulevard	Compton	0.77	C	0.97	E
21	Long Beach Boulevard/Artesia Boulevard	Long Beach	0.80	C	0.93	E
22	Long Beach Boulevard/Market Street	Long Beach	0.68	B	0.88	D
23	Long Beach Boulevard/Del Amo Boulevard	Long Beach	0.90	D	0.76	C
24	Long Beach Boulevard/San Antonio Drive	Long Beach	0.68	B	0.89	D
25	Long Beach Boulevard/Wardlow Road	Long Beach	0.98	E	>1.00	F
26	Long Beach Boulevard/Spring Street	Long Beach	>1.00	F	>1.00	F
27	Long Beach Boulevard/Willow Street	Long Beach	0.85	D	0.89	D
28	Long Beach Boulevard/Pacific Coast Hwy	Caltrans	0.76	C	0.85	D
29	Long Beach Boulevard/Anaheim Street	Long Beach	0.63	B	0.77	C
30	Long Beach Boulevard/7th Street	Long Beach	>1.00	F	0.81	D
31	Long Beach Boulevard/6th Street	Long Beach	0.44	A	0.76	C
32	Long Beach Boulevard/3rd Street	Long Beach	0.57	A	0.45	A
33	Long Beach Boulevard/Broadway	Long Beach	0.48	A	0.69	B
34	Long Beach Boulevard/Ocean Boulevard	Long Beach	0.63	B	0.55	A
35	Atlantic Avenue/Alondra Boulevard	Compton	0.87	D	0.87	D
36	Atlantic Avenue/SR-91 WB Ramps	Long Beach	0.64	B	0.59	A
37	Atlantic Avenue/SR-91 EB Ramps	Long Beach	0.54	A	0.65	B
38	Atlantic Avenue/Artesia Boulevard	Long Beach	0.88	D	0.98	E
39	Atlantic Avenue/South Street	Long Beach	0.59	A	0.80	C
40	Atlantic Avenue/Del Amo Boulevard	Long Beach	0.88	D	0.90	D
41	Atlantic Avenue/33rd Street	Caltrans	0.55	A	0.78	C
42	Atlantic Avenue/I-405 EB Ramps	Caltrans	0.55	A	0.61	B
43	Atlantic Avenue/Willow Street	Long Beach	0.75	C	0.91	E
44	Atlantic Avenue/Pacific Coast Hwy	Caltrans	0.78	C	0.87	D

Table C: General Plan Anticipated Buildout (2040) With Proposed Project Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
45	Atlantic Avenue/Anaheim Street	Long Beach	0.84	D	0.89	D
46	Atlantic Avenue/7th Street	Long Beach	0.78	C	0.62	B
47	Atlantic Avenue/6th Street	Long Beach	0.49	A	0.66	B
48	Atlantic Avenue/3rd Street	Long Beach	0.62	B	0.42	A
49	Atlantic Avenue/Broadway	Long Beach	0.30	A	0.67	B
50	Atlantic Avenue/Shoreline Avenue-Ocean Boulevard	Long Beach	0.63	B	0.55	A
51	Orange Avenue/Wardlow Road	Long Beach	0.85	D	0.91	E
52	Orange Avenue/Pacific Coast Hwy	Caltrans	0.72	C	0.83	D
53	Alamitos Avenue/Anaheim Street	Long Beach	0.94	E	1.00	E
54	Alamitos Avenue/7th Street	Long Beach	0.92	E	0.84	D
55	Alamitos Avenue/6th Street	Long Beach	>1.00	F	>1.00	F
56	Alamitos Avenue/3rd Street	Long Beach	0.95	E	0.91	E
57	Alamitos Avenue/Broadway	Long Beach	0.87	D	>1.00	F
58	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	Long Beach	0.88	D	0.79	C
59	Cherry Avenue/Artesia Boulevard	Long Beach	0.90	D	>1.00	F
60	Cherry Avenue/Market Street	Long Beach	0.82	D	>1.00	F
61	Cherry Avenue/Del Amo Boulevard	Long Beach/Lakewood	0.87	D	0.98	E
62	Cherry Avenue/Carson Street	Long Beach	0.69	B	0.92	E
63	Cherry Avenue/Wardlow Road	Long Beach	0.83	D	0.89	D
64	Cherry Avenue/Willow Street	Signal Hill	0.78	C	0.90	D
65	Cherry Avenue/Pacific Coast Hwy	Caltrans	0.88	D	0.83	D
66	Cherry Avenue/7th Street	Long Beach	0.85	D	0.91	E
67	Paramount Boulevard/Artesia Boulevard	Long Beach	0.75	C	0.76	C
68	Paramount Boulevard/South Street	Long Beach	0.74	C	0.96	E
69	Paramount Boulevard/Del Amo Boulevard	Lakewood	0.94	E	>1.00	F
70	Paramount Boulevard/Carson Street	Lakewood	0.71	C	0.95	E
71	Downey Avenue/Alondra Boulevard	Paramount	0.88	D	0.93	E
72	Redondo Avenue/Spring Street	Long Beach	0.98	E	>1.00	F
73	Redondo Avenue/Willow Street	Long Beach	0.77	C	0.83	D
74	Redondo Avenue/Pacific Coast Hwy	Caltrans	>1.00	F	>1.00	F
75	Redondo Avenue/Anaheim Street	Long Beach	0.99	E	>1.00	F
76	Redondo Avenue/7th Street	Long Beach	>1.00	F	>1.00	F
77	Redondo Avenue/3rd Street	Long Beach	0.54	A	0.55	A
78	Redondo Avenue/Ocean Boulevard	Long Beach	0.61	B	0.68	B
79	Lakewood Boulevard/Del Amo Boulevard	Long Beach/Lakewood	0.99	E	>1.00	F
80	Lakewood Boulevard/Carson Street	Long Beach/Lakewood	0.70	B	0.84	D
81	Lakewood Boulevard/Spring Street	Long Beach	0.94	E	0.97	E
82	Lakewood Boulevard/I-405 WB Ramps	Caltrans	0.46	A	0.50	A
83	Lakewood Boulevard/I-405 EB Ramps with Lakewood Boulevard/Willow Street	Caltrans	0.50	A	0.43	A
84	Lakewood Boulevard/Willow Street	Long Beach	>1.00	F	>1.00	F
85	Ximeno Avenue/Pacific Coast Hwy	Caltrans	0.78	C	0.87	D
86	Ximeno Avenue/7th Street	Long Beach	>1.00	F	0.96	E
87	Ximeno Avenue/4th Street	Long Beach	0.70	B	0.81	D

Table C: General Plan Anticipated Buildout (2040) With Proposed Project Intersection Level of Service Summary

Study Area No.	Intersection	Jurisdiction	AM Peak Hour		PM Peak Hour	
			V/C Ratio	LOS	V/C Ratio	LOS
88	Park Avenue/7th Street	Long Beach	>1.00	F	>1.00	F
89	Park Avenue/4th Street	Long Beach	0.80	C	0.85	D
90	Livingston Drive/2nd Street	Long Beach	0.80	C	0.69	B
91	Pacific Coast Hwy/Anaheim Street	Caltrans	>1.00	F	0.91	E
92	Pacific Coast Hwy/7th Street	Caltrans	>1.00	F	>1.00	F
93	Bellflower Boulevard/Del Amo Boulevard	Long Beach/Lakewood	0.93	E	>1.00	F
94	Bellflower Boulevard/Carson Street	Long Beach/Lakewood	0.85	D	>1.00	F
95	Bellflower Boulevard/Spring Street	Long Beach	0.87	D	0.87	D
96	Bellflower Boulevard/Los Coyotes Diagonal	Long Beach	0.71	C	0.85	D
97	Bellflower Boulevard/Atherton Street	Long Beach	0.90	D	0.90	D
98	Bellflower Boulevard/7th Street	Long Beach	0.93	E	0.89	D
99	Bellflower Boulevard/Pacific Coast Hwy	Caltrans	0.80	C	0.90	D
100	Pacific Coast Hwy/2nd Street	Caltrans	>1.00	F	>1.00	F
101	1st Street/Marina Drive	Long Beach	0.24	A	0.29	A
102	Los Coyotes Diagonal/Spring Street	Long Beach	0.76	C	0.82	D
103	West Campus Drive/7th Street	Long Beach	0.81	D	0.82	D
104	East Campus Road/7th Street	Long Beach	0.89	D	0.93	E
105	Palo Verde Avenue/Wardlow Road	Long Beach	0.54	A	0.73	C
106	Palo Verde Avenue/Anaheim Street	Long Beach	0.56	A	0.84	D
107	Los Coyotes Diagonal/Carson Street	Long Beach/Lakewood	0.79	C	0.88	D
108	Studebaker Road/Spring Street	Long Beach	0.52	A	0.89	D
109	Studebaker Road/Willow Street	Long Beach	0.87	D	0.98	E
110	7th Street/College Park Drive	Long Beach	0.78	C	>1.00	F
111	Studebaker Road/2nd Street	Long Beach	0.95	E	1.00	E
112	I-605 SB Ramps/Carson Street	Caltrans	0.64	B	0.78	C
113	I-605 NB Ramps/Carson Street	Caltrans	0.69	B	0.74	C
114	Norwalk Boulevard/Carson Street	Hawaiian Gardens	0.87	D	0.94	E
115	Norwalk Boulevard/Cerritos Avenue	Los Alamitos	0.85	D	>1.00	F
116	Los Alamitos Boulevard/Katella Avenue	Garden Grove	>1.00	F	1.00	E
117	Seal Beach Boulevard/Westminster Road	Seal Beach	0.97	E	>1.00	F
118	Atlantic Avenue/I-405 WB Ramps	Caltrans	0.39	A	0.51	A
119	I-710/Anaheim Street Cloverleaf WB	Caltrans	N/A[1]		N/A[1]	
120	I-710/Anaheim Street Cloverleaf EB	Caltrans	N/A[1]		N/A[1]	

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per the City's TIA guidelines.
[1] Intersection is not stop controlled

Caltrans = California Department of Transportation
EB = eastbound
Hwy = Highway
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
LOS = level of service
N/A = Not Applicable
NB = northbound
SB = southbound
SR-1 = State Route 1
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

Table D: Intersection
Level of Service Comparison – Proposed Project versus Existing Conditions

Intersection		Existing (2018)				General Plan Anticipated Buildout (2040) With Proposed Project				Future Change with Proposed Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
1	Avalon Boulevard/Pacific Coast Hwy	0.75	C	0.72	C	0.85	D	0.81	D	0.10	0.09
2	Avalon Boulevard/Anaheim Street	0.56	A	0.62	B	0.59	A	0.67	B	0.03	0.05
3	Wilmington Avenue/Sepulveda Boulevard	0.70	B	0.67	B	0.79	C	0.78	C	0.09	0.11
4	Wilmington Avenue/223rd Street	>1.00	F	1.00	E	**>1.00**	**F**	**>1.00**	**F**	0.14	0.12
5	Terminal Island Freeway/Willow Street	0.40	A	0.56	A	0.49	A	0.67	B	0.09	0.11
6	Santa Fe Avenue/Wardlow Road	0.57	A	0.72	C	0.63	B	0.78	C	0.06	0.06
7	Santa Fe Avenue/Willow Street	0.80	C	0.89	D	**0.91**	**E**	**0.98**	**E**	0.11	0.09
8	Santa Fe Avenue/Pacific Coast Hwy	0.76	C	0.77	C	0.86	D	0.87	D	0.10	0.10
9	Santa Fe Avenue/Anaheim Street	0.48	A	0.55	A	0.56	A	0.63	B	0.08	0.08
10	I-710/SR-1 Cloverleaf WB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]
11	I-710/SR-1 Cloverleaf EB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]
12	Magnolia Avenue/Ocean Boulevard	0.65	B	0.60	A	0.74	C	0.68	B	0.09	0.08
13	Pacific Avenue/Pacific Coast Hwy	0.64	B	0.75	C	0.74	C	0.81	D	0.10	0.06
14	Pacific Avenue/Anaheim Street	0.65	B	0.74	C	0.73	C	0.84	D	0.08	0.10
15	Pacific Avenue/7th Street	0.50	A	0.38	A	0.55	A	0.41	A	0.05	0.03
16	Pacific Avenue/6th Street	0.35	A	0.65	B	0.37	A	0.73	C	0.02	0.08
17	Pacific Avenue/3rd Street	0.52	A	0.38	A	0.57	A	0.42	A	0.05	0.04
18	Pacific Avenue/Broadway	0.37	A	0.55	A	0.41	A	0.62	B	0.04	0.07
19	Pacific Avenue/Ocean Boulevard	>1.00	F	0.87	D	**>1.00**	**F**	**0.95**	**E**	0.03	0.08
20	Long Beach Boulevard/Alondra Boulevard	0.69	B	0.87	D	0.77	C	**0.97**	**E**	0.08	0.10
21	Long Beach Boulevard/Artesia Boulevard	0.74	C	0.81	D	0.80	C	**0.93**	**E**	0.06	0.12
22	Long Beach Boulevard/Market Street	0.64	B	0.79	C	0.68	B	0.88	D	0.04	0.09
23	Long Beach Boulevard/Del Amo Boulevard	0.82	D	0.70	B	0.90	D	0.76	C	0.08	0.06
24	Long Beach Boulevard/San Antonio Drive	0.60	A	0.79	C	0.68	B	0.89	D	0.08	0.10
25	Long Beach Boulevard/Wardlow Road	0.89	D	0.91	E	**0.98**	**E**	**>1.00**	**F**	0.09	0.10
26	Long Beach Boulevard/Spring Street	>1.00	F	>1.00	F	**>1.00**	**F**	**>1.00**	**F**	0.15	0.23
27	Long Beach Boulevard/Willow Street	0.75	C	0.78	C	0.85	D	0.89	D	0.10	0.11
28	Long Beach Boulevard/Pacific Coast Hwy	0.68	B	0.75	C	0.76	C	0.85	D	0.08	0.10
29	Long Beach Boulevard/Anaheim Street	0.56	A	0.68	B	0.63	B	0.77	C	0.07	0.09
30	Long Beach Boulevard/7th Street	>1.00	F	0.79	C	**>1.00**	**F**	0.81	D	0.16	0.02
31	Long Beach Boulevard/6th Street	0.39	A	0.64	B	0.44	A	0.76	C	0.05	0.12
32	Long Beach Boulevard/3rd Street	0.52	A	0.40	A	0.57	A	0.45	A	0.05	0.05
33	Long Beach Boulevard/Broadway	0.41	A	0.61	B	0.48	A	0.69	B	0.07	0.08
34	Long Beach Boulevard/Ocean Boulevard	0.60	A	0.51	A	0.63	B	0.55	A	0.03	0.04
35	Atlantic Avenue/Alondra Boulevard	0.80	C	0.76	C	0.87	D	0.87	D	0.07	0.11
36	Atlantic Avenue/SR-91 WB Ramps	0.60	A	0.53	A	0.64	B	0.59	A	0.04	0.06
37	Atlantic Avenue/SR-91 EB Ramps	0.48	A	0.58	A	0.54	A	0.65	B	0.06	0.07
38	Atlantic Avenue/Artesia Boulevard	0.79	C	0.86	D	0.88	D	**0.98**	**E**	0.09	0.12

Table D: Intersection
Level of Service Comparison – Proposed Project versus Existing Conditions

	Intersection	Existing (2018)				General Plan Anticipated Buildout (2040) With Proposed Project				Future Change with Proposed Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
39	Atlantic Avenue/South Street	0.52	A	0.72	C	0.59	A	0.80	C	0.07	0.08
40	Atlantic Avenue/Del Amo Boulevard	0.77	C	0.79	C	0.88	D	0.90	D	0.11	0.11
41	Atlantic Avenue/33rd Street	0.48	A	0.72	C	0.55	A	0.78	C	0.07	0.06
42	Atlantic Avenue/I-405 EB Ramps	0.49	A	0.55	A	0.55	A	0.61	B	0.06	0.06
43	Atlantic Avenue/Willow Street	0.68	B	0.79	C	0.75	C	**0.91**	**E**	0.07	0.12
44	Atlantic Avenue/Pacific Coast Hwy	0.68	B	0.73	C	0.78	C	0.87	D	0.10	0.14
45	Atlantic Avenue/Anaheim Street	0.76	C	0.81	D	0.84	D	0.89	D	0.08	0.08
46	Atlantic Avenue/7th Street	0.70	B	0.55	A	0.78	C	0.62	B	0.08	0.07
47	Atlantic Avenue/6th Street	0.40	A	0.61	B	0.49	A	0.66	B	0.09	0.05
48	Atlantic Avenue/3rd Street	0.56	A	0.35	A	0.62	B	0.42	A	0.06	0.07
49	Atlantic Avenue/Broadway	0.28	A	0.62	B	0.30	A	0.67	B	0.02	0.05
50	Atlantic Avenue/Shoreline Avenue-Ocean Boulevard	0.57	A	0.52	A	0.63	B	0.55	A	0.06	0.03
51	Orange Avenue/Wardlow Road	0.75	C	0.81	D	0.85	D	**0.91**	**E**	0.10	0.10
52	Orange Avenue/Pacific Coast Hwy	0.65	B	0.73	C	0.72	C	0.83	D	0.07	0.10
53	Alamitos Avenue/Anaheim Street	0.84	D	0.88	D	**0.94**	**E**	**1.00**	**E**	0.10	0.12
54	Alamitos Avenue/7th Street	0.80	C	0.73	C	**0.92**	**E**	0.84	D	0.12	0.11
55	Alamitos Avenue/6th Street	0.78	C	>1.00	F	**>1.00**	**F**	**>1.00**	**F**	1.19	1.56
56	Alamitos Avenue/3rd Street	0.86	D	0.59	A	**0.95**	**E**	**0.91**	**E**	0.09	0.32
57	Alamitos Avenue/Broadway	0.68	B	0.82	D	0.87	D	**>1.00**	**F**	0.19	0.32
58	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	0.79	C	0.73	C	0.88	D	0.79	C	0.09	0.06
59	Cherry Avenue/Artesia Boulevard	0.82	D	0.87	D	0.90	D	**>1.00**	**F**	0.08	0.15
60	Cherry Avenue/Market Street	0.75	C	0.90	D	0.82	D	**>1.00**	**F**	0.07	0.15
61	Cherry Avenue/Del Amo Boulevard	0.77	C	0.85	D	0.87	D	**0.98**	**E**	0.10	0.13
62	Cherry Avenue/Carson Street	0.65	B	0.81	D	0.69	B	**0.92**	**E**	0.04	0.11
63	Cherry Avenue/Wardlow Road	0.78	C	0.89	D	0.83	D	0.89	D	0.05	0.00
64	Cherry Avenue/Willow Street	0.71	C	0.81	D	0.78	C	0.90	D	0.07	0.09
65	Cherry Avenue/Pacific Coast Hwy	0.77	C	0.74	C	0.88	D	0.83	D	0.11	0.09
66	Cherry Avenue/7th Street	0.80	C	0.80	C	0.85	D	**0.91**	**E**	0.05	0.11
67	Paramount Boulevard/Artesia Boulevard	0.67	B	0.67	B	0.75	C	0.76	C	0.08	0.09
68	Paramount Boulevard/South Street	0.66	B	0.84	D	0.74	C	**0.96**	**E**	0.08	0.12
69	Paramount Boulevard/Del Amo Boulevard	0.84	D	0.92	E	**0.94**	**E**	**>1.00**	**F**	0.10	0.12
70	Paramount Boulevard/Carson Street	0.64	B	0.86	D	0.71	C	**0.95**	**E**	0.07	0.09
71	Downey Avenue/Alondra Boulevard	0.77	C	0.82	D	0.88	D	**0.93**	**E**	0.11	0.11
72	Redondo Avenue/Spring Street	0.63	B	0.69	B	**0.98**	**E**	**>1.00**	**F**	0.35	0.38
73	Redondo Avenue/Willow Street	0.70	B	0.74	C	0.77	C	0.83	D	0.07	0.09
74	Redondo Avenue/Pacific Coast Hwy	0.97	E	0.98	E	**>1.00**	**F**	**>1.00**	**F**	0.09	0.08
75	Redondo Avenue/Anaheim Street	0.87	D	0.94	E	**0.99**	**E**	**>1.00**	**F**	0.12	0.13
76	Redondo Avenue/7th Street	0.97	E	0.91	E	**>1.00**	**F**	**>1.00**	**F**	0.04	0.13
77	Redondo Avenue/3rd Street	0.48	A	0.52	A	0.54	A	0.55	A	0.06	0.03

Table D: Intersection
Level of Service Comparison – Proposed Project versus Existing Conditions

Intersection		Existing (2018)				General Plan Anticipated Buildout (2040) With Proposed Project				Future Change with Proposed Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
78	Redondo Avenue/Ocean Boulevard	0.58	A	0.68	B	0.61	B	0.68	B	0.03	0.00
79	Lakewood Boulevard/Del Amo Boulevard	0.89	D	0.97	E	**0.99**	**E**	**>1.00**	**F**	0.10	0.12
80	Lakewood Boulevard/Carson Street	0.63	B	0.77	C	0.70	B	0.84	D	0.07	0.07
81	Lakewood Boulevard/Spring Street	0.82	D	0.81	D	**0.94**	**E**	**0.97**	**E**	0.12	0.16
82	Lakewood Boulevard/I-405 WB Ramps	0.41	A	0.46	A	0.46	A	0.50	A	0.05	0.04
83	Lakewood Boulevard/I-405 EB Ramps with Lakewood Boulevard/Willow Street	0.45	A	0.43	A	0.50	A	0.43	A	0.05	0.00
84	Lakewood Boulevard/Willow Street	0.93	E	0.95	E	**>1.00**	**F**	**>1.00**	**F**	0.09	0.07
85	Ximeno Avenue/Pacific Coast Hwy	0.71	C	0.80	C	0.78	C	0.87	D	0.07	0.07
86	Ximeno Avenue/7th Street	0.92	E	0.85	D	**>1.00**	**F**	**0.96**	**E**	0.12	0.11
87	Ximeno Avenue/4th Street	0.64	B	0.74	C	0.70	B	0.81	D	0.06	0.07
88	Park Avenue/7th Street	0.93	E	0.90	D	**>1.00**	**F**	**>1.00**	**F**	0.16	0.12
89	Park Avenue/4th Street	0.74	C	0.76	C	0.80	C	0.85	D	0.06	0.09
90	Livingston Drive/2nd Street	0.70	B	0.62	B	0.80	C	0.69	B	0.10	0.07
91	Pacific Coast Hwy/Anaheim Street	0.70	B	0.80	C	**>1.00**	**F**	**0.91**	**E**	0.33	0.11
92	Pacific Coast Hwy/7th Street	0.95	E	0.96	E	**>1.00**	**F**	**>1.00**	**F**	0.11	0.11
93	Bellflower Boulevard/Del Amo Boulevard	0.82	D	>1.00	F	**0.93**	**E**	**>1.00**	**F**	0.11	0.14
94	Bellflower Boulevard/Carson Street	0.79	C	0.93	E	0.85	D	**>1.00**	**F**	0.06	0.12
95	Bellflower Boulevard/Spring Street	0.76	C	0.79	C	0.87	D	0.87	D	0.11	0.08
96	Bellflower Boulevard/Los Coyotes Diagonal	0.65	B	0.82	D	0.71	C	0.85	D	0.06	0.03
97	Bellflower Boulevard/Atherton Street	0.79	C	0.80	C	0.90	D	0.90	D	0.11	0.10
98	Bellflower Boulevard/7th Street	0.85	D	0.80	C	**0.93**	**E**	0.89	D	0.08	0.09
99	Bellflower Boulevard/Pacific Coast Hwy	0.71	C	0.79	C	0.80	C	0.90	D	0.09	0.11
100	Pacific Coast Hwy/2nd Street	0.93	E	0.87	D	**>1.00**	**F**	**>1.00**	**F**	0.13	0.14
101	1st Street/Marina Drive	0.22	A	0.27	A	0.24	A	0.29	A	0.02	0.02
102	Los Coyotes Diagonal/Spring Street	0.70	B	0.74	C	0.76	C	0.82	D	0.06	0.08
103	West Campus Drive/7th Street	0.72	C	0.72	C	0.81	D	0.82	D	0.09	0.10
104	East Campus Road/7th Street	0.77	C	0.80	C	0.89	D	**0.93**	**E**	0.12	0.13
105	Palo Verde Avenue/Wardlow Road	0.50	A	0.65	B	0.54	A	0.73	C	0.04	0.08
106	Palo Verde Avenue/Anaheim Street	0.51	A	0.75	C	0.56	A	0.84	D	0.05	0.09
107	Los Coyotes Diagonal/Carson Street	0.71	C	0.78	C	0.79	C	0.88	D	0.08	0.10
108	Studebaker Road/Spring Street	0.47	A	0.79	C	0.52	A	0.89	D	0.05	0.10
109	Studebaker Road/Willow Street	0.77	C	0.87	D	0.87	D	**0.98**	**E**	0.10	0.11
110	7th Street/College Park Drive	0.77	C	>1.00	F	0.78	C	**>1.00**	**F**	0.01	0.27
111	Studebaker Road/2nd Street	0.82	D	0.88	D	**0.95**	**E**	**1.00**	**E**	0.13	0.12
112	I-605 SB Ramps/Carson Street	0.56	A	0.68	B	0.64	B	0.78	C	0.08	0.10
113	I-605 NB Ramps/Carson Street	0.56	A	0.60	A	0.69	B	0.74	C	0.13	0.14
114	Norwalk Boulevard/Carson Street	0.77	C	0.83	D	0.87	D	**0.94**	**E**	0.10	0.11
115	Norwalk Boulevard/Cerritos Avenue	0.78	C	0.90	D	0.85	D	**>1.00**	**F**	0.07	0.12

Table D: Intersection
Level of Service Comparison – Proposed Project versus Existing Conditions

Intersection		Existing (2018)				General Plan Anticipated Buildout (2040) With Proposed Project				Future Change with Proposed Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
116	Los Alamitos Boulevard/Katella Avenue	0.88	D	0.88	D	**>1.00**	**F**	**1.00**	**E**	0.15	0.12
117	Seal Beach Boulevard/Westminster Road	0.80	C	0.93	E	**0.97**	**E**	**>1.00**	**F**	0.17	0.13
118	Atlantic Avenue/I-405 WB Ramps	0.37	A	0.48	A	0.39	A	0.51	A	0.02	0.03
119	I-710/Anaheim Street Cloverleaf WB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]
120	I-710/Anaheim Street Cloverleaf EB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per City's TIA guidelines. Cells shaded with black indicate significant impact.
[1] Intersection is not stop controlled

EB = eastbound
Hwy = Highway
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
LOS = level of service
N/A = Not Applicable
NB = northbound
SB = southbound
SR-1 = State Route 1
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

Table D presented the CEQA-required analysis of proposed project impacts as compared to the existing conditions. In order to provide a more direct comparison of the effects of the increased housing and locational change of land use concentration in the proposed Land Use Element, Table E compares the results of the General Plan Horizon Year (2040) No Project and General Plan Anticipated Buildout (2040) With the Proposed Project scenarios. As Table E shows, when compared to the existing Land Use Element, the proposed Land Use Element results in some intersections operating better and some intersections operating poorer due to the redistribution of land uses.

The following four intersections had been forecast to operate at unsatisfactory LOS under General Plan Horizon Year (2040) No Project conditions and are forecast to operate at satisfactory LOS under General Plan Anticipated Buildout (2040) With Proposed Project conditions:

23. Long Beach Boulevard/Del Amo Boulevard
45. Atlantic Avenue/Anaheim Street
85. Ximeno Avenue/Pacific Coast Hwy
97. Bellflower Boulevard/Atherton Street

Table E: Intersection Level of Service Comparison – 2040 Horizon Year: No Project versus Proposed Project

	Intersection	General Plan Horizon Year (2040) No Project				General Plan Anticipated Buildout (2040) With Proposed Project				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
1	Avalon Boulevard/Pacific Coast Hwy	0.85	D	0.81	D	0.85	D	0.81	D	0.00	0.00
2	Avalon Boulevard/Anaheim Street	0.59	A	0.68	B	0.59	A	0.67	B	0.00	(0.01)
3	Wilmington Avenue/Sepulveda Boulevard	0.79	C	0.78	C	0.79	C	0.78	C	0.00	0.00
4	Wilmington Avenue/223rd Street	>1.00	F	>1.00	F	>1.00	F	>1.00	F	0.00	(0.02)
5	Terminal Island Freeway/Willow Street	0.48	A	0.68	B	0.49	A	0.67	B	0.01	(0.01)
6	Santa Fe Avenue/Wardlow Road	0.62	B	0.79	C	0.63	B	0.78	C	0.01	(0.01)
7	Santa Fe Avenue/Willow Street	0.85	D	1.00	E	**0.91**	**E**	0.98	E	0.06	(0.02)
8	Santa Fe Avenue/Pacific Coast Hwy	0.86	D	0.87	D	0.86	D	0.87	D	0.00	0.00
9	Santa Fe Avenue/Anaheim Street	0.54	A	0.61	B	0.56	A	0.63	B	0.02	0.02
10	I-710/SR-1 Cloverleaf WB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]
11	I-710/SR-1 Cloverleaf EB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]
12	Magnolia Avenue/Ocean Boulevard	0.75	C	0.68	B	0.74	C	0.68	B	(0.01)	0.00
13	Pacific Avenue/Pacific Coast Hwy	0.71	C	0.84	D	0.74	C	0.81	D	0.03	(0.03)
14	Pacific Avenue/Anaheim Street	0.73	C	0.84	D	0.73	C	0.84	D	0.00	0.00
15	Pacific Avenue/7th Street	0.55	A	0.41	A	0.55	A	0.41	A	0.00	0.00
16	Pacific Avenue/6th Street	0.37	A	0.73	C	0.37	A	0.73	C	0.00	0.00
17	Pacific Avenue/3rd Street	0.57	A	0.42	A	0.57	A	0.42	A	0.00	0.00
18	Pacific Avenue/Broadway	0.41	A	0.62	B	0.41	A	0.62	B	0.00	0.00
19	Pacific Avenue/Ocean Boulevard	>1.00	F	0.94	E	>1.00	F	0.95	E	0.00	0.01
20	Long Beach Boulevard/Alondra Boulevard	0.77	C	0.97	E	0.77	C	0.97	E	0.00	0.00
21	Long Beach Boulevard/Artesia Boulevard	0.83	D	0.93	E	0.80	C	0.93	E	(0.03)	0.00
22	Long Beach Boulevard/Market Street	0.69	B	0.87	D	0.68	B	0.88	D	(0.01)	0.01
23	Long Beach Boulevard/Del Amo Boulevard	0.93	E	0.79	C	0.90	D	0.76	C	(0.03)	(0.03)
24	Long Beach Boulevard/San Antonio Drive	0.68	B	0.89	D	0.68	B	0.89	D	0.00	0.00
25	Long Beach Boulevard/Wardlow Road	0.98	E	>1.00	F	0.98	E	>1.00	F	0.00	(0.03)
26	Long Beach Boulevard/Spring Street	>1.00	F	>1.00	F	**>1.00**	**F**	>1.00	F	0.04	0.00
27	Long Beach Boulevard/Willow Street	0.85	D	0.88	D	0.85	D	0.89	D	0.00	0.01
28	Long Beach Boulevard/Pacific Coast Hwy	0.78	C	0.84	D	0.76	C	0.85	D	(0.02)	0.01
29	Long Beach Boulevard/Anaheim Street	0.63	B	0.77	C	0.63	B	0.77	C	0.00	0.00
30	Long Beach Boulevard/7th Street	>1.00	F	0.81	D	>1.00	F	0.81	D	0.00	0.00
31	Long Beach Boulevard/6th Street	0.42	A	0.76	C	0.44	A	0.76	C	0.02	0.00
32	Long Beach Boulevard/3rd Street	0.57	A	0.44	A	0.57	A	0.45	A	0.00	0.01
33	Long Beach Boulevard/Broadway	0.49	A	0.69	B	0.48	A	0.69	B	(0.01)	0.00
34	Long Beach Boulevard/Ocean Boulevard	0.63	B	0.56	A	0.63	B	0.55	A	0.00	(0.01)
35	Atlantic Avenue/Alondra Boulevard	0.90	D	0.87	D	0.87	D	0.87	D	(0.03)	0.00
36	Atlantic Avenue/SR-91 WB Ramps	0.66	B	0.59	A	0.64	B	0.59	A	(0.02)	0.00
37	Atlantic Avenue/SR-91 EB Ramps	0.54	A	0.65	B	0.54	A	0.65	B	0.00	0.00
38	Atlantic Avenue/Artesia Boulevard	0.87	D	0.98	E	0.88	D	0.98	E	0.01	0.00

Table E: Intersection Level of Service Comparison – 2040 Horizon Year: No Project versus Proposed Project

	Intersection	General Plan Horizon Year (2040) No Project				General Plan Anticipated Buildout (2040) With Proposed Project				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
39	Atlantic Avenue/South Street	0.59	A	0.80	C	0.59	A	0.80	C	0.00	0.00
40	Atlantic Avenue/Del Amo Boulevard	0.88	D	0.90	D	0.88	D	0.90	D	0.00	0.00
41	Atlantic Avenue/33rd Street	0.50	A	0.84	D	0.55	A	0.78	C	0.05	(0.06)
42	Atlantic Avenue/I-405 EB Ramps	0.53	A	0.61	B	0.55	A	0.61	B	0.02	0.00
43	Atlantic Avenue/Willow Street	0.79	C	0.87	D	0.75	C	**0.91**	**E**	(0.04)	0.04
44	Atlantic Avenue/Pacific Coast Hwy	0.77	C	0.85	D	0.78	C	0.87	D	0.01	0.02
45	Atlantic Avenue/Anaheim Street	0.88	D	0.94	E	0.84	D	0.89	D	(0.04)	(0.05)
46	Atlantic Avenue/7th Street	0.78	C	0.59	A	0.78	C	0.62	B	0.00	0.03
47	Atlantic Avenue/6th Street	0.49	A	0.66	B	0.49	A	0.66	B	0.00	0.00
48	Atlantic Avenue/3rd Street	0.63	B	0.41	A	0.62	B	0.42	A	(0.01)	0.01
49	Atlantic Avenue/Broadway	0.30	A	0.66	B	0.30	A	0.67	B	0.00	0.01
50	Atlantic Avenue/Shoreline Avenue-Ocean Boulevard	0.62	B	0.54	A	0.63	B	0.55	A	0.01	0.01
51	Orange Avenue/Wardlow Road	0.82	D	0.91	E	0.85	D	0.91	E	0.03	0.00
52	Orange Avenue/Pacific Coast Hwy	0.71	C	0.83	D	0.72	C	0.83	D	0.01	0.00
53	Alamitos Avenue/Anaheim Street	0.94	E	1.00	E	0.94	E	1.00	E	0.00	0.00
54	Alamitos Avenue/7th Street	0.92	E	0.83	D	0.92	E	0.84	D	0.00	0.01
55	Alamitos Avenue/6th Street	>1.00	F	>1.00	F	>1.00	F	**>1.00**	**F**	(0.01)	0.03
56	Alamitos Avenue/3rd Street	0.96	E	0.92	E	0.95	E	0.91	E	(0.01)	(0.01)
57	Alamitos Avenue/Broadway	0.84	D	>1.00	F	0.87	D	>1.00	E	0.03	0.00
58	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	0.85	D	0.79	C	0.88	D	0.79	C	0.03	0.00
59	Cherry Avenue/Artesia Boulevard	0.92	E	0.99	E	0.90	D	**>1.00**	**F**	(0.02)	0.03
60	Cherry Avenue/Market Street	0.88	D	>1.00	F	0.82	D	>1.00	F	(0.06)	0.00
61	Cherry Avenue/Del Amo Boulevard	0.87	D	0.97	E	0.87	D	0.98	E	0.00	0.01
62	Cherry Avenue/Carson Street	0.73	C	0.92	E	0.69	B	0.92	E	(0.04)	0.00
63	Cherry Avenue/Wardlow Road	0.86	D	0.97	E	0.83	D	0.89	D	(0.03)	(0.08)
64	Cherry Avenue/Willow Street	0.81	D	0.92	E	0.78	C	0.90	D	(0.03)	(0.02)
65	Cherry Avenue/Pacific Coast Hwy	0.88	D	0.83	D	0.88	D	0.83	D	0.00	0.00
66	Cherry Avenue/7th Street	0.92	E	0.90	D	0.85	D	0.91	E	(0.07)	0.01
67	Paramount Boulevard/Artesia Boulevard	0.76	C	0.75	C	0.75	C	0.76	C	(0.01)	0.01
68	Paramount Boulevard/South Street	0.76	C	0.96	E	0.74	C	0.96	E	(0.02)	0.00
69	Paramount Boulevard/Del Amo Boulevard	0.96	E	>1.00	F	0.94	E	>1.00	F	(0.02)	0.00
70	Paramount Boulevard/Carson Street	0.71	C	0.95	E	0.71	C	0.95	E	0.00	0.00
71	Downey Avenue/Alondra Boulevard	0.88	D	0.92	E	0.88	D	0.93	E	0.00	0.01
72	Redondo Avenue/Spring Street	0.70	B	0.79	C	**0.98**	**E**	**>1.00**	**F**	0.28	0.28
73	Redondo Avenue/Willow Street	0.78	C	0.84	D	0.77	C	0.83	D	(0.01)	(0.01)
74	Redondo Avenue/Pacific Coast Hwy	>1.00	F	>1.00	F	>1.00	F	>1.00	F	(0.03)	(0.03)
75	Redondo Avenue/Anaheim Street	0.99	E	>1.00	F	0.99	E	>1.00	F	0.00	(0.01
76	Redondo Avenue/7th Street	>1.00	F	>1.00	F	>1.00	F	>1.00	F	(0.09)	0.00
77	Redondo Avenue/3rd Street	0.54	A	0.58	A	0.54	A	0.55	A	0.00	(0.03)

Table E: Intersection Level of Service Comparison – 2040 Horizon Year: No Project versus Proposed Project

Intersection		General Plan Horizon Year (2040) No Project				General Plan Anticipated Buildout (2040) With Proposed Project				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
78	Redondo Avenue/Ocean Boulevard	0.60	A	0.77	C	0.61	B	0.68	B	0.01	(0.09)
79	Lakewood Boulevard/Del Amo Boulevard	>1.00	F	>1.00	F	0.99	E	>1.00	F	(0.04)	0.00
80	Lakewood Boulevard/Carson Street	0.72	C	0.88	D	0.70	B	0.84	D	(0.02)	(0.04)
81	Lakewood Boulevard/Spring Street	0.93	E	0.91	E	0.94	E	**0.97**	**E**	0.01	0.06
82	Lakewood Boulevard/I-405 WB Ramps	0.46	A	0.51	A	0.46	A	0.50	A	0.00	(0.01)
83	Lakewood Boulevard/I-405 EB Ramps with Lakewood Boulevard/Willow Street	0.50	A	0.48	A	0.50	A	0.43	A	0.00	(0.05)
84	Lakewood Boulevard/Willow Street	>1.00	F	>1.00	F	>1.00	F	>1.00	F	(0.02)	(0.04)
85	Ximeno Avenue/Pacific Coast Hwy	0.80	C	0.92	E	0.78	C	0.87	D	(0.02)	(0.05)
86	Ximeno Avenue/7th Street	>1.00	F	0.96	E	>1.00	F	0.96	E	0.00	0.00
87	Ximeno Avenue/4th Street	0.72	C	0.81	D	0.70	B	0.81	D	(0.02)	0.00
88	Park Avenue/7th Street	>1.00	F	>1.00	F	>1.00	F	>1.00	F	0.00	0.00
89	Park Avenue/4th Street	0.79	C	0.85	D	0.80	C	0.85	D	0.01	0.00
90	Livingston Drive/2nd Street	0.80	C	0.65	B	0.80	C	0.69	B	0.00	0.04
91	Pacific Coast Hwy/Anaheim Street	0.99	E	0.91	E	>1.00	F	0.91	E	0.04	0.00
92	Pacific Coast Hwy/7th Street	>1.00	F	>1.00	F	>1.00	F	**>1.00**	**F**	0.00	0.03
93	Bellflower Boulevard/Del Amo Boulevard	0.93	E	>1.00	F	0.93	E	>1.00	F	0.00	0.00
94	Bellflower Boulevard/Carson Street	0.88	D	>1.00	F	0.85	D	>1.00	F	(0.03)	(0.03)
95	Bellflower Boulevard/Spring Street	0.90	D	0.90	D	0.87	D	0.87	D	(0.03)	(0.03)
96	Bellflower Boulevard/Los Coyotes Diagonal	0.70	B	0.88	D	0.71	C	0.85	D	0.01	(0.03)
97	Bellflower Boulevard/Atherton Street	0.91	E	0.91	E	0.90	D	0.90	D	(0.01)	(0.01)
98	Bellflower Boulevard/7th Street	0.93	E	0.88	D	0.93	E	0.89	D	0.00	0.01
99	Bellflower Boulevard/Pacific Coast Hwy	0.80	C	0.90	D	0.80	C	0.90	D	0.00	0.00
100	Pacific Coast Hwy/2nd Street	>1.00	F	>1.00	F	>1.00	F	>1.00	F	0.00	0.00
101	1st Street/Marina Drive	0.24	A	0.29	A	0.24	A	0.29	A	0.00	0.00
102	Los Coyotes Diagonal/Spring Street	0.75	C	0.82	D	0.76	C	0.82	D	0.01	0.00
103	West Campus Drive/7th Street	0.80	C	0.82	D	0.81	D	0.82	D	0.01	0.00
104	East Campus Road/7th Street	0.89	D	0.93	E	0.89	D	0.93	E	0.00	0.00
105	Palo Verde Avenue/Wardlow Road	0.54	A	0.73	C	0.54	A	0.73	C	0.00	0.00
106	Palo Verde Avenue/Anaheim Street	0.56	A	0.85	D	0.56	A	0.84	D	0.00	(0.01)
107	Los Coyotes Diagonal/Carson Street	0.78	C	0.88	D	0.79	C	0.88	D	0.01	0.00
108	Studebaker Road/Spring Street	0.54	A	0.89	D	0.52	A	0.89	D	(0.02)	0.00
109	Studebaker Road/Willow Street	0.87	D	1.00	E	0.87	D	0.98	E	0.00	(0.02)
110	7th Street/College Park Drive	0.86	D	>1.00	F	0.78	C	**>1.00**	**F**	(0.08)	0.14
111	Studebaker Road/2nd Street	0.95	E	>1.00	F	0.95	E	1.00	E	0.00	(0.12)
112	I-605 SB Ramps/Carson Street	0.64	B	0.89	D	0.64	B	0.78	C	0.00	(0.11)
113	I-605 NB Ramps/Carson Street	0.68	B	0.74	C	0.69	B	0.74	C	0.01	0.00
114	Norwalk Boulevard/Carson Street	0.87	D	0.94	E	0.87	D	0.94	E	0.00	0.00
115	Norwalk Boulevard/Cerritos Avenue	0.88	D	>1.00	F	0.85	D	>1.00	F	(0.03)	0.00

Table E: Intersection Level of Service Comparison – 2040 Horizon Year: No Project versus Proposed Project

Intersection		General Plan Horizon Year (2040) No Project				General Plan Anticipated Buildout (2040) With Proposed Project				Change With Project	
		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
116	Los Alamitos Boulevard/Katella Avenue	>1.00	F	1.00	E	>1.00	F	1.00	E	0.01	0.00
117	Seal Beach Boulevard/Westminster Road	0.95	E	>1.00	F	0.97	E	>1.00	F	0.02	0.00
118	Atlantic Avenue/I-405 WB Ramps	0.38	A	0.50	A	0.39	A	0.51	A	0.01	0.01
119	I-710/Anaheim Street Cloverleaf WB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]
120	I-710/Anaheim Street Cloverleaf EB	N/A[1]		N/A[1]		N/A[1]		N/A[1]		N/A[1]	N/A[1]

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per the City's TIA guidelines. Cells shaded with black indicate significant impact.
[1] Intersection is not stop controlled

EB = eastbound
Hwy = Highway
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
LOS = level of service
N/A = Not Applicable
NB = northbound
SB = southbound
SR-1 = State Route 1
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

The following nine intersections would be impacted in the plan-to-plan comparison:

7. Santa Fe Avenue/Willow Street
26. Long Beach Boulevard/Spring Street
43. Atlantic Avenue/Willow Street
55. Alamitos Avenue/6th Street
59. Cherry Avenue/Artesia Boulevard
72. Redondo Avenue/Spring Street
81. Lakewood Boulevard/Spring Street
92. Pacific Coast Hwy/7th Street
110. 7th Street/College Park Drive

CONGESTION MANAGEMENT PROGRAM ANALYSIS

Arterial Monitoring Station Locations

The Los Angeles County CMP monitors 10 intersections within Long Beach. Table F summarizes the performance of these CMP intersections under Existing (2018), General Plan Horizon Year (2040) No Project, and General Plan Anticipated Buildout (2040) With Proposed Project conditions. As Table F shows, future traffic growth and the project are anticipated to result in LOS F conditions (with a 0.02 or greater increase in v/c) at 3 of the 10 CMP intersections in Long Beach and would, therefore, have a significant impact. The four impacted intersections are:

76. Redondo Avenue/7th Street
84. Lakewood Boulevard/Willow Street
92. Pacific Coast Hwy/7th Street
100. Pacific Coast Hwy/2nd Street

Table F: CMP Intersection Summary

Intersection		Existing (2018)				General Plan Horizon Year (2040) No Project				General Plan Anticipated Buildout (2040) With Proposed Project				Change (Existing to Proposed Project)	
		AM		PM		AM		PM		AM		PM		AM	PM
		V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS		
8	Santa Fe Avenue/Pacific Coast Hwy	0.76	C	0.77	C	0.86	D	0.87	D	0.86	D	0.87	D	0.10	0.10
52	Orange Avenue/Pacific Coast Hwy	0.65	B	0.73	C	0.71	C	0.83	D	0.72	C	0.83	D	0.07	0.10
54	Alamitos Avenue/7th Street	0.80	C	0.73	C	0.92	E	0.83	D	0.92	E	0.84	D	0.12	0.11
58	Alamitos Avenue/Shoreline Avenue-Ocean Boulevard	0.79	C	0.73	C	0.85	D	0.79	C	0.88	D	0.79	C	0.09	0.06
76	Redondo Avenue/7th Street	0.97	E	0.91	E	>1.00	F	>1.00	F	**>1.00**	**F**	**>1.00**	**F**	0.04	0.13
80	Lakewood Boulevard/Carson Street	0.63	B	0.77	C	0.72	C	0.88	D	0.70	B	0.84	D	0.07	0.07
84	Lakewood Boulevard/Willow Street	0.93	E	0.95	E	>1.00	F	>1.00	F	**>1.00**	**F**	**>1.00**	**F**	0.09	0.07
85	Ximeno Avenue/Pacific Coast Hwy	0.71	C	0.80	C	0.80	C	0.92	E	0.78	C	0.87	D	0.07	0.07
92	Pacific Coast Hwy/7th Street	0.95	E	0.96	E	>1.00	F	>1.00	F	**>1.00**	**F**	**>1.00**	**F**	0.11	0.11
100	Pacific Coast Hwy/2nd Street	0.93	E	0.87	D	>1.00	F	>1.00	F	**>1.00**	**F**	**>1.00**	**F**	0.13	0.14

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per CMP guidelines. Cells shaded with black indicate significant impact.
Hwy = Highway
LOS = level of service
V/C = volume-to-capacity

CMP Transit Analysis

Los Angeles County CMP Appendix D.8.4 provides guidelines on estimating transit ridership generated by a project. As shown on Figure 7, Long Beach is served by a robust transit network. The proposed Land Use Element increases density of land uses adjacent to transit corridors (as illustrated in Figures 1 and 2) to leverage the existing transit infrastructure and potentially reduce VMT and greenhouse gas emissions.

Based on the guidance provided in the Los Angeles County CMP, it is estimated that 7 percent of residential person-trips and 9 percent of commercial person-trips in the Downtown PlaceType (within 0.25 mile [mi] of the Transit Gallery multi-modal transportation corridor), 5 percent of residential person-trips and 7 percent of commercial person-trips in the Transit-Oriented Development PlaceType (within 0.25 mi of the Blue Line, a CMP transit corridor), and 3.5 percent of all other person-trips would be transit trips.

For residential and commercial person-trip data, this analysis uses population and employment data respectively. The data developed for the anticipated General Plan Horizon Year (2040) With Proposed Project scenario estimated that the population in the Downtown PlaceType would increase by 3,190 while employment would increase by 5,200. Transit-Oriented Development PlaceTypes will have a population increase of 7,448 and an employment increase of 268. The population increase for all other areas of Long Beach is 7,592, and the employment increase of all

other areas is 23,043. To avoid double counting, 22 percent of the total 18,230 population change was estimated to both live and work in Long Beach, which is the existing percentage.

The estimated percentage of transit trips and estimated person-trips described above result in an estimated new transit ridership of 2,014 during the single busiest morning peak hour and 2,014 during the single busiest evening peak hour by 2040. Morning and evening commute periods last for multiple hours, but the transit ridership during the remainder of the peak commute periods (as well as midday and late evening) would be lower than this single hour transit demand The busiest hour transit demand would be spread across the Blue Line, 34 fixed routes operated by LBT, and other transit operators in Long Beach. On average, each route would experience an increase of approximately 50 riders during the peak hours. With between 4 and 12 buses/trains per hour, new riders would occupy approximately 5 to 15 percent of a vehicle's capacity (approximately 80 people per vehicle), which is unlikely to create an impact to the existing and future transit service.

Both LBT and Metro have recently (or are currently) engaged in studies seeking to better align services to meet community needs and increase ridership. The LBT Systemwide Transit Analysis and Reassessment Initiative (STAR) surveyed residents regarding improvements to existing service or amenities that further the goal of LBT being the first choice for mobility. Metro's Vision 2028 Strategic Plan seeks to reduce the amount of time residents spend traveling in all travel modes. Metro is extending the light rail lines in its network and closing gaps in the system. Metro is in the second step of the NextGen Bus Study that is looking at the bus system systematically for the first time in 25 years. The Vision 2028 Strategic Plan also considers the role of first and last mile connections to transit.

With improved service levels, new light rail lines, additional connections between travel modes, and new first and last mile options, the rate of new trips taking transit may increase from the rates identified in the 2010 CMP. However, simultaneous with enticing additional ridership, these improved services would include increases in capacity reducing the probability that additional ridership would create an impact to transit service.

CALTRANS FACILITY ANALYSIS

As mentioned in the Methodology section, within the study area, Caltrans has jurisdiction over:

- State Highway Segments
    - Freeway Mainline
    - Arterial State Highways
    - Freeway Merge/Diverge Segments
- Intersections
    - On-/Off-Ramps
    - Arterial State Highway Intersections

This section of the TIA describes the potential impacts to these types of facilities. This analysis has sampled some of the Caltrans facilities within the study area. If impacts are identified at the

sampled facilities, then additional impacts are possible at the remaining facilities. Caltrans concurred with this approach prior to the analysis being conducted.

State Highway Segments

Existing traffic volumes for freeway mainline and arterial State highways were queried from the Caltrans traffic operations website, as were directional and peak-hour factors (i.e., k and d factors). In order to develop the Existing (2018) volumes, a growth factor of 1.52 percent (based on the Los Angeles County CMP) was applied to the 2017 Caltrans volumes. The calculated peak-hour directional volumes were used to calculate v/c ratios to determine the existing LOS.

The General Plan Anticipated Buildout (2040) scenario peak-period traffic volumes were developed from forecasted link volumes and growth factors from the SCAG RTP Travel Demand Model. The base year to future year peak-period change was converted from peak period to peak hour by applying a peak-hour conversion factor (38 percent in the a.m. peak hour and 28 percent for the p.m. peak hour). The modeled base year (2012) to modeled future year (2040) conditions represent 28 years of traffic growth. Since it is 22 years from 2018 base count year conditions to 2040, the volumes represent 78.57 percent (i.e., 22 ÷ 28) of the modeled growth. A project, funded by Metro, is currently underway on SR-91 between Central Avenue and Paramount Boulevard. The effects of this project on capacity were taken into account. Link volumes were then balanced and the V/C ratio was applied to determine the LOS of the segment.

Table G compares Existing (2018) conditions to General Plan Anticipated Buildout (2040) With Proposed Project for freeway mainline segments. Table H compares Existing (2018) conditions to General Plan Horizon Year (2040) With Proposed Project for arterial State routes.

As Table G shows, several freeway mainline segments operate at a failing LOS today and are forecast to operate at an unsatisfactory LOS in the General Plan (2040) With Proposed Land Use Element conditions.

As Table H shows, State highways that function as arterials are not anticipated to experience future traffic volumes that exceed the capacity of roadway lanes. The operation of intersections along these facilities is a more relevant measure of congestion because it is at the intersections that vehicles experience delay.

According to the performance criteria established for this TIA, the project is found to have potentially significant impacts on freeway mainline facilities.

For a more direct comparison of the effects of the increased housing and locational change of land use concentration in the proposed Land Use Element, Table I compares the results of the General Plan Horizon Year (2040) No Project and General Plan Anticipated Buildout (2040) With the Proposed Project scenarios for freeway mainline segments. Table J provides this comparison for State highways that function as arterials.

Table I shows that future traffic volumes are expected to remain similar for most segments regardless of the Land Use Element. However, the proposed Land Use Element does have the

potential to redistribute traffic on freeways. Table J shows minor change on State highways functioning as arterials.

Freeway Merge and Diverge Segments

The freeway merge/diverge junctions with on- and off-ramps were analyzed where freeway ramp intersections were included in the study area. Peak-hour operation performance measures are based on density in terms of passenger cars per mile per lane. Peak-hour on- and off-ramp volumes were identified from the volumes at adjacent ramp intersections. Peak-hour freeway mainline volumes were calculated for the analysis presented above.

Table K summarizes the Existing (2018), General Plan Horizon Year (2040) No Project, and General Plan Anticipated Buildout (2040) With Proposed Project scenarios for peak hour ramp merge/diverge freeway segment LOS. As Table K shows, 16 merge/diverge areas are forecast to operate at an unsatisfactory LOS in the existing condition. The merge/diverge areas are forecast to continue to operate at unsatisfactory conditions in the future regardless of the Land Use Element. However, the project contributes to the deficiency and is determined to have a potentially significant impact on merge/diverge segments. Level of service worksheets are provided in Appendix C.

Table G: Traffic Growth from Existing Conditions Freeway Level of Service Summary

Freeway Segment	Dir	Capacity	Existing (2018)						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
SR-91															
Btwn I-710 and Cherry Avenue	EB	11,750	10,141	0.86	D	10,080	0.86	D	11,723	0.83	D	11,652	0.83	D	0
	WB	11,750	7,492	0.64	B	5,979	0.51	A	8,661	0.74	C	6,912	0.59	A	0
Btwn Cherry Ave and Paramount Boulevard	EB	9,400	9,994	1.06	F	9,934	1.06	F	11,553	**1.23**	**F**	11,484	**1.22**	**F**	2
	WB	9,400	7,384	0.79	C	5,892	0.63	B	8,536	0.91	E	6,811	0.72	C	1
Btwn Paramount Boulevard and Downey Avenue	EB	9,400	9,921	1.06	F	9,861	1.05	F	11,469	**1.22**	**F**	11,399	**1.21**	**F**	2
	WB	9,400	7,330	0.78	C	5,849	0.62	B	8,473	0.90	D	6,761	0.72	C	0
Btwn Downey Avenue and Jct. Rte. 19	EB	9,400	9,482	1.01	F	9,425	1.00	E	10,961	**1.17**	**F**	10,895	**1.16**	**F**	2
	WB	9,400	7,005	0.75	C	5,590	0.59	A	8,098	0.86	D	6,462	0.69	B	0
Btwn Jct. Rte. 19 and Clark Avenue	EB	9,400	9,994	1.06	F	9,934	1.06	F	11,553	**1.23**	**F**	11,484	**1.22**	**F**	2
	WB	9,400	7,384	0.79	C	5,892	0.63	B	8,536	0.91	E	6,811	0.72	C	1
Btwn Clark Avenue and Bellflower Boulevard	EB	11,750	9,884	0.84	D	9,825	0.84	D	12,188	**1.04**	**F**	12,115	**1.03**	**F**	2
	WB	9,400	7,303	0.78	C	5,827	0.62	B	9,005	0.96	E	7,186	0.76	C	1
Btwn Bellflower Boulevard and Jct. Rte. 605	EB	11,750	10,543	0.90	D	10,480	0.89	D	12,188	**1.04**	**F**	12,115	**1.03**	**F**	2
	WB	9,400	7,790	0.83	D	6,216	0.66	B	9,356	1.00	E	10,494	**1.12**	**F**	2
I-405															
Btwn I-605 and Orange/Los Angeles County Line	NB	9,400	9,270	0.99	E	8,159	0.87	D	9,608	**1.02**	**F**	9,432	1.00	E	1
	SB	9,400	8,340	0.89	D	10,201	1.09	F	9,641	**1.03**	**F**	10,243	**1.09**	**F**	2
Btwn Orange/Los Angeles County Line & Studebaker Road	NB	9,400	9,550	1.02	F	8,406	0.89	D	9,766	**1.04**	**F**	8,643	0.92	E	1
	SB	9,400	8,593	0.91	E	10,510	1.12	F	9,934	**1.06**	**F**	12,150	**1.29**	**F**	2
Btwn Studebaker Road and Palo Verde Avenue	NB	9,400	9,164	0.97	E	8,066	0.86	D	9,253	0.98	E	9,324	0.99	E	1
	SB	9,400	8,245	0.88	D	10,085	1.07	F	9,531	**1.01**	**F**	11,658	**1.24**	**F**	2
Btwn Palo Verde Avenue and Woodruff Avenue	NB	9,400	9,340	0.99	E	8,221	0.87	D	9,402	1.00	E	8,238	0.88	D	1
	SB	9,400	8,403	0.89	D	10,278	1.09	F	9,714	**1.03**	**F**	11,881	**1.26**	**F**	2
Btwn Woodruff Avenue and Bellflower Boulevard	NB	9,400	9,761	1.04	F	8,592	0.91	E	11,284	**1.20**	**F**	9,932	**1.06**	**F**	2
	SB	9,400	8,782	0.93	E	10,742	1.14	F	10,152	**1.08**	**F**	12,418	**1.32**	**F**	3
Btwn Bellflower Boulevard and Lakewood Boulevard	NB	9,400	10,007	1.06	F	8,808	0.94	E	11,568	**1.23**	**F**	10,182	**1.08**	**F**	2
	SB	9,400	9,003	0.96	E	11,012	1.17	F	10,407	**1.11**	**F**	12,730	**1.35**	**F**	3
Btwn Lakewood Boulevard and Cherry Avenue	NB	9,400	11,124	1.18	F	9,397	1.00	E	12,859	**1.37**	**F**	10,863	**1.16**	**F**	3
	SB	9,400	8,941	0.95	E	10,304	1.10	F	10,336	**1.10**	**F**	10,449	**1.11**	**F**	2
Btwn Cherry Avenue and Orange Avenue	NB	9,400	11,161	1.19	F	9,429	1.00	E	12,902	**1.37**	**F**	9,550	**1.02**	**F**	3
	SB	9,400	8,971	0.95	E	10,338	1.10	F	10,370	**1.10**	**F**	11,951	**1.27**	**F**	2
Btwn Orange Avenue and Atlantic Avenue	NB	9,400	11,013	1.17	F	9,303	0.99	E	12,731	**1.35**	**F**	10,754	**1.14**	**F**	3
	SB	9,400	8,851	0.94	E	10,200	1.09	F	10,232	**1.09**	**F**	10,232	**1.09**	**F**	2

Table G: Traffic Growth from Existing Conditions Freeway Level of Service Summary

Freeway Segment	Dir	Capacity	Existing (2018)						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
Btwn Atlantic Avenue and Long Beach Boulevard	NB	9,400	10,938	1.16	F	9,240	0.98	E	12,644	**1.35**	**F**	10,681	**1.14**	**F**	3
	SB	9,400	8,792	0.94	E	10,131	1.08	F	10,164	**1.08**	**F**	11,711	**1.25**	**F**	2
Btwn Long Beach Boulevard and Jct. Rte. 710	NB	9,400	10,455	1.11	F	8,832	0.94	E	12,086	**1.29**	**F**	9,454	**1.01**	**F**	2
	SB	9,400	8,403	0.89	D	9,683	1.03	F	8,751	0.93	E	11,194	**1.19**	**F**	2
I-605															
Btwn Jct. Rte. 405 and Katella Avenue	NB	9,400	6,324	0.67	B	7,153	0.76	C	7,311	0.78	C	8,269	0.88	D	0
	SB	9,400	4,527	0.48	A	5,173	0.55	A	5,233	0.56	A	5,980	0.64	B	0
Btwn Katella Avenue & Orange/ Los Angeles County Line	NB	9,400	6,458	0.69	B	7,484	0.80	C	6,702	0.71	C	7,967	0.85	D	0
	SB	9,400	6,348	0.68	B	5,496	0.58	A	6,533	0.70	B	6,046	0.64	B	0
Btwn Orange/Los Angeles County Line & Spring Street	NB	9,400	7,104	0.76	C	8,232	0.88	D	8,212	0.87	D	8,460	0.90	D	0
	SB	9,400	6,983	0.74	C	6,045	0.64	B	7,016	0.75	C	6,481	0.69	B	0
Btwn Spring Street and Carson Street	NB	9,400	7,674	0.82	D	8,892	0.95	E	8,871	0.94	E	8,911	0.95	E	1
	SB	9,400	7,543	0.80	C	6,530	0.69	B	7,547	0.80	C	6,891	0.73	C	0
Btwn Carson Street and Del Amo Boulevard	NB	9,400	8,282	0.88	D	9,597	1.02	F	9,574	**1.02**	**F**	11,094	**1.18**	**F**	2
	SB	9,400	8,141	0.87	D	7,047	0.75	C	9,411	1.00	E	8,146	0.87	D	1
Btwn Del Amo Boulevard and South Street	NB	9,400	9,346	0.99	E	10,829	1.15	F	10,804	**1.15**	**F**	12,518	**1.33**	**F**	3
	SB	9,400	9,186	0.98	E	7,952	0.85	D	10,619	**1.13**	**F**	9,193	0.98	E	2
Btwn South Street and Jct. Rte. 91	NB	11,750	11,435	0.97	E	13,250	1.13	F	13,219	**1.13**	**F**	15,317	**1.30**	**F**	3
	SB	11,750	11,240	0.96	E	9,730	0.83	D	12,993	**1.11**	**F**	11,248	0.96	E	2
I-710															
Btwn Begin I-710 and Ocean/ Harbor Scenic/Pico Avenue	NB	4,700	3,669	0.78	C	3,577	0.76	C	4,092	0.87	D	3,722	0.79	C	0
	SB	4,700	2,923	0.62	B	3,435	0.73	C	3,264	0.69	B	3,618	0.77	C	0
Btwn Ocean/Harbor Scenic/Pico Avenue and Shoreline Drive	NB	4,700	7,215	1.54	F	7,034	1.50	F	7,638	**1.63**	**F**	7,179	**1.53**	**F**	2
	SB	4,700	5,748	1.22	F	6,755	1.44	F	6,089	**1.30**	**F**	6,938	**1.48**	**F**	2
Btwn Shoreline Drive and Anaheim Street	NB	4,700	8,132	1.73	F	7,928	1.69	F	8,271	**1.76**	**F**	9,562	**2.03**	**F**	3
	SB	4,700	6,478	1.38	F	7,614	1.62	F	7,154	**1.52**	**F**	8,847	**1.88**	**F**	3
Btwn Anaheim Street and Jct. Rte. 1	NB	7,050	9,355	1.33	F	9,120	1.29	F	9,460	**1.34**	**F**	9,619	**1.36**	**F**	2
	SB	7,050	7,452	1.06	F	8,759	1.24	F	8,231	**1.17**	**F**	8,887	**1.26**	**F**	2
Btwn Jct. Rte. 1 and Willow Street	NB	7,050	10,333	1.47	F	10,074	1.43	F	10,410	**1.48**	**F**	10,798	**1.53**	**F**	3
	SB	7,050	8,232	1.17	F	9,675	1.37	F	9,096	**1.29**	**F**	9,924	**1.41**	**F**	2
Btwn Willow Street and Jct. Rte. 405	NB	7,050	6,662	0.94	E	6,890	0.98	E	7,701	**1.09**	**F**	7,675	**1.09**	**F**	1
	SB	7,050	7,444	1.06	F	6,518	0.92	E	8,468	**1.20**	**F**	6,624	0.94	E	2
Btwn Jct. Rte. 405 and Del Amo Boulevard	NB	7,050	6,806	0.97	E	7,038	1.00	E	7,868	**1.12**	**F**	7,922	**1.12**	**F**	1
	SB	7,050	7,604	1.08	F	6,658	0.94	E	8,525	**1.21**	**F**	6,741	0.96	E	2

Table G: Traffic Growth from Existing Conditions Freeway Level of Service Summary

Freeway Segment	Dir	Capacity	Existing (2018)						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
Btwn Del Amo Boulevard and Long Beach Boulevard	NB	11,750	7,128	0.61	B	7,372	0.63	B	7,219	0.61	B	9,346	0.80	C	0
	SB	9,400	7,964	0.85	D	6,973	0.74	C	8,839	0.94	E	8,061	0.86	D	1
Btwn Long Beach Boulevard and Jct. Rte. 91	NB	9,400	8,346	0.89	D	8,631	0.92	E	8,374	0.89	D	9,724	**1.03**	**F**	1
	SB	9,400	9,325	0.99	E	8,164	0.87	D	10,726	**1.14**	**F**	8,353	0.89	D	2

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per CMP guidelines. Cells shaded with black indicate significant impact.
Btwn = Between
Dir = Direction
EB = eastbound
I-710 = Interstate 710
I-405 = Interstate 405
I-605 = Interstate 605
LOS = level of service
NB = northbound
SB = southbound
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

Table H: Traffic Growth from Existing Conditions State Route Level of Service Summary

Freeway Segment	Dir	Capacity	Existing (2018)						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
SR-1															
Btwn I-710 and Cherry Avenue	EB	5,400	1,271	0.24	A	1,513	0.28	A	1,469	0.27	A	1,749	0.32	A	0
	WB	5,400	1,612	0.30	A	1,411	0.26	A	1,863	0.35	A	1,631	0.30	A	0
Btwn Cherry Avenue and Paramount Boulevard	EB	5,400	1,073	0.20	A	1,146	0.21	A	1,242	0.23	A	1,329	0.25	A	0
	WB	5,400	1,363	0.25	A	1,076	0.20	A	1,583	0.29	A	1,263	0.23	A	0
Btwn Paramount Boulevard and Downey Avenue	EB	3,600	1,390	0.39	A	1,645	0.46	A	2,265	0.63	B	1,821	0.51	A	0
	WB	3,600	1,820	0.51	A	1,352	0.38	A	2,402	0.67	B	1,467	0.41	A	0
Btwn Downey Avenue and Jct. Rte. 19	EB	5,400	1,047	0.19	A	1,721	0.32	A	1,210	0.22	A	1,989	0.37	A	0
	WB	5,400	1,471	0.27	A	1,184	0.22	A	1,700	0.31	A	1,368	0.25	A	0
Btwn Jct. Rte. 19 and Clark Avenue	EB	5,400	1,134	0.21	A	1,792	0.33	A	1,311	0.24	A	2,062	0.38	A	0
	WB	5,400	1,605	0.30	A	1,221	0.23	A	1,823	0.34	A	1,406	0.26	A	0
Btwn Clark Avenue and Bellflower Boulevard	EB	5,400	923	0.17	A	1,658	0.31	A	1,067	0.20	A	1,904	0.35	A	0
	WB	5,400	1,370	0.25	A	1,002	0.19	A	1,583	0.29	A	1,103	0.20	A	0
Btwn Bellflower Boulevard and Jct. Rte. 605	EB	3,600	1,004	0.28	A	1,241	0.34	A	1,123	0.31	A	1,415	0.39	A	0
	WB	3,600	1,155	0.32	A	901	0.25	A	1,337	0.37	A	1,005	0.28	A	0
SR-19															
Btwn I-605 and Orange/Los Angeles County Line	NB	5,400	881	0.16	A	1,609	0.30	A	1,018	0.19	A	1,833	0.34	A	0
	SB	5,400	1,258	0.23	A	1,125	0.21	A	1,323	0.25	A	1,300	0.24	A	0
SR-22															
Btwn Jct. Rte. 405 and Katella Avenue	EB	4,700	1,294	0.28	A	2,635	0.56	A	3,262	0.69	B	3,046	0.65	B	0
	WB	4,700	2,095	0.45	A	2,018	0.43	A	2,422	0.52	A	2,333	0.50	A	0
Btwn Katella Avenue & Orange/ Los Angeles County Line	EB	5,400	2,412	0.45	A	2,259	0.42	A	2,788	0.52	A	2,334	0.43	A	0
	WB	5,400	1,900	0.35	A	1,797	0.33	A	1,968	0.36	A	2,077	0.38	A	0
Btwn Orange/Los Angeles County Line & Spring Street	EB	5,400	2,338	0.43	A	1,967	0.36	A	2,702	0.50	A	1,997	0.37	A	0
	WB	3,600	1,774	0.49	A	1,986	0.55	A	1,823	0.51	A	2,295	0.64	B	0

Source: Compiled by LSA Associates, Inc. (2019).

Btwn = Between
Dir = Direction
EB = eastbound
I-710 = Interstate 710
LOS = level of service
SR-1 = State Route 1
SR-19 = State Route 19
SR-22 = State Route 22
NB = northbound
SB = southbound
V/C = volume-to-capacity
WB = westbound

Table I: Traffic Growth from Existing Land Use Element Conditions Freeway Level of Service Summary

Freeway Segment	Dir	Capacity	General Plan Horizon Year (2040) No Project						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
SR-91															
Btwn I-710 and Cherry Avenue	EB	14,100	11,723	0.83	D	11,652	0.83	D	11,723	0.83	D	11,652	0.83	D	0
	WB	11,750	8,661	0.74	C	6,912	0.59	A	8,661	0.74	C	6,912	0.59	A	0
Btwn Cherry Avenue and Paramount Boulevard	EB	9,400	11,553	1.23	F	11,484	1.22	F	11,553	1.23	F	11,484	1.22	F	2
	WB	9,400	8,536	0.91	E	6,811	0.72	C	8,536	0.91	E	6,811	0.72	C	1
Btwn Paramount Boulevard and Downey Avenue	EB	9,400	11,469	1.22	F	11,399	1.21	F	11,469	1.22	F	11,399	1.21	F	2
	WB	9,400	8,473	0.90	D	6,761	0.72	C	8,473	0.90	D	6,761	0.72	C	0
Btwn Downey Avenue and Jct. Rte. 19	EB	9,400	10,961	1.17	F	10,895	1.16	F	10,961	1.17	F	10,895	1.16	F	2
	WB	9,400	8,098	0.86	D	6,462	0.69	B	8,098	0.86	D	6,462	0.69	B	0
Btwn Jct. Rte. 19 and Clark Avenue	EB	9,400	11,553	1.23	F	11,484	1.22	F	11,553	1.23	F	11,484	1.22	F	2
	WB	9,400	8,536	0.91	E	6,811	0.72	C	8,536	0.91	E	6,811	0.72	C	1
Btwn Clark Avenue and Bellflower Boulevard	EB	11,750	11,426	0.97	E	11,358	0.97	E	12,188	**1.04**	**F**	12,115	**1.03**	**F**	2
	WB	9,400	8,442	0.90	D	6,736	0.72	C	9,005	0.96	E	7,186	0.76	C	1
Btwn Bellflower Boulevard and Jct. Rte. 605	EB	11,750	12,188	1.04	F	12,115	1.03	F	12,188	1.04	F	12,115	1.03	F	2
	WB	9,400	9,005	0.96	E	7,186	0.76	C	9,356	1.00	E	10,494	**1.12**	**F**	2
I-405															
Btwn I-605 and Orange/Los Angeles County Line	NB	9,400	9,497	1.01	F	9,432	1.00	E	9,608	1.02	F	9,432	1.00	E	1
	SB	9,400	9,641	1.03	F	10,201	1.09	F	9,641	1.03	F	10,243	1.09	F	2
Btwn Orange/Los Angeles County Line & Studebaker Road	NB	9,400	9,655	1.03	F	8,855	0.94	E	9,766	1.04	F	8,643	0.92	E	1
	SB	9,400	9,934	1.06	F	12,150	1.29	F	9,934	1.06	F	12,150	1.29	F	2
Btwn Studebaker Road and Palo Verde Avenue	NB	9,400	10,594	1.13	F	8,211	0.87	D	9,253	0.98	E	9,324	0.99	E	1
	SB	9,400	9,531	1.01	F	11,658	1.24	F	9,531	1.01	F	11,658	1.24	F	2
Btwn Palo Verde Ave and Woodruff Ave	NB	9,400	10,797	1.15	F	8,412	0.89	D	9,402	1.00	E	8,238	0.88	D	1
	SB	9,400	9,714	1.03	F	11,881	1.26	F	9,714	1.03	F	11,881	1.26	F	2
Btwn Woodruff Avenue and Bellflower Boulevard	NB	9,400	11,284	1.20	F	8,593	0.91	E	11,284	1.20	F	9,932	**1.06**	**F**	2
	SB	9,400	8,784	0.93	E	12,418	1.32	F	10,152	**1.08**	**F**	12,418	1.32	F	3
Btwn Bellflower Boulevard and Lakewood Boulevard	NB	9,400	11,568	1.23	F	10,182	1.08	F	11,568	1.23	F	10,182	1.08	F	2
	SB	9,400	10,407	1.11	F	12,730	1.35	F	10,407	1.11	F	12,730	1.35	F	3
Btwn Lakewood Boulevard and Cherry Avenue	NB	9,400	12,859	1.37	F	10,863	1.16	F	12,859	1.37	F	10,863	1.16	F	3
	SB	9,400	10,336	1.10	F	10,462	1.11	F	10,336	1.10	F	10,449	1.11	F	2
Btwn Cherry Avenue and Orange Avenue	NB	9,400	12,902	1.37	F	9,548	1.02	F	12,902	1.37	F	9,550	1.02	F	3
	SB	9,400	10,370	1.10	F	11,951	1.27	F	10,370	1.10	F	11,951	1.27	F	2
Btwn Orange Avenue and Atlantic Avenue	NB	9,400	12,731	1.35	F	9,452	1.01	F	12,731	1.35	F	10,754	**1.14**	**F**	3
	SB	9,400	10,232	1.09	F	11,791	1.25	F	10,232	1.09	F	10,232	1.09	F	2

Table I: Traffic Growth from Existing Land Use Element Conditions Freeway Level of Service Summary

Freeway Segment	Dir	Capacity	General Plan Horizon Year (2040) No Project						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
Btwn Atlantic Avenue and Long Beach Boulevard	NB	9,400	12,644	1.35	F	10,681	1.14	F	12,644	1.35	F	10,681	1.14	F	3
	SB	9,400	10,164	1.08	F	11,711	1.25	F	10,164	1.08	F	11,711	1.25	F	2
Btwn Long Beach Boulevard and Jct. Rte. 710	NB	9,400	12,086	**1.29**	**F**	10,210	**1.09**	**F**	12,086	**1.29**	**F**	9,454	**1.01**	**F**	2
	SB	9,400	9,714	**1.03**	**F**	11,194	**1.19**	**F**	8,751	0.93	E	11,194	**1.19**	**F**	2
I-605															
Btwn Jct. Rte. 405 and Katella Avenue	NB	9,400	7,311	0.78	C	8,269	0.88	D	7,311	0.78	C	8,269	0.88	D	0
	SB	9,400	5,233	0.56	A	5,980	0.64	B	5,233	0.56	A	5,980	0.64	B	0
Btwn Katella Avenue & Orange/ Los Angeles County Line	NB	9,400	6,805	0.72	C	8,017	0.85	D	6,702	0.71	C	7,967	0.85	D	0
	SB	9,400	6,619	0.70	B	6,061	0.64	B	6,533	0.70	B	6,046	0.64	B	0
Btwn Orange/Los Angeles County Line and Spring Street	NB	9,400	7,183	0.76	C	8,532	0.91	E	8,212	0.87	D	8,460	0.90	D	0
	SB	9,400	7,127	0.76	C	6,492	0.69	B	7,016	0.75	C	6,481	0.69	B	0
Btwn Spring Street and Carson Street	NB	9,400	8,871	0.94	E	8,955	0.95	E	8,871	0.94	E	8,911	0.95	E	1
	SB	9,400	8,720	0.93	E	6,957	0.74	C	7,547	0.80	C	6,891	0.73	C	0
Btwn Carson Street and Del Amo Boulevard	NB	9,400	9,574	1.02	F	11,094	1.18	F	9,574	1.02	F	11,094	1.18	F	2
	SB	9,400	9,411	1.00	E	8,146	0.87	D	9,411	1.00	E	8,146	0.87	D	1
Btwn Del Amo Boulevard and South Street	NB	9,400	10,804	1.15	F	12,518	1.33	F	10,804	1.15	F	12,518	1.33	F	3
	SB	9,400	12,518	1.33	F	9,193	0.98	E	10,619	1.13	F	9,193	0.98	E	2
Btwn South Street and Jct. Rte. 91	NB	11,750	13,219	1.13	F	15,317	1.30	F	13,219	1.13	F	15,317	1.30	F	3
	SB	11,750	12,993	1.11	F	9,847	0.84	D	12,993	1.11	F	11,248	0.96	E	2
I-710															
Btwn Begin I-710 and Ocean/ Harbor Scenic/Pico Avenue	NB	4,700	4,065	0.86	D	3,721	0.79	C	4,092	0.87	D	3,722	0.79	C	0
	SB	4,700	3,219	0.68	B	3,631	0.77	C	3,264	0.69	B	3,618	0.77	C	0
Btwn Ocean/Harbor Scenic/Pico Avenue and Shoreline Drive	NB	4,700	7,611	1.62	F	7,178	1.53	F	7,638	1.63	F	7,179	1.53	F	2
	SB	4,700	6,044	1.29	F	6,951	1.48	F	6,089	1.30	F	6,938	1.48	F	2
Btwn Shoreline Drive and Anaheim Street	NB	4,700	8,356	1.78	F	9,408	2.00	F	8,271	1.76	F	9,562	**2.03**	**F**	3
	SB	4,700	6,878	1.46	F	8,917	1.90	F	7,154	**1.52**	**F**	8,847	1.88	F	3
Btwn Anaheim Street and Jct. Rte. 1	NB	7,050	9,566	1.36	F	9,435	1.34	F	9,460	1.34	F	9,619	**1.36**	**F**	2
	SB	7,050	7,955	1.13	F	8,953	1.27	F	8,231	**1.17**	**F**	8,887	1.26	F	2
Btwn Jct. Rte. 1 and Willow Street	NB	7,050	10,604	1.50	F	10,622	1.51	F	10,410	1.48	F	10,798	**1.53**	**F**	3
	SB	7,050	8,821	1.25	F	10,016	1.42	F	9,096	**1.29**	**F**	9,924	1.41	F	2
Btwn Willow Street and Jct. Rte. 405	NB	7,050	6,891	0.98	E	7,461	1.06	F	7,701	**1.09**	**F**	7,675	**1.09**	**F**	1
	SB	7,050	8,183	1.16	F	6,775	0.96	E	8,468	**1.20**	**F**	6,624	0.94	E	2
Btwn Jct. Rte. 405 and Del Amo Boulevard	NB	7,050	6,862	0.97	E	7,677	1.09	F	7,868	**1.12**	**F**	7,922	**1.12**	**F**	1
	SB	7,050	8,242	1.17	F	6,892	0.98	E	8,525	**1.21**	**F**	6,741	0.96	E	2

Table I: Traffic Growth from Existing Land Use Element Conditions Freeway Level of Service Summary

Freeway Segment	Dir	Capacity	General Plan Horizon Year (2040) No Project						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
Btwn Del Amo Boulevard and	NB	11,750	7,441	0.63	B	9,109	0.78	C	7,219	0.61	B	9,346	0.80	C	0
Long Beach Boulevard	SB	9,400	8,572	0.91	E	8,061	0.86	D	8,839	0.94	E	8,061	0.86	D	1
Btwn Long Beach Boulevard and	NB	9,400	8,625	0.92	E	9,408	1.00	E	8,374	0.89	D	9,724	**1.03**	**F**	1
Jct. Rte. 91	SB	9,400	9,868	1.05	F	8,191	0.87	D	10,726	**1.14**	**F**	8,353	0.89	D	2

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per CMP guidelines. Cells shaded with black indicate significant impact.
Btwn = Between
Dir = Direction
EB = eastbound
I-710 = Interstate 710
I-405 = Interstate 405
I-605 = Interstate 605
LOS = level of service
NB = northbound
SB = southbound
SR-91 = State Route 91
V/C = volume-to-capacity
WB = westbound

Table J: Traffic Growth from Existing Land Use Element Conditions State Route Level of Service Summary

Freeway Segment	Dir	Capacity	General Plan Horizon Year (2040) No Project						General Plan Anticipated Buildout (2040) With Proposed Project						Additional Lanes for LOS D
			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
			Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	Volume	V/C	LOS	
SR-1															
Btwn I-710 and Cherry Ave	EB	5,400	1,469	0.27	A	1,749	0.32	A	1,469	0.27	A	1,749	0.32	A	0
	WB	5,400	1,863	0.35	A	1,631	0.30	A	1,863	0.35	A	1,631	0.30	A	0
Btwn Cherry Avenue and Paramount Boulevard	EB	5,400	1,238	0.23	A	1,322	0.24	A	1,242	0.23	A	1,329	0.25	A	0
	WB	5,400	1,590	0.29	A	1,254	0.23	A	1,583	0.29	A	1,263	0.23	A	0
Btwn Paramount Boulevard and Downey Avenue	EB	3,600	2,281	0.63	B	1,815	0.50	A	2,265	0.63	B	1,821	0.51	A	0
	WB	3,600	2,387	0.66	B	1,465	0.41	A	2,402	0.67	B	1,467	0.41	A	0
Btwn Downey Avenue and Jct. Rte. 19	EB	5,400	1,210	0.22	A	1,989	0.37	A	1,210	0.22	A	1,989	0.37	A	0
	WB	5,400	1,700	0.31	A	1,368	0.25	A	1,700	0.31	A	1,368	0.25	A	0
Btwn Jct. Rte. 19 and Clark Avenue	EB	5,400	1,311	0.24	A	2,058	0.38	A	1,311	0.24	A	2,062	0.38	A	0
	WB	5,400	1,808	0.33	A	1,403	0.26	A	1,823	0.34	A	1,406	0.26	A	0
Btwn Clark Avenue and Bellflower Boulevard	EB	5,400	1,067	0.20	A	1,906	0.35	A	1,067	0.20	A	1,904	0.35	A	0
	WB	5,400	1,583	0.29	A	1,091	0.20	A	1,583	0.29	A	1,103	0.20	A	0
Btwn Bellflower Boulevard and Jct. Rte. 605	EB	3,600	1,081	0.30	A	1,418	0.39	A	1,123	0.31	A	1,415	0.39	A	0
	WB	3,600	1,336	0.37	A	1,007	0.28	A	1,337	0.37	A	1,005	0.28	A	0
SR-19															
Btwn I-605 and Orange/Los Angeles County Line	NB	5,400	1,018	0.19	A	1,830	0.34	A	1,018	0.19	A	1,833	0.34	A	0
	SB	5,400	1,454	0.27	A	1,300	0.24	A	1,323	0.25	A	1,300	0.24	A	0
SR-22															
Btwn Jct. Rte. 405 and Katella Avenue	EB	4,700	3,262	0.69	B	3,046	0.65	B	3,262	0.69	B	3,046	0.65	B	0
	WB	4,700	2,422	0.52	A	2,333	0.50	A	2,422	0.52	A	2,333	0.50	A	0
Btwn Katella Avenue & Orange/ Los Angeles County Line	EB	5,400	2,470	0.46	A	2,611	0.48	A	2,788	0.52	A	2,334	0.43	A	0
	WB	5,400	1,946	0.36	A	2,077	0.38	A	1,968	0.36	A	2,077	0.38	A	0
Btwn Orange/Los Angeles County Line & Spring Street	EB	5,400	2,384	0.44	A	2,260	0.42	A	2,702	0.50	A	1,997	0.37	A	0
	WB	3,600	1,801	0.50	A	2,295	0.64	B	1,823	0.51	A	2,295	0.64	B	0

Source: LSA Associates, Inc.

Btwn = Between
Dir = Direction
EB = eastbound
I-605 = Interstate 605
I-710 = Interstate 710
LOS = level of service
SR-1 = State Route 1
SR-19 = State Route 19
SR-22 = State Route 22
NB =northbound
SB = southbound
V/C = volume-to-capacity
WB = westbound

Table K: Freeway Ramp Merge and Diverge Level of Service Summary

	Type	Mainline Lanes	Existing (2018)				General Plan Horizon Year (2040) No Project				General Plan Anticipated Buildout (2040) With Proposed Project			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR-91 Eastbound														
Atlantic Avenue On-Ramp	Ramp Merge	5	42.5	D	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
SR-91 Westbound														
Atlantic Avenue Off-Ramp	Ramp Diverge	5	27.9	C	23.2	B	34.0	D	24.2	C	32.5	C	27.2	C
I-405 Northbound														
Lakewood Boulevard On-Ramp	Ramp Merge	4	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
Lakewood Boulevard Off-Ramp	Ramp Diverge	4	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
I-405 Southbound														
Atlantic Avenue Off-Ramp	Ramp Diverge	5	31.3	D	36.4	E	36.5	E	>45.0	F	36.5	E	**>45.0**	**F**
I-605 Northbound														
East Carson Street On-Ramp	Ramp Merge	4	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
East Carson Street Loop On-Ramp	Ramp Merge	4	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
East Carson Street	Ramp Diverge	4	36.2	E	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
I-605 Southbound														
East Carson Street	Ramp Diverge	4	>45.0	F	39.2	D	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
East Carson Street Loop On-Ramp	Ramp Merge	4	41.1	D	34.0	C	>45.0	F	42.5	D	**>45.0**	**F**	42.5	D
East Carson Street On-Ramp	Ramp Merge	4	40.9	D	33.7	C	>45.0	F	42.2	D	**>45.0**	**F**	40.5	D
I-710 Northbound														
SR-1 On-Ramp (WB)	Ramp Merge	3	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
SR-1 Loop Off-Ramp (WB)	Ramp Diverge	3	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
SR-1 Loop On-Ramp (EB)	Ramp Merge	3	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
SR-1 Loop Off-Ramp (EB)	Ramp Diverge	3	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
I-710 Southbound														
SR-1 Off-Ramp (WB)	Ramp Diverge	3	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**
SR-1 On-Ramp (EB)	Ramp Merge	3	>45.0	F	>45.0	F	>45.0	F	>45.0	F	**>45.0**	**F**	**>45.0**	**F**

Source: Compiled by LSA Associates, Inc. (2019).
Note: Shaded cells indicate unsatisfactory LOS per CMP guidelines. Cells shaded with black indicate significant impact.
EB = eastbound
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
LOS = levels of service
pc/mi/ln = passenger cars per mile per lane
SR-1 = State Route 1 (Pacific Coast Highway)
SR-91 = State Route 91
WB = westbound

Freeway Ramp Intersections and Arterial State Highway Intersections

Some of the study intersections are freeway ramp intersections or are otherwise under the jurisdiction of Caltrans. These intersections were analyzed using ICU methodology in the previous sections of this report. For disclosure purposes, these intersections were also analyzed using Caltrans-preferred HCM methodology. HCM intersection analysis worksheets are provided in Appendix D.

Some of the intersections included in the sample of Caltrans intersections do not have stop control. For the I-710/SR-1 cloverleaf and the I-710/Anaheim Street cloverleaf, the weaving sections created by the on- and off-ramps are evaluated according to the density of vehicles in the lane-change area. HCM weaving section worksheets are included in Appendix C. The intersections of Lakewood Boulevard/I-405 eastbound ramps and Atlantic Avenue/I-405 westbound ramps are not stop controlled but are located near an adjacent signalized intersection. For these locations, the analysis examined the queues forming at the adjacent intersection to determine whether vehicles exiting the freeway ramp would be blocked by the queue at the adjacent traffic signal. Queuing reports are included in Appendix D. The intersection of Lakewood Boulevard/I-405 westbound ramps is not stop controlled and is not located near another stop controlled intersection. At this location, traffic from the freeway off-ramp is free flowing.

Table L presents the analysis of these intersections in the Existing (2018), 2040 No Project, and 2040 with Proposed Land Use Element conditions. As Table L shows, 6 of the 30 sampled Caltrans intersections operate at unsatisfactory LOS (i.e., beyond LOS E) in the existing condition and would continue to operate at unsatisfactory LOS in the future regardless of the Land Use Element. Two additional intersections function at LOS E or better in existing conditions but would function at LOS F in the future regardless of the Land Use Element.

According to the performance criteria established for this TIA, the project is found to have potentially significant impacts on the following Caltrans intersections according to Caltrans impact criteria (i.e., contribution of traffic to a facility operating in excess of its operational standard). Because this analysis sampled Caltrans intersections, potentially significant traffic impacts may occur at additional intersections not included in the list below.

- Redondo Avenue/Pacific Coast Highway
- Lakewood Boulevard/Del Amo Boulevard
- Lakewood Boulevard/Spring Street
- Lakewood Boulevard/I-405 Eastbound Ramps
- Pacific Coast Highway/Anaheim Street
- I-605 Southbound Ramps/Carson Street

Table L: Freeway Ramp and State Highway Intersection Level of Service Summary

Intersection	Existing (2018)				2040 No Project				2040 with Proposed Land Use Element			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS
1. Avalon Boulevard/Pacific Coast Hwy	37.6	D	35.3	D	50.4	D	47.1	D	50.4	D	46.9	D
5. Terminal Island Freeway (SR-103)/Willow Street	23.0	C	32.6	C	26.5	C	42.5	D	27.2	C	47.3	D
8. Santa Fe Avenue/Pacific Coast Hwy	41.3	D	35.4	D	49.7	D	44.6	D	51.5	D	46.7	D
10. I-710/SR-1 Cloverleaf WB[1]	17.8 pc/mi/ln	B	30.3 pc/mi/ln	D	19.9 pc/mi/ln	B	38.1 pc/mi/ln	E	20.5 pc/mi/ln	C	38.0 pc/mi/ln	E
11. I-710/SR-1 Cloverleaf EB[1]	18.7 pc/mi/ln	B	23.5 pc/mi/ln	C	23.9 pc/mi/ln	C	32.2 pc/mi/ln	C	24.1 pc/mi/ln	C	27.4 pc/mi/ln	C
13. Pacific Avenue/Pacific Coast Hwy	18.9	B	23.5	C	23.9	C	32.2	C	24.1	C	27.4	C
28. Long Beach Boulevard/Pacific Coast Hwy	33.3	C	34.7	C	39.8	D	44.9	D	38.1	D	46.0	D
36. Atlantic Avenue/SR-91 WB Ramps	19.0	B	23.7	C	24.4	C	33.3	C	24.2	C	33.3	C
37. Atlantic Avenue/SR-91 EB Ramps	11.2	B	18.5	B	12.9	B	25.1	C	12.9	B	25.3	C
41. Atlantic Avenue/33rd Street	5.8	A	10.5	B	6.5	A	15.0	B	6.7	A	13.9	B
42. Atlantic Avenue/I-405 EB Ramps	10.7	B	9.6	A	13.4	B	10.8	B	15.2	B	11.4	B
44. Atlantic Avenue/Pacific Coast Hwy	21.7	C	23.9	C	25.9	C	33.0	C	25.8	C	36.7	D
52. Orange Avenue/Pacific Coast Hwy	20.7	C	25.4	C	26.7	C	29.5	C	26.4	C	29.3	C
65. Cherry Avenue/Pacific Coast Hwy	33.5	C	32.7	C	40.6	D	41.6	D	40.7	D	40.4	D
74. Redondo Avenue/Pacific Coast Hwy	66.7	E	67.0	F	97.7	F	99.0	F	**88.0**	**F**	**95.0**	**F**
79. Lakewood Boulevard/Del Amo Boulevard	49.5	D	75.1	E	72.1	E	110.5	F	62.1	E	**110.4**	**F**
80. Lakewood Boulevard/Carson Street	26.8	C	33.8	C	32.4	C	45.6	D	31.8	C	42.2	D
81. Lakewood Boulevard/Spring Street	78.3	E	125.2	F	121.6	F	181.9	F	**134.8**	**F**	**197.5**	**F**
82. Lakewood Boulevard/I-405 WB Ramps[2]	N/A[3]		N/A[3]		N/A[3]		N/A[3]		N/A[3]		N/A[3]	
83. Lakewood Boulevard/I-405 EB Ramps[2,4]	Not Blocked		Blocked		Blocked		Blocked		**Blocked**		**Blocked**	
85. Ximeno Avenue/Pacific Coast Hwy	54.0	D	56.5	E	56.5	E	72.9	E	55.5	E	66.8	E
91.Pacific Coast Hwy/Anaheim Street	71.3	E	80.1	F	188.4	F	100.2	F	**194.5**	**F**	**100.5**	**F**
92. Pacific Coast Hwy/7th Street	46.7	D	41.5	D	70.1	E	57.0	E	69.6	E	62.4	E
99. Bellflower Boulevard/Pacific Coast Hwy	19.5	B	23.3	C	25.1	C	26.4	C	25.1	C	26.5	C
100. Pacific Coast Hwy/2nd Street	47.4	D	48.7	D	69.8	E	70.0	E	69.6	E	69.9	E
112. I-605 SB Ramps/Carson Street	13.5	B	44.9	D	22.0	C	141.0	F	22.0	C	**87.2**	**F**
113. I-605 NB Ramps/Carson Street	11.2	B	12.5	B	12.1	B	15.9	B	12.2	B	15.6	B
118. Atlantic Avenue/I-405 WB Ramps[2,4]	Not Blocked		Blocked		Not Blocked		Blocked		Not Blocked		Blocked	

Table L: Freeway Ramp and State Highway Intersection Level of Service Summary

Intersection	Existing (2018)				2040 No Project				2040 with Proposed Land Use Element			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS	Delay/ Density	LOS
119. I-710/Anaheim Street Cloverleaf WB[1]	12.7 pc/mi/ln	B	11.4 pc/mi/ln	B	16.2 pc/mi/ln	B	14.5 pc/mi/ln	B	17.0 pc/mi/ln	B	14.7 pc/mi/ln	B
120. I-710/Anaheim Street Cloverleaf EB[1]	22.6 pc/mi/ln	C	29.8 pc/mi/ln	D	31.3 pc/mi/ln	D	38.4 pc/mi/ln	E	31.8 pc/mi/ln	D	38.7 pc/mi/ln	E

Source: Compiled by LSA Associates, Inc. (2019).
Notes: Shaded cells indicate unsatisfactory LOS per CMP guidelines. Cells shaded with black indicate significant impact.
Delay is reported in seconds.
[1] Analyzed as a weaving segment. Value is density in passenger cars/lane/mile.
[2] No stop control is present at this interchange.
[3] This intersection is not subject to LOS analysis.
[4] 95th percentile queue at the adjacent intersection could impede off-ramp traffic and was examined as part of the operational analysis.
EB = eastbound
Hwy = Highway
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
ICU = Intersection Capacity Utilization
LOS = level of service\NB = northbound
pc/mi/ln = passenger cars per mile per lane
SB = southbound
SR-1 = State Route 1
WB = westbound

On-Ramps and Off-Ramps

As requested by Caltrans, this TIA compared the forecast volume of on-ramps and off-ramps within the study area to the lane recommendations in the HDM. This comparison is provided in Table M. All on-ramps with design year volumes exceeding 900 vehicles per hour have multi-lane ramps in the existing condition. All off-ramps with design year volumes exceeding 1,500 vehicles per hour have two-lane ramps in the existing condition. The on- and off-ramps in the study area meet the HDM design guidelines.

VEHICLE MILES TRAVELED

The 2016 SCAG RTP/SCS provided calculations of VMT derived from the Regional Travel Demand Model. The data were presented in terms of daily VMT per capita for the entire region and by county in the model base year, future (2040 Baseline) without the RTP, and future (2040 with RTP/SCS) with the RTP. Table N summarizes this SCAG VMT data.

Table N also displays per-capita VMT data for Long Beach. These data were not included in the 2016 RTP/SCS but were developed using the Regional Travel Demand Model and present an equivalent comparison. It should be noted that the 2040 Baseline model was not available for calculating the City's VMT in that scenario. VMT is attributed to a jurisdiction based on where trips begin and end. If both the origin and destination are in the same jurisdiction, then all of the VMT is attributed to that jurisdiction. If the origin and destination are in different jurisdictions, then each end is attributed with half of the VMT. If trips are passing through a jurisdiction and neither the origin nor destination are in the jurisdiction, none of the VMT is attributed to that jurisdiction. Using this methodology avoids double counting regional VMT.

As the data shows, VMT per capita is anticipated to decline regionally in the future as a result of previous planning efforts and is anticipated to decline further due to the elements of the 2016 SCAG RTP/SCS, which the proposed project would help to implement at the local level. VMT per capita in Long Beach is lower in the existing condition than in Los Angeles County as a whole and lower than the entire SCAG region. With implementation of the 2016 RTP/SCS, VMT per capita in Long Beach is anticipated to decline even further and will continue to be lower than the region as a whole or in Los Angeles County.

As mentioned previously, the Regional Travel Demand Model was used to analyze the effects of changes to the location of land uses proposed in the Land Use Element. Socioeconomic data for housing, employment, and population were adjusted within the model's traffic analysis zones consistent with the Land Use Element adjustments to the location of land use density. These changes to the model resulted in changes to traffic volumes (as described above) and changes in VMT. Table O presents a comparison of Long Beach VMT in absolute terms, per capita, and per household in existing base year, future (2040 No Project) with the existing land use element, and future (2040 with LUE) with the changes proposed in the Land Use and Urban Design Elements.

Table M: On-Ramp and Off-Ramp Volume and Recommended Lanes

Intersection	Design Year Volume		Multi-Lane Ramp Warranted	Multi-Lane Ramp Provided	Auxiliary Lane Warranted/Provided
	AM	PM			
10. I-710/SR-1 Cloverleaf WB[1]					
On-ramp to NB I-710	134	67	No	No	No
Off-ramp from NB I-710	87	60	No	No	No
On-ramp to SB I-710	130	67	No	No	No
Off-ramp from SB I-710	441	431	No	No	No
11. I-710/SR-1 Cloverleaf EB[1]					
On-ramp to SB I-710	409	560	No	No	No
Off-ramp from SB I-710	353	477	No	No	No
On-ramp to NB I-710	436	711	No	No	No
Off-ramp from NB I-710	148	155	No	No	No
36. Atlantic Avenue/SR-91 WB Ramps					
Off-ramp	491	817	No	Yes	No
On-ramps to I-710 and SR-91	985	490	Yes	Yes	No
37. Atlantic Avenue/SR-91 EB Ramps					
Off-ramp	332	845	No	Yes	No
On-ramp	620	817	No	Yes	No
118. Atlantic Avenue/I-405 WB Ramps					
Off-ramp to NB Atlantic Avenue	224	488	No	No	No
On-ramp from NB Atlantic Avenue	254	315	No	No	No
On-ramp from SB Atlantic Avenue	331	242	No	No	No
Off-ramp to SB Atlantic Avenue	270	244	No	No	No
42. Atlantic Avenue/I-405 EB Ramps					
Off-ramp	637	615	No	No	No
On-ramp from SB Atlantic Avenue	331	242	No	No	No
On-ramp from NB Atlantic Avenue	364	266	No	No	No
82. Lakewood Boulevard/I-405 WB Ramps					
Off-ramp to NB Lakewood Boulevard	480	510	No	No	No
Off-ramp to SB Lakewood Boulevard	240	303	No	Yes	No
On-ramp from SB Lakewood Boulevard	541	610	No	Yes	No
On-ramp from NB Lakewood Boulevard	1,097	744	Yes	Yes	No
83. Lakewood Boulevard/I-405 EB Ramps					
On-ramp from SB Lakewood Boulevard	359	513	No	Yes	No
Off-ramp to Willow Street	817	594	No	No	No
Off-ramp to SB Lakewood Boulevard	831	717	No	No	No
112. I-605 SB Ramps/Carson Street					
Off-ramp	1,448	1,978	Yes	Yes	Yes/Yes
On-ramp from WB Carson Street	449	298	No	No	No
On-ramp from EB Carson Street	134	255	No	Yes	No
113. I-605 NB Ramps/Carson Street					
Off-ramp	846	998	No	No	No
On-ramp from WB Carson Street	940	767	Yes	Yes	No
On-ramp from EB Carson Street	1,006	821	Yes	Yes	No
119. I-710/Anaheim Street Cloverleaf WB					
On-ramp to NB I-710	226	239	No	No	No
Off-ramp from NB I-710	118	125	No	No	No
On-ramp to SB I-710	442	470	No	No	No
Off-ramp from SB I-710	173	183	No	No	No

Table M: On-Ramp and Off-Ramp Volume and Recommended Lanes

Intersection	Design Year Volume		Multi-Lane Ramp Warranted	Multi-Lane Ramp Provided	Auxiliary Lane Warranted/Provided
	AM	PM			
120. I-710/Anaheim Street Cloverleaf EB					
On-ramp to SB I-710	248	263	No	No	No
Off-ramp from SB I-710	648	690	No	No	No
On-ramp to NB I-710	804	854	No	No	No
Off-ramp from NB I-710	213	226	No	No	No

Source: Compiled by LSA Associates, Inc. (2019).
EB = eastbound
I-405 = Interstate 405
I-605 = Interstate 605
I-710 = Interstate 710
NB = northbound
SB = southbound
SR-1 = State Route 1 (Pacific Coast Highway)
SR-91 = State Route 91
WB = westbound

Table N: Regional Per-Capita VMT Comparison

	Existing Base Year	2040 Baseline[1]	2040 with RTP/SCS
SCAG Region	22.8	22.1	20.5
Los Angeles County	21.5	20.2	18.4
Long Beach	19.9	–	18.0

Source: SCAG Regional Travel Demand Model
[1] 2040 regional planning horizon year baseline analysis prepared by SCAG for Comparison with 2016 SCAG RTP/SCS to project VMT without the RTP/SCS
RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy
SCAG = Southern California Association of Governments
VMT =vehicle miles traveled

Table O: Long Beach VMT

	Existing Base Year	2040 No Project with Existing Land Use Element	2040 with Proposed Land Use Element	Percentage Change	
				From Existing Land Use Element[1]	From Existing Base Year
Citywide Peak Period VMT[2]	4,635,625	4,306,500	4,276,489	(1%)	(8%)
Citywide Off-Peak VMT[2]	4,846,627	4,600,132	4,751,838	3%	(2%)
Citywide Daily VMT[2]	9,482,252	8,906,632	9,028,327	1%	(5%)
VMT per Capita[3]	19.9	18.0	18.2	1%	(9%)
VMT per Household[4]	56.9	49.9	46.1	(8%)	(19%)

Source: Southern California Association of Governments Regional Travel Demand Model
[1] Provided for information and disclosure purposes only.
[2] Regional Travel Demand Model traffic analysis zones do not terminate at city limits. Citywide data reflects the total in all traffic analysis zones for which any portion is within Long Beach city limits.
[3] Regional Travel Demand Model traffic analysis zones do not terminate at city limits. Per capita ratio is the total VMT in all traffic analysis zones for which any portion is within Long Beach divided by the total population in those traffic analysis zones, which is greater than the Long Beach population.
[4] Regional Travel Demand Model traffic analysis zones do not terminate at city limits. Per household ratio is the total VMT in all traffic analysis zones for which any portion is within Long Beach divided by the total households in those traffic analysis zones, which is greater than the Long Beach household.
VMT = vehicle miles traveled

Similar to the trend shown in the 2016 RTP/SCS, VMT in Long Beach is projected to decline as a result of planning efforts. In absolute terms, VMT in Long Beach will be reduced from 9,482,252 per day in the existing condition to 9,028,327 with the Proposed Land Use and Urban Design Elements (a 5 percent decrease). The population will increase as VMT declines, resulting in VMT per capita declining from 19.9 per day to 18.2 per day (a 9 percent decrease). It should be noted that the traffic model data predict slightly higher VMT per capita with the Land Use Element than with the current distribution of land uses, as explained further below.

Table O shows that the land use changes proposed in the Land Use Element result in more efficient travel during the morning and evening peak commute hours (i.e., lower VMT during the peak periods). However, VMT during off-peak times increases slightly with the Land Use Element as compared to the existing Land Use Element. These off-peak VMT are generated by discretionary trips, which the traffic model calculates based on the number of households. In other words, the model assumes that people living in overcrowded housing conditions generate fewer trips to the grocery store than the same number of people living in less-crowded, separate housing. Because the Land Use Element reduces overcrowding compared to the previous land use distribution, the number of discretionary trips increases as does the off-peak VMT and, subsequently, the total VMT. The existing VMT per household is 56.9 per day, which is anticipated to decline in the future to 49.9 per day without the Land Use Element. The efficiency of the distribution of land uses in the Land Use Element would reduce this further to 46.1 VMT per day per household (a 19-percent decrease from existing conditions and an 8 percent decrease from the existing Land Use Element).

The State of California has concurrent goals of reducing VMT and increasing housing supply to improve affordability and accommodate the workforce. The proposed Land Use and Urban Design Elements increase the number of housing units to reduce overcrowding in Long Beach. The efficiency of the location of land uses in the Land Use Element (i.e., infill development policies and sites) results in a 19 percent decrease in VMT per household compared to existing conditions. Other measures of VMT, including per capita and absolute terms, decline as well compared to existing conditions. With the Land Use and Urban Design Elements, VMT per capita in Long Beach remains lower than the region as a whole and lower than Los Angeles County. The City believes that the proposed General Plan strikes the appropriate balance between the State's concurrent goals of reducing VMT and increasing housing supply.

MITIGATION MEASURES

The analysis above identified potentially significant traffic impacts to vehicle LOS at intersections in Long Beach, intersections in neighboring cities, Caltrans intersections, and freeway facilities. Of the 120 intersections included in the study area, 48 of them (40 percent) would be significantly impacted by traffic volume increases between existing and future conditions. This TIA considered the physical improvements necessary for impacted intersections to function at LOS D with projected future traffic volumes. These improvements are listed in Table P.

This TIA also considered the constraints to constructing the physical improvements. Constraints could include the intersection being located outside of the City's jurisdiction, which eliminates the City's authority to compel physical improvements. Physical improvements located outside of the existing right-of-way could be infeasible or result in increased environmental impacts.

Table P: Potential Mitigation for Impacts to Intersections

Intersection	Jurisdiction	Capacity Addition from Existing	Feasible	Reason Infeasible
4. Wilmington Avenue/223rd Street	Carson	SBR, EBL	No	Outside jurisdiction
7. Santa Fe Avenue/Willow Street	Long Beach	3rd EBT, 3rd WBT	No	Outside right-of-way, removal of structures
19. Pacific Avenue/Ocean Boulevard	Long Beach	4th and 5th WBT	No	Outside right-of-way, removal of parking
20. Long Beach Boulevard/Alondra Boulevard	Compton	NBR, 3rd EBT	No	Outside jurisdiction, outside right-of-way, removal of structures
21. Long Beach Boulevard/Artesia Boulevard	Long Beach	3rd EBT	No	Conflicts with other travel modes (bicycle)
25. Long Beach Boulevard/Wardlow Road	Long Beach	2nd NBL, 2nd EBL	No	Outside right-of-way, removal of structures
26. Long Beach Boulevard/Spring Street	Long Beach	3rd/4th NBT, NBR, 2nd SBL, 3rd/4th SBT, SBR, 2nd EBL, 3rd/4th EBT, 2nd WBL, 3rd WBT	No	Outside right-of-way, removal of structures, removal of parking
30. Long Beach Boulevard/7th Street	Long Beach	2nd NBL, 3rd NBT, 3rd SBT, 4th/5th WBT	No	Outside right-of-way, removal of structures, conflicts with other travel modes
38. Atlantic Avenue/Artesia Boulevard	Long Beach	3rd EBT	No	Outside right-of-way
43. Atlantic Avenue/Willow Street	Long Beach	EBR	No	Outside right-of-way, removal of structures
51. Orange Avenue/Wardlow Road	Long Beach	EBR	No	Outside right-of-way, removal of structures
53. Alamitos Avenue/Anaheim Street	Long Beach	2nd NBT, 2nd SBT	No	Conflicts with other travel modes (bicycle)
54. Alamitos Avenue/7th Street	Long Beach	WBR	No	Conflicts with other travel modes (bicycle), outside right-of-way, removal of parking
55. Alamitos Avenue/6th Street	Long Beach	3rd SBT, 2nd/3rd WB	No	Conflicts with other travel modes (bicycle), outside right-of-way, removal of parking
56. Alamitos Avenue/3rd Street	Long Beach	2nd SBT	No	Conflicts with other travel modes (bicycle)
57. Alamitos Avenue/Broadway	Long Beach	NBR	No	Conflicts with other travel modes (bicycle), outside right-of-way, removal of structure
59. Cherry Avenue/Artesia Boulevard	Long Beach	3rd EBT	No	Conflicts with other travel modes (bus), removal of parking
60. Cherry Avenue/Market Street	Long Beach	NBR, 3rd EBT	No	Outside right-of-way, removal of parking
61. Cherry Avenue/Del Amo Boulevard	Long Beach/ Lakewood	2nd SBL	No	Outside jurisdiction
62. Cherry Avenue/Carson Street	Long Beach	4th NBT	No	Outside right-of-way, removal of structures
66. Cherry Avenue/7th Street	Long Beach	EBR	No	Outside right-of-way, removal of parking
68. Paramount Boulevard/South Street	Long Beach	EBR	No	Conflicts with other travel modes (trucks)
69. Paramount Boulevard/Del Amo Boulevard	Lakewood	NBR, 3rd EBT, 3rd WBT	No	Outside jurisdiction, outside right-of-way, removal of structures
70. Paramount Boulevard/Carson Street	Lakewood	WBR	No	Outside jurisdiction, outside right-of-way
71. Downey Avenue/Alondra Boulevard	Lakewood	EBR	No	Outside jurisdiction, removal of parking

Table P: Potential Mitigation for Impacts to Intersections

Intersection	Jurisdiction	Capacity Addition from Existing	Feasible	Reason Infeasible
72. Redondo Avenue/Spring Street	Long Beach	4th EBT, EBR	No	Outside right-of-way, removal of structures
74. Redondo Avenue/Pacific Coast Hwy	Caltrans	NBR, 3rd SBT, 4th EBT, 4th WBT	No	Outside jurisdiction, outside right-of-way, removal of structures
75. Redondo Avenue/Anaheim Street	Long Beach	3rd NBT, 3rd SBT, SBR, EBR	No	Outside right-of-way, removal of structures
76. Redondo Avenue/7th Street	Long Beach	3rd EBT, EBR, 3rd WBT, WBR	No	Outside right-of-way, removal of structures, removal of parking
79. Lakewood Boulevard/Del Amo Boulevard	Long Beach	2nd NBL, NBR, 2nd SBL, 4th EBT, 3rd WBT	No	Outside right-of-way, conflicts with flood control
81. Lakewood Boulevard/Spring Street	Long Beach	3rd SBL, 4th SBT	No	Outside right-of-way, conflicts with flood control
84. Lakewood Boulevard/Willow Street	Long Beach	SBR, 4th EBT	No	Outside right-of-way, removal of structures
86. Ximeno Avenue/7th Street	Long Beach	3rd EBT, 3rd WBT	No	Outside right-of-way, removal of structures
88. Park Avenue/7th Street	Long Beach	3rd EBT, 3rd WBT	No	Outside right-of-way, removal of structures
91. Pacific Coast Hwy/Anaheim Street	Caltrans	2nd NBL	No	Outside jurisdiction, conflicts with other travel modes (bicycle), removal of open space
92. Pacific Coast Hwy/7th Street	Caltrans	3rd SBL, 4th EBT, 3rd WBT	No	Outside jurisdiction, outside right-of-way, removal of structures
93. Bellflower Boulevard/ Del Amo Boulevard	Long Beach/ Lakewood	3rd NBT, 3rd EBT, 3rd WBT	No	Outside jurisdiction, outside right-of-way, removal of structures
94. Bellflower Boulevard/Carson Street	Long Beach/ Lakewood	3rd NBT, EBR	No	Outside jurisdiction, outside right-of-way, removal of open space
98. Bellflower Boulevard/7th Street	Long Beach	WBR	No	Outside right-of-way, removal of structures
100. Pacific Coast Hwy/2nd Street	Caltrans	NBR, 4th EBT, 4th WBT	No	Outside jurisdiction, outside right-of-way, removal of structures
104. East Campus Road/7th Street	Long Beach	4th EBT	No	Outside right-of-way, removal of structures
109. Studebaker Road/Willow Street	Long Beach	NBR, WBR	No	Outside right-of-way, removal of open space
110. 7th Street/College Park Drive	Long Beach	2nd NBT	No	Outside right-of-way
111. Studebaker Road/2nd Street	Long Beach	3rd EBL	No	Outside right-of-way
114. Norwalk Boulevard/Carson Street	Hawaiian Gardens	3rd EBT	No	Outside jurisdiction, conflicts with other travel modes (bus)
115. Norwalk Boulevard/Cerritos Avenue	Los Alamitos	NBR, 3rd SBT, 3rd EBT	No	Outside jurisdiction, outside right-of-way
116. Los Alamitos Boulevard/Katella Avenue	Garden Grove	4th NBT, 4th SBT, 4th EBT, 4th WBT	No	Outside jurisdiction, outside right-of-way, removal of structures
117. Seal Beach Boulevard/ Westminster Road	Seal Beach	4th NBT, 3rd WBT	No	Outside jurisdiction, outside right-of-way, removal of structures

Source: Compiled by LSA Associates, Inc. (2019).

Caltrans = California Department of Transportation
EBL = eastbound left-turn lane
EBR = eastbound right-turn land
ELT = eastbound through lane
Hwy = Highway
NBL = northbound left-turn lane
NBR = northbound right-turn lane
NBT = northbound through lane
SBL = southbound left-turn lane
SBR = southbound right-turn lane
SBT = southbound through lane
WBL = westbound left-turn lane
WBR = westbound right-turn lane
WBT = westbound through lane

Physical improvements outside of existing right-of-way would be further challenged if impacting existing structures or open space. Constraints could also exist if improvements could be completed within the existing right-of-way but would conflict with other travel modes. The Mobility Element states that "the City may accept levels of service below the City standard of D in exchange for pedestrian, bicycle, and/or transit improvements. This balanced approach will help the City create a more balanced multimodal transportation system that supports appropriate infill projects and transit-oriented development strategies." Table P identifies whether these constraints are present at each of the impacted intersections.

As Table P shows, all of the physical improvements necessary for impacted intersections to function at LOS D are subject to constraints that render the addition of vehicle capacity infeasible. Capacity enhancement of freeway facilities is also infeasible because the City cannot compel Caltrans to make improvements. In addition, Table G and Table I show that up to 6 additional travel lanes might be necessary on freeways that are between 6 to 10 lanes today. Additionally, capacity enhancements to freeway facilities to accommodate peak hour traffic volume may not be effective as additional traffic could be attracted from the shoulder periods (i.e., time periods just before or after peak periods).

If the addition of capacity is infeasible to mitigate the impacts to the volume-to-capacity ratio at an intersection or freeway facility, a reduction in traffic volume may mitigate the impact. The Mobility Element presents a number of Implementation Measures designed to promote mobility by supporting all travel modes, including walking, bicycling, and use of transit, thereby reducing the number of automobile trips on the roadway network. Executing Mobility of People Implementation Measure (MOP IM) 1 through MOP IM-60 would have an effect on managing travel demand, reducing the volume of vehicle traffic, decreasing the volume-to-capacity ratio at City intersections, and improving vehicle LOS. The implementation measures are:

- **MOP IM-1:** Develop a street design standards manual to reflect the new street typologies that incorporate the concept of complete streets.

- **MOP IM-2:** Routinely incorporate complete streets features into all street redesign and repaving projects.

- **MOP IM-3:** Provide neighborhood and business groups the opportunity to review preliminary plans for major street improvements included in this plan before final design and implementation.

- **MOP IM-4:** Develop a Citywide Pedestrian Master Plan that establishes a basic inventory of pedestrian infrastructure, comprehensively prioritizes pedestrian improvements, furthers the intent of the place-type designations, makes connections to other modes of travel, promotes public health, and connects with open space features.

- **MOP IM-5:** Create walking loops with stepping-stone mile markers and other supportive features to support active living.

- **MOP IM-6:** Continue to implement programs to promote pedestrian safety through outreach to both pedestrians and motorists.
- **MOP IM-7:** Create separated lanes for pedestrians and cyclists for the entire length of the beach path.
- **MOP IM-8:** Use Neighborhood Traffic Control techniques when excessive vehicle speed, excessive volume, or pedestrian/vehicle safety concerns warrant them.
- **MOP IM-9:** Implement midblock crossings and traffic calming as needed in the more suburban locations of the City where larger blocks and wider streets inhibit pedestrians.
- **MOP IM-10:** Design safer streets by using traffic calming techniques (such as roundabouts and sidewalk extensions) and by providing more frequent and innovative crosswalks, pedestrian signals, and clearly marked bicycle lanes.
- **MOP IM-11:** Continuously implement new technology to improve the pedestrian environment.
- **MOP IM-12:** Actively seek funding to implement the Pedestrian and Bicycle Master Plans.
- **MOP IM-13:** Implement a Citywide bikeshare program.
- **MOP IM-14:** Develop an on-street bike parking (i.e., bike corrals) program, including standards and procedures.
- **MOP IM-15:** Strengthen existing development standards for bike parking at new commercial and multifamily developments.
- **MOP IM-16:** Implement the City's Metro Blue Line Bicycle and Pedestrian Access Plan.
- **MOP IM-17:** Address bicycle safety and access in the design and maintenance of all street projects.
- **MOP IM-18:** Whenever capital improvement projects are constructed at intersections, vehicle actuation should detect bicycles.
- **MOP IM-19:** Identify and analyze locations with a high number of bicycle crashes and implement appropriate engineering, education, enforcement, and countermeasures.
- **MOP IM-20:** Use "sharrow" marking on all existing and proposed Class III facilities, as feasible.
- **MOP IM-21:** Institutionalize the Bicycle-Friendly Business Districts and Bike Saturday campaign in Long Beach.
- **MOP IM-22:** Continue to conduct annual bike counts, walk audits, and other data collection and analysis related to bicycle facilities for program evaluation and to support grant-making efforts.

- **MOP IM-23:** Develop a policy for retrofitting existing automobile parking spaces for bike parking at existing commercial and multifamily developments.

- **MOP IM-24:** Coordinate and collaborate with local school districts to provide enhanced, safer bicycle and pedestrian connections to school facilities throughout Long Beach.

- **MOP IM-25:** Continue to upgrade the City's designation as a bike-friendly city to Platinum status.

- **MOP IM-26:** Participate in and support Citywide events to promote bicycling, such as National Car-Free Day, Bike to- Work Day, Bike Saturday, and Park[ing] Day, women on bikes, and bike buddy.

- **MOP IM-27:** Pilot an "individualized marketing campaign" to help residents to choose safe, convenient routes to replace automobile trips with bicycling and transit trips.

- **MOP IM-28:** Actively support ciclovias (i.e., bike festivals) and other "open street" activities in Long Beach.

- **MOP IM-29:** Continue to support the Bikestation and encourage the development of small-scale bike-transit hubs throughout the City of Long Beach.

- **MOP IM-30:** Ensure that all planning processes, such as neighborhood and specific plans, identify areas where pedestrian, bike, and transit improvements can be made, such as new connections, increased sidewalk width, improved crosswalks, improved lighting, and new street furniture.

- **MOP IM-31:** Continue to strengthen the marketing and promotion of nonautomobile transportation to residents, employees, and visitors.

- **MOP IM-32:** Routinely integrate the financing, design, and construction of pedestrian facilities with street projects. Build pedestrian improvements at the same time as improvements for vehicular circulation.

- **MOP IM-33:** Continue to implement pedestrian streetscape designs, especially on streets with projected excess vehicle capacity, to reduce either the number of travel lanes or the roadway width, and use the available public rights-of-way to provide wider sidewalks, bicycle lanes, transit amenities, or landscaping.

- **MOP IM-34:** Convert electricity transmission corridors to parks, as resources and leases become available.

- **MOP IM-35:** Establish Rails to Trails Program to repurpose, share, or reconfigure surplus rights-of-way to greenbelts with bicycles and pedestrian facilities.

- **MOP IM-36:** Establish a Pavement to Plazas Program to realign irregular intersections and repurpose surplus public rights-of-way for public space.

- **MOP IM-37:** Actively support and assist Long Beach Transit in the implementation of design guidelines for bus shelters and other bus stop amenities.

- **MOP IM-38:** Include Long Beach Transit early in the City's Site Plan Review process to ensure transit facilities are well integrated into the development project.

- **MOP IM-39:** Actively support and assist Long Beach Transit's development of a strategic action plan for future transit service.

- **MOP IM-40:** Actively support and assist Long Beach Transit's expansion of real-time transit information at bus shelters and expand smart phone applications and other new technology.

- **MOP IM-41:** Actively support and assist Long Beach Transit's establishment of mini-transit hubs throughout the City that provide multimodal connectivity.

- **MOP IM-42:** Establish interagency transit hubs and Park and Rides in northern half of the City.

- **MOP IM-43:** Actively support and assist Metro to expand the existing Park and Ride facilities at Metro Blue Line stations.

- **MOP IM-44:** Actively support Long Beach Transit's efforts to expand the Universal Access Pass Program to major employers and business districts.

- **MOP IM-45:** Continue to explore the feasibility of bus rapid transit and a streetcar system in Long Beach.

- **MOP IM-46:** Continue to implement transit-priority traffic signals.

- **MOP IM-47:** Investigate the feasibility of establishing a street car or other type of personal rapid transit system in Long Beach. This system is proposed as a long-term community asset that will enhance nonautomobile connectivity between neighborhoods; bus, rail, and water transit hubs; and the Downtown core.

- **MOP IM-48:** As a pilot program, apply interim Multimodal Level of Service (MMLOS) standards for development proposals Downtown.

- **MOP IM-49:** Actively promote and develop plans for the extension of the Metro Green Line Station to the Blue Line Willow Station to increase regional connectivity.

- **MOP IM-50:** Review all capital improvement projects to ensure improvements located on existing and planned bus routes include modification of street, curb, and sidewalk configurations to allow for easier and more efficient bus operation and improved passenger access and safety while maintaining overall pedestrian and bicycle safety and convenience.

- **MOP IM-51:** Ensure that the City's Transportation Impact Fee Program provides adequate funding for necessary transportation improvements that will benefit all travel modes, while also incentivizing development that is less dependent on expensive, new transportation infrastructure.

- **MOP IM-52:** Review and, if necessary, update the City's Transportation Impact Fee Program to ensure that funding is provided for necessary transportation improvements that will benefit all travel modes.

- **MOP IM-53:** Integrate financing and implementation of pedestrian, bicycle, and transit improvement projects with other related street modifications projects.

- **MOP IM-54:** Participate with local, regional, State and federal agencies, and other organizations.

- **MOP IM-55:** Support the casual carpool system by enhancing existing facilities and amenities. If necessary, the carpool facilities should be reconfigured or relocated to equally convenient locations.

- **MOP IM-56:** When industry best practice has been established, adopt a MMLOS standard.

- **MOP IM-57:** Develop a program to regularly evaluate traffic collision data. Identify top collision locations for automobiles, bicycles, and pedestrians, and develop appropriate countermeasures.

- **MOP IM-58:** Develop street and alley vacation guidelines.

- **MOP IM-59:** Create a mechanism to adjust the pricing and hours of availability and turnover of on-street parking consistent with the cost of parking garages and demand.

- **MOP IM-60:** Revise current parking space requirements to reflect shared parking and park-once policies.

Consistent with MOP IM-51 and MOP IM-52, the City is currently engaged in updating the Transportation Impact Fee Program to provide for improved mobility (including pedestrian and bicycle infrastructure) and otherwise manage travel demand. However, the timing and effectiveness of improvements funded through the Transportation Impact Fee Program are not known at this time. The effect of all of the measures identified in the Mobility Element on individual intersection LOS cannot be guaranteed because they rely on the changing attitudes and actions of many commuters. In addition, when some automobile trips are converted into alternative modes, some automobile trips that would otherwise have been discouraged by congestion may occur. Therefore, although these measures would contribute to a reduced vehicle LOS, their effects cannot be quantified and they cannot be considered mitigation for the impacted freeway facilities and 48 impacted intersections for the purposes of CEQA.

Individual projects generating more than 100 vehicle trips per day would be required by the City's *TIA Guidelines* to analyze that project's potential traffic impacts and mitigation at any intersection where the project contributes 50 or more peak hour trips. This finer grained analysis may identify

feasible mitigation, particularly at adjacent intersections where vacation of necessary right-of-way could be part of the project description. However, revised CEQA guidelines will remove vehicle LOS from consideration as an environmental impact for all jurisdictions by July 1, 2020. While analysis and reduction of a project's potential VMT may reduce traffic volume, it is possible that the automobile LOS deficiencies identified in this TIA would not be addressed. Therefore, the following mitigation measure is recommended to reduce the level of traffic impacts.

Mitigation Measure T-1

Prior to approval of any project that is forecast to generate 100 or more peak-hour trips, as determined by the City of Long Beach (City) Traffic Engineer, the property owners/developers shall prepare a traffic improvement analysis of any facilities under the jurisdiction of Caltrans at which the project is anticipated to contribute 50 or more peak-hour trips, analyzing the impact on such state transportation facilities where Caltrans has previously prepared a valid traffic study, as identified below, and identified feasible operational and physical improvements and has determined the associated fees necessary to mitigate project-related impacts. The fair share cost of such improvements shall be assessed if transportation analysis demonstrates such improvements can achieve vehicle level of service (LOS) D (as measured by Intersection Capacity Utilization or Highway Capacity Manual methodology) or an improved vehicle level of service, if LOS D cannot be feasibly achieved. The Conditions of Approval for the project shall require the property owner/developer to construct, bond for, or pay reasonable fair share fees to the City who will work jointly with Caltrans to implement such improvements, unless alternative funding sources have been identified.

In the event that Caltrans prepares a valid study, as defined below, that identifies fair share contribution funding sources attributable to and paid from private development to supplement other regional and State funding sources necessary to undertake improvements of impacted state transportation facilities, then the project applicant shall use reasonable efforts to pay the applicable fair share amount to Caltrans. The study shall be reviewed and approved by the California Transportation Commission. It shall include fair share contributions related to private development based on nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4) and, to this end, the study shall recognize that impacts to Caltrans facilities that are not attributable to development located within the City of Long Beach are not required to pay in excess of such developments' fair share obligations. The fee study shall also be compliant with Government Code § 66001(g) and any other applicable provisions of law. If Caltrans chooses to accept the project Applicant's fair share payment, Caltrans shall apply the payment to the fee program adopted by Caltrans or agreed upon by the City and Caltrans as a result of the fair share fee study.

After implementing Mitigation Measure T-1, some of the potentially significant traffic impacts to intersections in Long Beach, intersections in neighboring cities, Caltrans intersections, and freeway facilities may be reduced while others are likely to remain significant and unavoidable.

CONCLUSION

This TIA identified traffic impacts resulting from changes to land uses arising from the City of Long Beach (City) adopting the proposed Land Use and Urban Design Elements of the General Plan. The

Land Use and Urban Design Elements do not propose and cannot mandate construction of any new structures within Long Beach. Rather, the Land Use and Urban Design Elements are plans to strategically accommodate forecasted growth in population, housing, and employment. Through processes established by the State, the United States Department of Housing and Urban Development, and SCAG, the City is compelled to plan for the accommodation of:

- **Population:** 18,230 new residents, for a total of 484,485 by 2040
- **Housing:** 28,524 new dwelling units, for a total of 192,318 by 2040
- **Employment:** 28,511 new jobs anticipated, for a total of 181,665 by 2040

In a departure from the existing Land Use Element, which segregates property with traditional single-use land use designations, the proposed Land Use Element establishes 14 PlaceTypes that would allow for a combination of land uses at varying densities and intensities to allow for greater flexibility and a mix of compatible land uses. Under the proposed Land Use Element, approximately 13 percent of the city is proposed to result in concentrated land use changes as compared to existing conditions. These areas are referred to "Major Areas of Change" throughout the proposed Land Use Element. These areas of concentrated land use changes were identified because they are supported by alternative transportation options consistent with the Mobility Element. Concentrating the increased land use density along the corridors with existing and planned infrastructure to support alternative modes of travel can result in reduced automobile trips generated from these land uses.

The TIA sampled 120 intersections in Long Beach and adjacent cities including 30 intersections under Caltrans jurisdiction. The traffic volume increase between Existing (2018) and General Plan Anticipated Buildout (2040) With the Proposed Project is considered significant at 48 of the 120 intersections included in the study area (40 percent). It should be noted that compared to General Plan Horizon Year (2040) No Project, the TIA shows improvement at 4 intersections and degradation at 9 intersections with the proposed Land Use Element. Potentially significant traffic impacts were also identified at freeway facilities. Physical improvements that would retain the performance goal of LOS D were identified but constraints to implementing the physical improvements render them infeasible.

The proposed Land Use and Urban Design Elements plan for growth near infrastructure for alternative modes of transportation. The Mobility Element includes Implementation Measures designed to promote mobility by supporting all travel modes, including walking, bicycling, and use of transit, thereby reducing the number of automobile trips on the roadway network. The analysis of VMT with the proposed Land Use Element shows a reduction in VMT per capita from 19.9 in existing conditions to 18.2 with the project. The VMT analysis further showed a reduction in peak hour VMT per capita with the proposed Land Use Element compared to the old Land Use Element. Although off-peak VMT increases compared to the old Land Use Element due to the increase in number of households, the VMT per household decreases with the proposed Land Use Element. The State of California has concurrent goals of reducing VMT and increasing housing supply to improve affordability and accommodate the workforce. The City believes that the proposed General Plan strikes the appropriate balance between the State's concurrent goals of reducing VMT and increasing housing supply.

While reducing vehicle travel demand may reduce the level of traffic impacts identified in this TIA, the effects cannot be quantified and the City's mobility planning cannot be considered mitigation for the impacted freeway facilities and 48 impacted intersections for the purposes of CEQA. Therefore, Mitigation Measure T-1, as outlined above, is recommended to reduce the level of traffic impacts.

After implementing Mitigation Measure T-1, some of the potentially significant traffic impacts to intersections in Long Beach, intersections in neighboring cities, Caltrans intersections, and freeway facilities may be reduced while others are likely to remain significant and unavoidable.

REFERENCES

California Department of Transportation (Caltrans). Caltrans Guide for Preparation of Traffic Impact Studies 2002. December.

City of Long Beach, October 2013. Mobility Element.

City of Long Beach Department of Public Works. 2018. *Traffic Impact Analysis (TIA) Guidelines.*

Los Angeles County Metropolitan Transportation Authority (Metro). 2010. *2010 Congestion Management Program*.

Transportation Research Board of the National Academies (TRB). 2016. *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis*.

APPENDIX A

TRAFFIC VOLUME DATA

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National Data & Surveying Services

Intersection Turning Movement Count

Location: Avalon Blvd & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-099
Date: 5/23/2018

Total

NS/EW Streets:	Avalon Blvd				Avalon Blvd				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	35	61	21	0	30	58	26	0	30	144	15	0	11	247	30	0	708
7:15 AM	38	87	29	0	29	44	32	0	42	173	26	0	14	345	36	0	895
7:30 AM	53	121	33	0	63	94	43	0	31	209	22	0	9	290	36	0	1004
7:45 AM	56	148	47	0	95	167	46	0	43	249	27	0	23	250	31	0	1182
8:00 AM	55	105	51	0	75	174	42	0	26	216	30	0	19	283	28	0	1104
8:15 AM	34	69	22	0	45	86	28	0	21	208	30	0	18	259	30	0	850
8:30 AM	44	62	21	0	38	78	15	0	18	164	29	0	13	192	34	0	708
8:45 AM	46	70	21	0	39	73	16	0	16	154	22	0	15	221	33	0	726
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	361	723	245	0	414	774	248	0	227	1517	201	0	122	2087	258	0	7177
APPROACH %'s :	27.16%	54.40%	18.43%	0.00%	28.83%	53.90%	17.27%	0.00%	11.67%	77.99%	10.33%	0.00%	4.95%	84.60%	10.46%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	202	461	160	0	262	479	163	0	142	847	105	0	65	1168	131	0	4185
PEAK HR FACTOR :	0.902	0.779	0.784	0.000	0.689	0.688	0.886	0.000	0.826	0.850	0.875	0.000	0.707	0.846	0.910	0.000	0.885
		0.820				0.734				0.857				0.863			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	51	103	29	0	79	137	32	0	24	278	40	0	23	230	35	0	1061
4:15 PM	54	106	29	0	66	128	31	0	29	291	40	0	17	243	33	0	1067
4:30 PM	54	120	34	0	63	146	34	0	28	281	45	0	27	265	37	0	1134
4:45 PM	65	113	38	0	52	156	36	0	24	262	34	0	21	248	41	0	1090
5:00 PM	61	140	35	0	74	121	39	0	15	298	38	0	29	254	42	0	1146
5:15 PM	48	107	33	0	67	114	36	0	26	303	36	0	26	292	51	0	1139
5:30 PM	60	126	22	0	80	133	47	0	21	266	35	0	23	253	31	0	1097
5:45 PM	54	99	22	0	55	98	34	0	21	279	30	0	28	261	33	0	1014
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	447	914	242	0	536	1033	289	0	188	2258	298	0	194	2046	303	0	8748
APPROACH %'s :	27.89%	57.02%	15.10%	0.00%	28.85%	55.60%	15.55%	0.00%	6.85%	82.29%	10.86%	0.00%	7.63%	80.46%	11.92%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	228	480	140	0	256	537	145	0	93	1144	153	0	103	1059	171	0	4509
PEAK HR FACTOR :	0.877	0.857	0.921	0.000	0.865	0.861	0.929	0.000	0.830	0.944	0.850	0.000	0.888	0.907	0.838	0.000	0.984
		0.898				0.961				0.952				0.903			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Avalon Blvd & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-100
Date: 5/23/2018

Total

NS/EW Streets:	Avalon Blvd				Avalon Blvd				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	53	6	0	11	44	18	0	18	77	9	0	14	134	9	0	405
7:15 AM	9	55	7	0	15	80	30	0	32	103	3	0	27	159	15	0	535
7:30 AM	11	73	6	0	15	82	24	0	50	105	6	0	40	157	14	0	583
7:45 AM	11	74	18	0	19	86	31	0	48	132	9	0	28	136	15	0	607
8:00 AM	16	55	11	0	20	77	34	0	32	102	11	0	17	114	10	0	499
8:15 AM	8	48	8	0	26	71	26	0	32	108	15	0	18	130	11	0	501
8:30 AM	10	43	6	0	14	61	26	0	29	93	10	0	13	95	10	0	410
8:45 AM	15	36	13	0	19	53	22	0	24	91	4	0	18	99	21	0	415
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	92	437	75	0	139	554	211	0	265	811	67	0	175	1024	105	0	3955
APPROACH %'s :	15.23%	72.35%	12.42%	0.00%	15.38%	61.28%	23.34%	0.00%	23.18%	70.95%	5.86%	0.00%	13.42%	78.53%	8.05%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	47	257	42	0	69	325	119	0	162	442	29	0	112	566	54	0	2224
PEAK HR FACTOR :	0.734	0.868	0.583	0.000	0.863	0.945	0.875	0.000	0.810	0.837	0.659	0.000	0.700	0.890	0.900	0.000	0.916
	0.840				0.943				0.837				0.867				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	16	76	19	0	33	109	41	0	44	141	9	0	29	123	20	0	660
4:15 PM	16	52	14	0	26	92	39	0	36	146	13	0	30	115	24	0	603
4:30 PM	24	85	13	0	26	73	28	0	37	133	10	0	22	164	32	0	647
4:45 PM	23	101	21	0	34	88	34	0	41	132	11	0	29	139	11	0	664
5:00 PM	24	94	35	0	9	70	34	0	39	143	10	0	31	137	26	0	652
5:15 PM	23	67	17	0	28	64	33	0	34	150	7	0	28	177	36	0	664
5:30 PM	15	81	14	0	24	71	40	0	35	127	7	0	24	159	28	0	625
5:45 PM	16	70	11	0	11	77	37	0	47	134	11	0	24	140	22	0	600
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	157	626	144	0	191	644	286	0	313	1106	78	0	217	1154	199	0	5115
APPROACH %'s :	16.94%	67.53%	15.53%	0.00%	17.04%	57.45%	25.51%	0.00%	20.91%	73.88%	5.21%	0.00%	13.82%	73.50%	12.68%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	94	347	86	0	97	295	129	0	151	558	38	0	110	617	105	0	2627
PEAK HR FACTOR :	0.979	0.859	0.614	0.000	0.713	0.838	0.949	0.000	0.921	0.930	0.864	0.000	0.887	0.871	0.729	0.000	0.989
	0.861				0.835				0.973				0.863				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wilmington Ave & Sepulveda Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-090
Date: 5/23/2018

Total

NS/EW Streets:	Wilmington Ave				Wilmington Ave				Sepulveda Blvd				Sepulveda Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	98	25	1	27	91	49	0	29	84	9	0	25	118	24	0	585
7:15 AM	3	99	24	0	22	123	46	0	33	92	7	1	39	139	14	0	642
7:30 AM	7	122	49	0	25	101	48	0	54	106	14	0	37	153	25	0	741
7:45 AM	4	151	56	0	28	97	53	0	54	104	12	0	23	134	35	1	752
8:00 AM	4	105	33	0	26	114	55	1	45	75	10	0	38	127	30	0	663
8:15 AM	5	108	42	0	32	95	42	1	46	93	11	0	27	116	30	0	648
8:30 AM	3	116	29	0	23	75	48	0	30	66	3	0	14	89	27	0	523
8:45 AM	7	69	21	0	19	80	46	0	24	90	10	1	14	113	35	1	530
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	38	868	279	1	202	776	387	2	315	710	76	2	217	989	220	2	5084
APPROACH %'s :	3.20%	73.19%	23.52%	0.08%	14.78%	56.77%	28.31%	0.15%	28.56%	64.37%	6.89%	0.18%	15.20%	69.26%	15.41%	0.14%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	20	486	180	0	111	407	198	2	199	378	47	0	125	530	120	1	2804
PEAK HR FACTOR :	0.714	0.805	0.804	0.000	0.867	0.893	0.900	0.500	0.921	0.892	0.839	0.000	0.822	0.866	0.857	0.250	0.932
		0.813				0.916				0.897				0.902			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	101	78	0	29	116	54	0	25	145	5	0	22	95	36	0	714
4:15 PM	3	120	70	0	29	110	45	0	29	154	6	0	18	96	40	0	720
4:30 PM	6	112	72	0	41	114	81	0	42	149	10	0	36	123	26	0	812
4:45 PM	7	113	55	0	30	137	75	0	41	158	11	0	25	121	31	0	804
5:00 PM	8	84	79	0	28	161	73	0	36	164	15	0	26	105	17	0	796
5:15 PM	8	70	50	0	32	135	77	0	33	171	7	0	20	125	24	0	752
5:30 PM	4	90	65	0	22	124	56	0	29	178	11	0	32	108	21	0	740
5:45 PM	5	99	36	1	30	121	69	0	36	172	5	0	24	96	16	0	710
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	49	789	505	1	241	1018	530	0	271	1291	70	0	203	869	211	0	6048
APPROACH %'s :	3.65%	58.71%	37.57%	0.07%	13.47%	56.90%	29.63%	0.00%	16.61%	79.11%	4.29%	0.00%	15.82%	67.73%	16.45%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	29	379	256	0	131	547	306	0	152	642	43	0	107	474	98	0	3164
PEAK HR FACTOR :	0.906	0.838	0.810	0.000	0.799	0.849	0.944	0.000	0.905	0.939	0.717	0.000	0.743	0.948	0.790	0.000	0.974
		0.874				0.939				0.973				0.918			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Wilmington Ave & 223rd St
City: Long Beach
Control: Signalized

Project ID: 18-05307-089
Date: 5/23/2018

Total

NS/EW Streets:	Wilmington Ave				Wilmington Ave				223rd St				223rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	2	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	120	28	0	18	227	103	5	79	75	0	0	26	85	4	0	770
7:15 AM	1	129	23	0	13	207	112	3	91	72	4	0	26	117	15	0	813
7:30 AM	2	155	34	0	21	232	107	2	89	113	4	0	32	140	19	0	950
7:45 AM	2	186	44	0	13	245	87	6	90	108	3	0	46	91	15	0	936
8:00 AM	1	134	36	1	15	215	87	2	93	106	4	0	51	118	11	0	874
8:15 AM	3	163	25	2	16	227	68	6	70	85	1	0	25	95	11	0	797
8:30 AM	6	150	31	1	13	173	76	5	82	92	2	0	28	93	5	0	757
8:45 AM	0	125	23	1	16	175	84	2	51	71	3	0	25	87	15	0	678
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	15	1162	244	5	125	1701	724	31	645	722	21	0	259	826	95	0	6575
APPROACH %'s :	1.05%	81.49%	17.11%	0.35%	4.84%	65.90%	28.05%	1.20%	46.47%	52.02%	1.51%	0.00%	21.95%	70.00%	8.05%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	6	604	137	1	62	899	393	13	363	399	15	0	155	466	60	0	3573
PEAK HR FACTOR :	0.750	0.812	0.778	0.250	0.738	0.917	0.877	0.542	0.976	0.883	0.938	0.000	0.760	0.832	0.789	0.000	0.940
		0.806				0.944				0.943				0.891			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	2	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	187	47	1	14	152	61	2	148	198	5	0	23	45	25	0	912
4:15 PM	1	176	30	0	21	168	89	2	132	220	3	0	21	71	31	0	965
4:30 PM	1	144	38	0	28	174	95	5	163	204	3	0	37	75	45	0	1012
4:45 PM	2	158	46	0	13	193	102	2	115	190	2	0	42	88	58	0	1011
5:00 PM	1	160	43	0	22	215	90	5	147	252	8	0	25	73	36	0	1077
5:15 PM	1	161	53	0	15	230	127	5	109	222	6	0	24	60	25	0	1038
5:30 PM	2	163	59	0	22	165	92	3	118	259	2	1	23	79	15	0	1003
5:45 PM	2	147	63	0	20	201	150	4	106	214	3	0	25	51	12	0	998
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	14	1296	379	1	155	1498	806	28	1038	1759	32	1	220	542	247	0	8016
APPROACH %'s :	0.83%	76.69%	22.43%	0.06%	6.23%	60.23%	32.41%	1.13%	36.68%	62.16%	1.13%	0.04%	21.80%	53.72%	24.48%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	5	623	180	0	78	812	414	17	534	868	19	0	128	296	164	0	4138
PEAK HR FACTOR :	0.625	0.967	0.849	0.000	0.696	0.883	0.815	0.850	0.819	0.861	0.594	0.000	0.762	0.841	0.707	0.000	0.961
		0.940				0.876				0.873				0.782			

National Data & Surveying Services Intersection Turning Movement Count

Location: Terminal Island Fwy & Willow St
City: Long Beach
Control: Signalized

Project ID: 18-05307-036
Date: 5/23/2018

Total

NS/EW Streets:	Terminal Island Fwy				Terminal Island Fwy				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	2	0	0	1	0	0	1	3	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	61	0	26	0	0	0	0	0	0	67	44	0	45	168	1	0	412
7:15 AM	38	0	36	0	0	0	0	0	0	82	62	0	40	179	0	0	437
7:30 AM	51	0	47	0	0	0	1	0	0	114	52	0	54	170	1	0	490
7:45 AM	64	0	43	0	0	0	0	0	0	118	52	0	58	171	0	0	506
8:00 AM	70	0	38	1	0	0	0	0	0	106	59	0	37	149	1	0	461
8:15 AM	75	0	36	0	0	0	0	0	1	109	82	0	41	149	0	0	493
8:30 AM	77	0	48	0	0	1	0	0	0	85	67	0	35	108	0	0	421
8:45 AM	64	0	42	0	0	0	0	0	1	79	70	1	27	119	0	0	403
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	500	0	316	1	0	1	1	0	2	760	488	1	337	1213	3	0	3623
APPROACH %'s :	61.20%	0.00%	38.68%	0.12%	0.00%	50.00%	50.00%	0.00%	0.16%	60.75%	39.01%	0.08%	21.70%	78.11%	0.19%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	260	0	164	1	0	0	1	0	1	447	245	0	190	639	2	0	1950
PEAK HR FACTOR :	0.867	0.000	0.872	0.250	0.000	0.000	0.250	0.000	0.250	0.947	0.747	0.000	0.819	0.934	0.500	0.000	0.963
	0.957				0.250				0.902				0.907				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1.5	0.5	2	0	0	1	0	0	1	3	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	106	0	93	0	0	0	1	0	0	219	63	0	35	105	0	0	622
4:15 PM	115	0	106	0	0	0	0	0	0	215	73	0	49	111	0	0	669
4:30 PM	104	0	103	0	2	0	0	0	0	255	56	0	51	95	0	0	666
4:45 PM	91	0	102	0	0	0	0	0	0	244	62	0	53	110	0	0	662
5:00 PM	58	0	117	0	0	0	0	0	0	245	76	1	35	85	0	0	617
5:15 PM	46	0	96	0	0	0	0	0	0	211	82	0	34	117	0	0	586
5:30 PM	31	0	66	0	0	0	0	0	0	241	71	0	33	82	3	0	527
5:45 PM	36	0	44	0	0	0	0	0	0	209	77	0	40	93	0	0	499
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	587	0	727	0	2	0	1	0	0	1839	560	1	330	798	3	0	4848
APPROACH %'s :	44.67%	0.00%	55.33%	0.00%	66.67%	0.00%	33.33%	0.00%	0.00%	76.63%	23.33%	0.04%	29.18%	70.56%	0.27%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	416	0	404	0	2	0	1	0	0	933	254	0	188	421	0	0	2619
PEAK HR FACTOR :	0.904	0.000	0.953	0.000	0.250	0.000	0.250	0.000	0.000	0.915	0.870	0.000	0.887	0.948	0.000	0.000	0.979
	0.928				0.375				0.954				0.934				

National Data & Surveying Services Intersection Turning Movement Count

Location: Santa Fe Ave & Wardlow Rd
City: Long Beach
Control: Signalized

Project ID: 18-05307-037
Date: 5/23/2018

Total

NS/EW Streets:	Santa Fe Ave				Santa Fe Ave				Wardlow Rd				Wardlow Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	1	0	2	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	89	93	16	0	35	89	105	0	16	36	21	0	33	90	94	0	717
7:15 AM	124	100	24	0	25	81	99	0	15	42	51	0	34	114	114	0	823
7:30 AM	119	159	27	0	32	94	130	0	22	52	56	0	30	96	124	0	941
7:45 AM	100	149	49	0	55	94	93	0	32	35	38	0	50	95	184	0	974
8:00 AM	98	130	26	0	41	127	96	0	22	32	59	0	53	109	89	0	882
8:15 AM	112	131	47	0	50	92	90	0	28	49	44	0	37	84	109	0	873
8:30 AM	96	116	39	0	28	114	109	0	23	45	39	0	41	88	72	0	810
8:45 AM	107	78	41	0	38	96	81	0	20	36	63	0	36	74	66	0	736
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	845	956	269	0	304	787	803	0	178	327	371	0	314	750	852	0	6756
APPROACH %'s :	40.82%	46.18%	13.00%	0.00%	16.05%	41.55%	42.40%	0.00%	20.32%	37.33%	42.35%	0.00%	16.39%	39.14%	44.47%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	429	569	149	0	178	407	409	0	104	168	197	0	170	384	506	0	3670
PEAK HR FACTOR :	0.901	0.895	0.760	0.000	0.809	0.801	0.787	0.000	0.813	0.808	0.835	0.000	0.802	0.881	0.688	0.000	0.942
	0.940				0.941				0.902				0.805				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	1	0	2	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	80	93	41	0	100	160	168	0	14	111	56	0	40	45	45	0	953
4:15 PM	86	115	47	0	103	165	167	0	16	123	50	0	43	45	43	0	1003
4:30 PM	74	113	59	0	119	176	195	0	25	144	68	0	39	49	40	0	1101
4:45 PM	66	147	40	0	123	190	225	0	14	130	59	0	41	75	41	0	1151
5:00 PM	65	119	54	0	110	187	183	0	14	130	68	0	35	63	38	0	1066
5:15 PM	87	118	39	0	106	209	170	0	9	160	71	0	43	50	43	0	1105
5:30 PM	63	97	43	0	118	209	185	0	15	168	67	0	41	58	33	0	1097
5:45 PM	43	79	49	0	93	216	147	0	11	133	67	0	38	46	40	0	962
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	564	881	372	0	872	1512	1440	0	118	1099	506	0	320	431	323	0	8438
APPROACH %'s :	31.04%	48.49%	20.47%	0.00%	22.80%	39.54%	37.66%	0.00%	6.85%	63.78%	29.37%	0.00%	29.80%	40.13%	30.07%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	292	497	192	0	458	762	773	0	62	564	266	0	158	237	162	0	4423
PEAK HR FACTOR :	0.839	0.845	0.814	0.000	0.931	0.911	0.859	0.000	0.620	0.881	0.937	0.000	0.919	0.790	0.942	0.000	0.961
	0.969				0.926				0.929				0.887				

National Data & Surveying Services Intersection Turning Movement Count

Location: Santa Fe Ave & Willow St
City: Long Beach
Control: Signalized

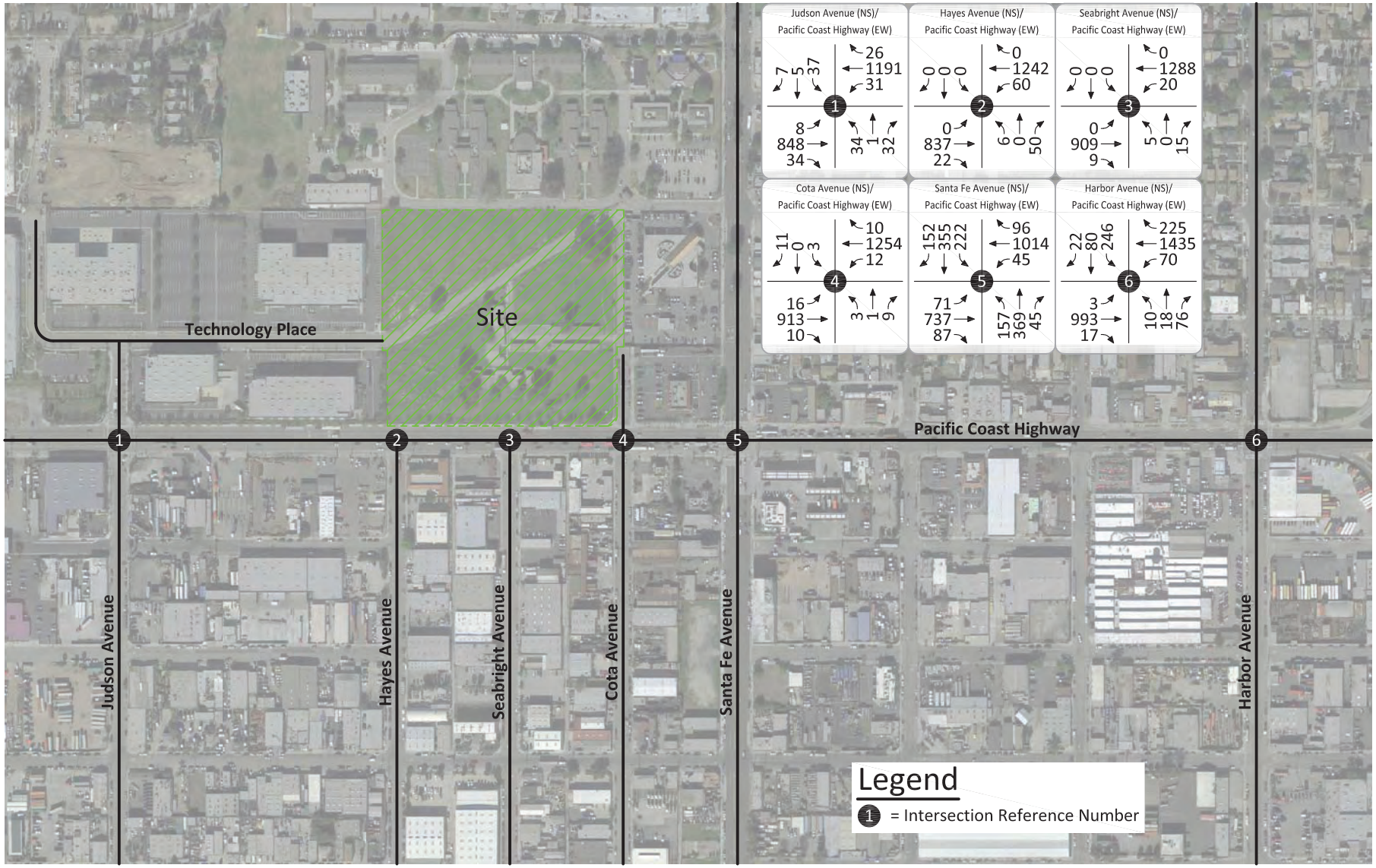
Project ID: 18-05307-035
Date: 5/23/2018

Total

NS/EW Streets:	Santa Fe Ave				Santa Fe Ave				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	2	2	0	0	1	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	35	24	0	28	75	28	0	18	115	8	0	40	187	37	0	614
7:15 AM	27	89	48	0	41	87	32	0	23	138	9	0	61	185	35	0	775
7:30 AM	20	125	55	0	77	176	48	0	32	160	10	0	87	195	55	0	1040
7:45 AM	31	176	52	0	78	148	35	0	37	161	17	0	75	196	61	0	1067
8:00 AM	25	142	48	0	72	98	34	1	30	141	13	0	45	167	55	0	871
8:15 AM	23	81	50	0	62	79	28	1	34	140	19	1	52	143	48	0	761
8:30 AM	22	73	56	0	56	79	30	1	26	149	8	0	45	130	46	0	721
8:45 AM	12	97	62	0	65	69	22	0	21	112	11	0	39	101	39	0	650
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	179	818	395	0	479	811	257	3	221	1116	95	1	444	1304	376	0	6499
APPROACH %'s :	12.86%	58.76%	28.38%	0.00%	30.90%	52.32%	16.58%	0.19%	15.42%	77.88%	6.63%	0.07%	20.90%	61.39%	17.70%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	103	532	203	0	268	509	149	1	122	600	49	0	268	743	206	0	3753
PEAK HR FACTOR :	0.831	0.756	0.923	0.000	0.859	0.723	0.776	0.250	0.824	0.932	0.721	0.000	0.770	0.948	0.844	0.000	0.879
	0.809				0.770				0.897				0.903				

NS/EW Streets:	Santa Fe Ave				Santa Fe Ave				Willow St				Willow St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	2	2	0	0	1	2	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	21	146	65	0	76	104	18	0	35	280	8	0	49	126	58	0	986
4:15 PM	16	118	61	0	98	121	30	0	40	257	12	0	46	149	58	0	1006
4:30 PM	19	137	62	0	83	101	25	0	44	311	6	0	42	130	55	0	1015
4:45 PM	17	140	56	0	87	80	28	0	41	274	8	0	42	126	57	0	956
5:00 PM	20	118	74	0	74	106	30	1	41	305	7	0	48	117	52	0	993
5:15 PM	19	100	50	0	88	103	21	0	39	251	9	0	40	141	53	0	914
5:30 PM	17	108	55	0	77	99	20	0	35	244	12	0	48	148	52	0	915
5:45 PM	19	71	41	0	67	95	21	0	23	213	24	1	61	115	48	0	799
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	148	938	464	0	650	809	193	1	298	2135	86	1	376	1052	433	0	7584
APPROACH %'s :	9.55%	60.52%	29.94%	0.00%	39.32%	48.94%	11.68%	0.06%	11.83%	84.72%	3.41%	0.04%	20.20%	56.53%	23.27%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	72	513	253	0	342	408	113	1	166	1147	33	0	178	522	222	0	3970
PEAK HR FACTOR :	0.900	0.916	0.855	0.000	0.872	0.843	0.942	0.250	0.943	0.922	0.688	0.000	0.927	0.876	0.957	0.000	0.978
	0.961				0.867				0.932				0.911				

Figure 5
Existing Morning Peak Hour Intersection Turning Movement Volumes

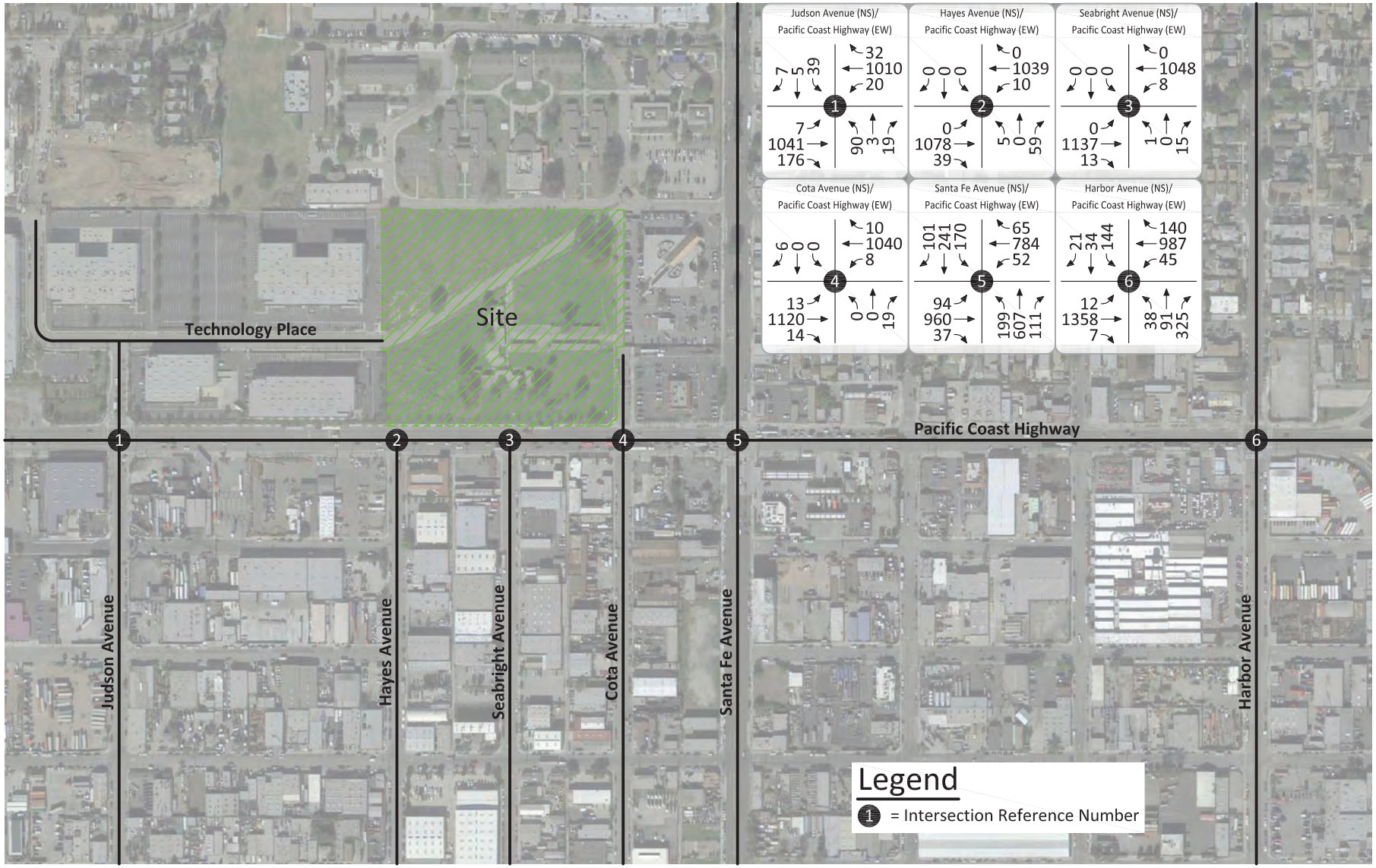


KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 6689b

Figure 6
Existing Evening Peak Hour Intersection Turning Movement Volumes



KUNZMAN ASSOCIATES, INC.

OVER 40 YEARS OF EXCELLENT SERVICE

JN 6689b

National Data & Surveying Services Intersection Turning Movement Count

Location: Santa Fe Ave & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-033
Date: 5/23/2018

Total

NS/EW Streets:	Santa Fe Ave				Santa Fe Ave				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	24	5	0	19	27	26	0	21	161	2	0	0	206	48	0	544
7:15 AM	4	45	6	0	24	27	15	0	17	173	2	0	2	194	59	0	568
7:30 AM	6	72	4	0	48	33	32	0	12	177	2	0	3	206	92	0	687
7:45 AM	5	74	6	0	46	48	31	0	23	128	3	0	1	197	74	0	636
8:00 AM	6	50	2	0	30	34	30	0	14	136	0	0	2	207	58	0	569
8:15 AM	8	35	3	0	37	26	23	0	11	122	4	0	3	200	48	0	520
8:30 AM	3	38	5	0	30	29	15	0	18	140	1	0	8	176	32	0	495
8:45 AM	7	36	4	0	36	32	24	0	8	172	0	0	3	165	43	0	530
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	44	374	35	0	270	256	196	0	124	1209	14	0	22	1551	454	0	4549
APPROACH %'s :	9.71%	82.56%	7.73%	0.00%	37.40%	35.46%	27.15%	0.00%	9.21%	89.76%	1.04%	0.00%	1.09%	76.52%	22.40%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	21	241	18	0	148	142	108	0	66	614	7	0	8	804	283	0	2460
PEAK HR FACTOR :	0.875	0.814	0.750	0.000	0.771	0.740	0.844	0.000	0.717	0.867	0.583	0.000	0.667	0.971	0.769	0.000	0.895
	0.824				0.796				0.895				0.909				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	61	11	0	61	39	26	0	27	215	3	0	3	189	32	0	673
4:15 PM	8	50	8	0	45	63	26	0	27	266	3	0	7	209	63	0	775
4:30 PM	8	91	24	0	41	40	37	0	36	283	8	0	3	181	45	0	797
4:45 PM	9	96	13	0	43	53	26	0	34	253	6	0	2	166	40	0	741
5:00 PM	6	84	12	0	39	42	19	0	25	278	4	0	0	115	44	0	668
5:15 PM	9	56	8	0	42	38	26	0	20	242	2	0	4	125	37	0	609
5:30 PM	3	33	9	0	36	49	31	0	17	204	5	0	2	98	42	0	529
5:45 PM	3	29	7	0	40	34	18	0	29	217	5	0	3	129	45	0	559
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	52	500	92	0	347	358	209	0	215	1958	36	0	24	1212	348	0	5351
APPROACH %'s :	8.07%	77.64%	14.29%	0.00%	37.96%	39.17%	22.87%	0.00%	9.73%	88.64%	1.63%	0.00%	1.52%	76.52%	21.97%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	31	298	56	0	190	195	115	0	124	1017	20	0	15	745	180	0	2986
PEAK HR FACTOR :	0.861	0.776	0.583	0.000	0.779	0.774	0.777	0.000	0.861	0.898	0.625	0.000	0.536	0.891	0.714	0.000	0.937
	0.783				0.933				0.888				0.842				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-710 NB Ramps & SR-1/Pacific Coast Hwy
City: Long Beach
Control: 1-Way Stop (NB)

Project ID: 18-05723-010
Date: 11/1/2018

Total

NS/EW Streets:	I-710 NB Ramps				I-710 NB Ramps				SR-1/Pacific Coast Hwy				SR-1/Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	1	0	0	0	1	0	0	2.5	0.5	0	0	1.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	8	0	0	0	42	0	0	182	97	0	0	225	130	0	684
7:15 AM	0	0	15	0	0	0	32	0	0	200	106	0	0	300	119	0	772
7:30 AM	0	0	10	0	0	0	27	0	0	240	113	0	0	304	140	0	834
7:45 AM	0	0	62	0	0	0	27	0	0	268	94	0	0	295	117	0	863
8:00 AM	0	0	39	0	0	0	8	0	0	248	107	0	0	237	133	0	772
8:15 AM	0	0	37	0	0	0	22	0	0	233	95	0	0	263	132	0	782
8:30 AM	0	0	29	0	0	0	30	0	0	204	90	0	0	222	100	0	675
8:45 AM	0	0	17	0	0	0	35	0	0	185	120	0	0	230	90	0	677
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	217	0	0	0	223	0	0	1760	822	0	0	2076	961	0	6059
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	68.16%	31.84%	0.00%	0.00%	68.36%	31.64%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	148	0	0	0	84	0	0	989	409	0	0	1099	522	0	3251
PEAK HR FACTOR :	0.000	0.000	0.597	0.000	0.000	0.000	0.778	0.000	0.000	0.923	0.905	0.000	0.000	0.904	0.932	0.000	0.942
	0.597				0.778				0.965				0.913				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	1	0	0	0	1	0	0	2.5	0.5	0	0	1.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	27	0	0	0	24	0	0	345	163	0	0	171	48	0	778
4:15 PM	0	0	30	0	0	0	16	0	0	346	108	0	0	187	64	0	751
4:30 PM	0	0	33	0	0	0	16	0	0	379	143	0	0	194	86	0	851
4:45 PM	0	0	17	0	0	0	10	0	0	367	172	0	0	170	78	0	814
5:00 PM	0	0	36	0	0	0	5	0	0	422	142	0	0	186	79	0	870
5:15 PM	0	0	52	0	0	0	8	0	0	405	109	0	0	182	78	0	834
5:30 PM	0	0	50	0	0	0	29	0	0	395	137	0	0	189	66	0	866
5:45 PM	0	0	28	0	0	0	28	0	0	345	112	0	0	167	79	0	759
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	273	0	0	0	136	0	0	3004	1086	0	0	1446	578	0	6523
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	73.45%	26.55%	0.00%	0.00%	71.44%	28.56%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	155	0	0	0	52	0	0	1589	560	0	0	727	301	0	3384
PEAK HR FACTOR :	0.000	0.000	0.745	0.000	0.000	0.000	0.448	0.000	0.000	0.941	0.814	0.000	0.000	0.962	0.953	0.000	0.972
	0.745				0.448				0.953				0.970				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-710 SB Ramps & SR-1/Pacific Coast Hwy
City: Long Beach
Control: No Control

Project ID: 18-05723-009
Date: 11/1/2018

Total

NS/EW Streets:	I-710 SB Ramps				I-710 SB Ramps				SR-1/Pacific Coast Hwy				SR-1/Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	1	0	0	0	1	0	0	1.5	0.5	0	0	1.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	83	0	0	0	145	0	0	202	45	0	0	234	30	0	739
7:15 AM	0	0	88	0	0	0	120	0	0	209	46	0	0	279	37	0	779
7:30 AM	0	0	80	0	0	0	121	0	0	269	51	0	0	312	30	0	863
7:45 AM	0	0	82	0	0	0	109	0	0	275	48	0	0	271	37	0	822
8:00 AM	0	0	65	0	0	0	91	0	0	281	53	0	0	225	30	0	745
8:15 AM	0	0	88	0	0	0	111	0	0	247	45	0	0	237	38	0	766
8:30 AM	0	0	67	0	0	0	112	0	0	225	27	0	0	232	28	0	691
8:45 AM	0	0	69	0	0	0	125	0	0	233	40	0	0	230	33	0	730
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	622	0	0	0	934	0	0	1941	355	0	0	2020	263	0	6135
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	84.54%	15.46%	0.00%	0.00%	88.48%	11.52%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	315	0	0	0	441	0	0	1034	198	0	0	1087	134	0	3209
PEAK HR FACTOR :	0.000	0.000	0.895	0.000	0.000	0.000	0.911	0.000	0.000	0.920	0.934	0.000	0.000	0.871	0.905	0.000	0.930
	0.895				0.911				0.922				0.893				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	1	0	0	0	1	0	0	1.5	0.5	0	0	1.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	109	0	0	0	119	0	0	392	28	0	0	176	16	0	840
4:15 PM	0	0	89	0	0	0	124	0	0	365	28	0	0	193	6	0	805
4:30 PM	0	0	89	0	0	0	118	0	0	428	30	0	0	197	12	0	874
4:45 PM	0	0	110	0	0	0	83	0	0	425	25	0	0	159	21	0	823
5:00 PM	0	0	114	0	0	0	114	0	0	450	44	0	0	193	10	0	925
5:15 PM	0	0	96	0	0	0	122	0	0	423	47	0	0	162	19	0	869
5:30 PM	0	0	91	0	0	0	112	0	0	430	64	0	0	203	17	0	917
5:45 PM	0	0	103	0	0	0	97	0	0	359	54	0	0	182	16	0	811
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	801	0	0	0	889	0	0	3272	320	0	0	1465	117	0	6864
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	91.09%	8.91%	0.00%	0.00%	92.60%	7.40%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	411	0	0	0	431	0	0	1728	180	0	0	717	67	0	3534
PEAK HR FACTOR :	0.000	0.000	0.901	0.000	0.000	0.000	0.883	0.000	0.000	0.960	0.703	0.000	0.000	0.883	0.798	0.000	0.955
	0.901				0.883				0.966				0.891				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Wed, May 25, 16	NORTH & SOUTH:	Magnolia	LOCATION #:	12
	EAST & WEST:	Ocean	CONTROL:	SIGNAL

NOTES:

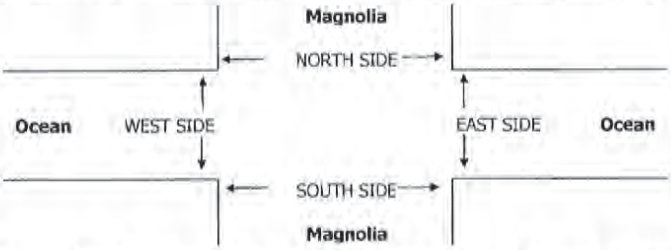
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Magnolia			SOUTHBOUND Magnolia			EASTBOUND Ocean			WESTBOUND Ocean			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	TOTAL
AM	7:00 AM	2	4	1	26	15	51	5	70	2	15	421	14	626
	7:15 AM	4	2	2	32	36	79	23	117	2	25	427	19	768
	7:30 AM	5	5	4	32	35	96	23	103	2	12	474	27	818
	7:45 AM	3	6	9	34	29	65	28	124	8	19	457	27	809
	8:00 AM	5	7	5	42	41	77	30	130	8	23	397	39	804
	8:15 AM	6	4	2	43	28	61	30	132	5	29	401	30	771
	8:30 AM	4	4	0	52	20	52	25	147	6	24	397	31	762
	8:45 AM	1	5	2	53	25	75	24	120	5	16	298	40	664
	VOLUMES	30	37	25	314	229	556	188	943	38	163	3,272	227	6,022
	APPROACH %	33%	40%	27%	29%	21%	51%	16%	81%	3%	4%	89%	6%	
	APP/DEPART	92	/	452	1,099	/	432	1,169	/	1,284	3,662	/	3,854	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	19	22	20	151	133	299	111	489	23	83	1,729	123	3,202
	APPROACH %	31%	36%	33%	26%	23%	51%	18%	78%	4%	4%	89%	6%	
	PEAK HR FACTOR		0.847			0.894			0.927			0.943		0.979
	APP/DEPART	61	/	256	583	/	238	623	/	662	1,935	/	2,046	0
PM	4:00 PM	12	13	5	55	14	52	23	296	4	13	219	24	730
	4:15 PM	9	8	14	63	22	78	21	283	4	13	232	21	768
	4:30 PM	15	34	9	68	32	91	29	334	6	11	277	25	931
	4:45 PM	15	18	14	48	17	71	41	347	4	16	252	16	859
	5:00 PM	27	17	6	56	21	71	34	339	8	10	301	21	911
	5:15 PM	12	9	6	46	19	50	44	333	4	12	265	13	813
	5:30 PM	11	8	11	42	11	62	34	303	6	12	261	18	779
	5:45 PM	4	6	5	50	12	45	37	282	9	10	195	12	667
	VOLUMES	105	113	70	428	148	520	263	2,517	45	97	2,002	150	6,458
	APPROACH %	36%	39%	24%	39%	14%	47%	9%	89%	2%	4%	89%	7%	
	APP/DEPART	288	/	525	1,096	/	289	2,825	/	3,017	2,249	/	2,627	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	69	78	35	218	89	283	148	1,353	22	49	1,095	75	3,514
	APPROACH %	38%	43%	19%	37%	15%	48%	10%	89%	1%	4%	90%	6%	
	PEAK HR FACTOR		0.784			0.772			0.971			0.918		0.944
	APP/DEPART	182	/	301	590	/	159	1,523	/	1,607	1,219	/	1,447	0

U-TURNS

NB	SB	EB	WB	TTL
0	X	X	X	
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	2	3
1	0	0	0	1
0	0	0	0	0
4	0	0	2	6
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	1	0	1
0	0	0	1	1
1	0	1	2	4



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

National Data & Surveying Services Intersection Turning Movement Count

Location: Pacific Ave & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-032
Date: 5/23/2018

Total

NS/EW Streets:	Pacific Ave				Pacific Ave				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	18	61	16	0	14	56	18	0	19	131	11	0	14	228	16	0	602
7:15 AM	15	87	13	0	22	88	25	0	21	159	15	0	8	273	26	0	752
7:30 AM	17	85	14	0	20	92	25	1	20	197	7	0	10	294	30	0	812
7:45 AM	15	108	16	0	15	137	24	0	21	206	17	0	20	333	25	0	937
8:00 AM	26	88	11	0	26	88	24	0	26	178	14	0	17	304	30	0	832
8:15 AM	21	91	18	0	15	107	27	0	22	188	17	0	21	254	26	0	807
8:30 AM	17	79	18	0	25	92	19	0	25	192	14	0	20	234	33	0	768
8:45 AM	17	93	15	0	16	122	21	0	20	202	11	0	19	224	30	0	790
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	146	692	121	0	153	782	183	1	174	1453	106	0	129	2144	216	0	6300
APPROACH %'s :	15.22%	72.16%	12.62%	0.00%	13.67%	69.88%	16.35%	0.09%	10.04%	83.84%	6.12%	0.00%	5.18%	86.14%	8.68%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	79	372	59	0	76	424	100	1	89	769	55	0	68	1185	111	0	3388
PEAK HR FACTOR :	0.760	0.861	0.819	0.000	0.731	0.774	0.926	0.250	0.856	0.933	0.809	0.000	0.810	0.890	0.925	0.000	0.904
	0.917				0.854				0.935				0.902				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	19	134	28	0	22	91	18	1	37	306	16	0	24	189	33	0	918
4:15 PM	20	122	38	0	22	107	29	1	18	256	17	0	24	183	25	0	862
4:30 PM	25	136	26	0	19	82	18	0	31	351	22	0	18	193	32	0	953
4:45 PM	25	157	29	0	30	101	17	0	23	336	29	0	23	159	26	0	955
5:00 PM	23	118	26	0	21	102	19	1	28	425	23	0	21	212	25	0	1044
5:15 PM	20	169	29	0	27	109	20	0	17	346	23	0	16	201	19	0	996
5:30 PM	18	90	33	0	21	101	14	0	30	338	22	0	14	204	22	0	907
5:45 PM	20	117	23	0	23	102	19	0	20	274	16	0	22	171	22	0	829
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	170	1043	232	0	185	795	154	3	204	2632	168	0	162	1512	204	0	7464
APPROACH %'s :	11.76%	72.18%	16.06%	0.00%	16.27%	69.92%	13.54%	0.26%	6.79%	87.62%	5.59%	0.00%	8.63%	80.51%	10.86%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	93	580	110	0	97	394	74	1	99	1458	97	0	78	765	102	0	3948
PEAK HR FACTOR :	0.930	0.858	0.948	0.000	0.808	0.904	0.925	0.250	0.798	0.858	0.836	0.000	0.848	0.902	0.797	0.000	0.945
	0.898				0.907				0.869				0.916				

National Data & Surveying Services Intersection Turning Movement Count

Location: Pacific Ave & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-031
Date: 5/23/2018

Total

NS/EW Streets:	Pacific Ave				Pacific Ave				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	18	39	8	0	15	56	12	0	15	134	8	0	5	233	11	1	555
7:15 AM	15	66	8	0	18	60	10	0	10	159	10	0	18	245	16	0	635
7:30 AM	14	63	12	0	23	74	9	0	7	155	10	0	20	265	16	0	668
7:45 AM	24	64	9	0	26	107	10	0	9	191	16	0	20	305	21	0	802
8:00 AM	24	72	14	0	22	71	19	0	10	175	16	0	15	258	20	0	716
8:15 AM	19	69	8	0	21	91	22	0	18	180	15	0	22	199	27	0	691
8:30 AM	26	97	15	0	19	66	12	0	20	180	10	0	14	185	32	0	676
8:45 AM	22	80	15	0	29	82	13	0	10	176	22	0	19	193	25	0	686
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	162	550	89	0	173	607	107	0	99	1350	107	0	133	1883	168	1	5429
APPROACH %'s :	20.22%	68.66%	11.11%	0.00%	19.50%	68.43%	12.06%	0.00%	6.36%	86.76%	6.88%	0.00%	6.09%	86.18%	7.69%	0.05%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	93	302	46	0	88	335	63	0	57	726	57	0	71	947	100	0	2885
PEAK HR FACTOR :	0.894	0.778	0.767	0.000	0.846	0.783	0.716	0.000	0.713	0.950	0.891	0.000	0.807	0.776	0.781	0.000	0.899
		0.799				0.850				0.972				0.808			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	21	97	21	0	15	85	10	0	32	311	21	0	17	193	17	0	840
4:15 PM	21	111	16	0	16	101	17	0	29	322	22	0	9	192	29	0	885
4:30 PM	19	122	19	0	20	75	12	0	39	325	15	0	7	174	21	0	848
4:45 PM	12	99	21	0	24	64	8	0	22	246	16	0	9	180	22	0	723
5:00 PM	23	148	24	0	24	81	18	0	12	292	13	0	10	182	27	0	854
5:15 PM	19	124	17	0	24	92	15	0	20	335	10	0	16	170	19	0	861
5:30 PM	18	102	16	0	15	87	8	0	21	254	12	0	18	169	17	0	737
5:45 PM	13	86	7	0	17	76	16	0	13	285	17	0	15	160	15	0	720
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	146	889	141	0	155	661	104	0	188	2370	126	0	101	1420	167	0	6468
APPROACH %'s :	12.41%	75.60%	11.99%	0.00%	16.85%	71.85%	11.30%	0.00%	7.00%	88.30%	4.69%	0.00%	5.98%	84.12%	9.89%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	75	480	80	0	84	321	55	0	102	1185	66	0	35	728	99	0	3310
PEAK HR FACTOR :	0.815	0.811	0.833	0.000	0.875	0.795	0.764	0.000	0.654	0.912	0.750	0.000	0.875	0.948	0.853	0.000	0.935
		0.814				0.858				0.892				0.937			

National Data & Surveying Services Intersection Turning Movement Count

Location: Pacific Ave & 7th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-002
Date: 5/23/2018

Total

NS/EW Streets:	Pacific Ave				Pacific Ave				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	0	0	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	25	0	1	0	34	9	0	0	0	0	0	22	254	10	0	363
7:15 AM	13	35	0	0	0	56	15	0	0	0	0	0	31	279	11	0	440
7:30 AM	11	36	0	1	0	56	8	0	0	0	0	0	24	319	19	0	474
7:45 AM	5	35	0	1	0	107	10	0	0	0	0	0	20	304	15	0	497
8:00 AM	6	43	0	1	0	71	13	0	0	0	0	0	26	295	18	0	473
8:15 AM	20	59	0	0	0	80	21	0	0	0	0	0	26	238	17	0	461
8:30 AM	7	61	0	1	0	68	12	0	0	0	0	0	23	232	18	0	422
8:45 AM	7	51	0	0	0	68	12	0	0	0	0	0	27	187	18	0	370
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	77	345	0	5	0	540	100	0	0	0	0	0	199	2108	126	0	3500
APPROACH %'s :	18.03%	80.80%	0.00%	1.17%	0.00%	84.38%	15.63%	0.00%					8.18%	86.64%	5.18%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	42	173	0	3	0	314	52	0	0	0	0	0	96	1156	69	0	1905
PEAK HR FACTOR :	0.525	0.733	0.000	0.750	0.000	0.734	0.619	0.000	0.000	0.000	0.000	0.000	0.923	0.906	0.908	0.000	0.958
	0.690				0.782								0.912				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	0	0	0	0	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	69	0	1	0	73	20	0	0	0	0	0	19	169	18	0	379
4:15 PM	13	98	0	3	0	65	10	0	0	0	0	0	15	117	24	0	345
4:30 PM	12	97	0	2	0	63	5	0	0	0	0	0	13	155	22	0	369
4:45 PM	9	107	0	1	0	52	11	0	0	0	0	0	21	149	13	0	363
5:00 PM	16	125	0	0	0	54	8	0	0	0	0	0	18	149	19	0	389
5:15 PM	18	122	0	2	0	60	9	0	0	0	0	0	15	152	21	0	399
5:30 PM	9	100	0	3	0	83	16	0	0	0	0	0	17	143	18	0	389
5:45 PM	13	83	0	3	0	59	9	0	0	0	0	0	18	145	14	0	344
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	100	801	0	15	0	509	88	0	0	0	0	0	136	1179	149	0	2977
APPROACH %'s :	10.92%	87.45%	0.00%	1.64%	0.00%	85.26%	14.74%	0.00%					9.29%	80.53%	10.18%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	52	454	0	6	0	249	44	0	0	0	0	0	71	593	71	0	1540
PEAK HR FACTOR :	0.722	0.908	0.000	0.500	0.000	0.750	0.688	0.000	0.000	0.000	0.000	0.000	0.845	0.975	0.845	0.000	0.965
	0.901				0.740								0.977				

National Data & Surveying Services Intersection Turning Movement Count

Location: Pacific Ave & 6th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-003
Date: 5/23/2018

Total

NS/EW Streets:	Pacific Ave				Pacific Ave				6th St				6th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	1	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	25	6	0	10	50	0	0	10	125	3	0	0	0	0	0	229
7:15 AM	0	37	7	0	20	65	0	1	10	171	6	0	0	0	0	0	317
7:30 AM	0	34	11	0	18	66	0	2	13	173	1	0	0	0	0	0	318
7:45 AM	0	32	12	0	28	104	0	1	6	190	6	0	0	0	0	0	379
8:00 AM	0	41	4	0	11	89	0	0	17	128	12	0	0	0	0	0	302
8:15 AM	0	52	12	0	16	88	0	0	25	174	9	0	0	0	0	0	376
8:30 AM	0	50	18	0	15	80	0	0	20	158	10	0	0	0	0	0	351
8:45 AM	0	41	12	0	20	79	0	0	20	202	7	0	0	0	0	0	381
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	312	82	0	138	621	0	4	121	1321	54	0	0	0	0	0	2653
APPROACH %'s :	0.00%	79.19%	20.81%	0.00%	18.09%	81.39%	0.00%	0.52%	8.09%	88.30%	3.61%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	184	46	0	62	336	0	0	82	662	38	0	0	0	0	0	1410
PEAK HR FACTOR :	0.000	0.885	0.639	0.000	0.775	0.944	0.000	0.000	0.820	0.819	0.792	0.000	0.000	0.000	0.000	0.000	0.925
		0.846				0.957				0.854							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	2	0	0	1	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	80	24	0	23	63	0	0	12	274	5	0	0	0	0	0	481
4:15 PM	0	106	27	0	22	65	0	0	11	293	8	0	0	0	0	0	532
4:30 PM	0	102	30	0	16	56	0	0	16	327	6	0	0	0	0	0	553
4:45 PM	0	100	36	0	14	59	0	0	10	352	12	0	0	0	0	0	583
5:00 PM	0	134	42	0	16	56	0	1	12	413	10	0	0	0	0	0	684
5:15 PM	0	122	37	0	19	55	0	0	16	381	5	0	0	0	0	0	635
5:30 PM	0	90	17	0	25	78	0	1	13	374	14	0	0	0	0	0	612
5:45 PM	0	90	28	0	13	63	0	1	7	295	6	0	0	0	0	0	503
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	824	241	0	148	495	0	3	97	2709	66	0	0	0	0	0	4583
APPROACH %'s :	0.00%	77.37%	22.63%	0.00%	22.91%	76.63%	0.00%	0.46%	3.38%	94.32%	2.30%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	446	132	0	74	248	0	2	51	1520	41	0	0	0	0	0	2514
PEAK HR FACTOR :	0.000	0.832	0.786	0.000	0.740	0.795	0.000	0.500	0.797	0.920	0.732	0.000	0.000	0.000	0.000	0.000	0.919
		0.821				0.779				0.926							

National Data & Surveying Services Intersection Turning Movement Count

Location: Pacific Ave & 3rd St
City: Long Beach
Control: Signalized

Project ID: 18-05307-004
Date: 5/23/2018

Total

NS/EW Streets:	Pacific Ave				Pacific Ave				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	18	0	3	0	41	18	0	0	0	0	1	10	213	4	0	320
7:15 AM	12	23	0	0	0	50	21	0	0	0	0	0	17	224	11	0	358
7:30 AM	9	14	0	2	0	53	18	0	0	0	0	0	11	210	5	0	322
7:45 AM	11	12	0	3	0	73	24	0	0	0	0	0	16	247	14	0	400
8:00 AM	9	25	0	0	0	60	24	0	0	0	0	0	16	214	11	0	359
8:15 AM	13	35	0	0	0	77	20	0	0	0	0	0	19	210	14	0	388
8:30 AM	22	34	0	0	0	62	21	0	0	0	0	0	9	188	19	0	355
8:45 AM	17	30	0	0	0	68	17	0	0	0	0	0	7	192	14	0	345
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	105	191	0	8	0	484	163	0	0	0	0	1	105	1698	92	0	2847
APPROACH %'s :	34.54%	62.83%	0.00%	2.63%	0.00%	74.81%	25.19%	0.00%	0.00%	0.00%	0.00%	100.00%	5.54%	89.60%	4.85%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	55	106	0	3	0	272	89	0	0	0	0	0	60	859	58	0	1502
PEAK HR FACTOR :	0.625	0.757	0.000	0.250	0.000	0.883	0.927	0.000	0.000	0.000	0.000	0.000	0.789	0.869	0.763	0.000	0.939
	0.732				0.930								0.882				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	26	66	0	0	0	57	13	0	0	0	0	0	17	80	21	0	280
4:15 PM	27	91	0	1	0	48	9	1	0	0	0	0	8	92	11	0	288
4:30 PM	26	88	0	0	0	53	6	0	0	0	0	0	11	89	17	0	290
4:45 PM	15	106	0	1	0	46	12	0	0	0	0	0	13	91	18	0	302
5:00 PM	28	122	0	1	0	36	10	0	0	0	0	0	17	98	23	0	335
5:15 PM	33	122	0	1	0	46	9	0	0	0	0	0	8	82	23	0	324
5:30 PM	27	91	0	2	0	42	14	0	0	0	0	0	9	86	14	0	285
5:45 PM	16	83	0	0	0	64	5	0	0	0	0	0	8	89	24	0	289
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	198	769	0	6	0	392	78	1	0	0	0	0	91	707	151	0	2393
APPROACH %'s :	20.35%	79.03%	0.00%	0.62%	0.00%	83.23%	16.56%	0.21%					9.59%	74.50%	15.91%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	102	438	0	3	0	181	37	0	0	0	0	0	49	360	81	0	1251
PEAK HR FACTOR :	0.773	0.898	0.000	0.750	0.000	0.854	0.771	0.000	0.000	0.000	0.000	0.000	0.721	0.918	0.880	0.000	0.934
	0.870				0.924								0.888				

National Data & Surveying Services Intersection Turning Movement Count

Location: Pacific Ave & Broadway
City: Long Beach
Control: Signalized

Project ID: 18-05307-005
Date: 5/23/2018

Total

NS/EW Streets:	Pacific Ave				Pacific Ave				Broadway				Broadway				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	1	2	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	28	7	0	3	45	0	0	9	81	30	0	0	0	0	0	203
7:15 AM	0	29	7	0	5	63	0	0	4	70	23	0	0	0	0	0	201
7:30 AM	0	21	12	0	13	49	0	1	4	93	25	0	0	0	0	0	218
7:45 AM	0	21	8	0	19	70	0	1	3	114	31	0	0	0	0	0	267
8:00 AM	0	26	10	0	12	64	0	1	12	124	26	0	0	0	0	0	275
8:15 AM	0	43	15	0	10	86	0	0	9	118	33	0	0	0	0	0	314
8:30 AM	0	44	9	0	13	58	0	0	12	114	19	0	0	0	0	0	269
8:45 AM	0	36	14	0	12	65	0	0	9	123	20	0	0	0	0	0	279
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	248	82	0	87	500	0	3	62	837	207	0	0	0	0	0	2026
APPROACH %'s :	0.00%	75.15%	24.85%	0.00%	14.75%	84.75%	0.00%	0.51%	5.61%	75.68%	18.72%	0.00%					
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	149	48	0	47	273	0	1	42	479	98	0	0	0	0	0	1137
PEAK HR FACTOR :	0.000	0.847	0.800	0.000	0.904	0.794	0.000	0.250	0.875	0.966	0.742	0.000	0.000	0.000	0.000	0.000	0.905
		0.849				0.836				0.955							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	1	2	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	89	29	0	20	54	0	3	21	190	22	0	0	0	0	0	428
4:15 PM	0	99	30	0	11	45	0	0	15	182	22	0	0	0	0	0	404
4:30 PM	0	104	50	0	14	42	0	1	15	224	26	0	0	0	0	0	476
4:45 PM	0	108	38	0	5	51	0	1	21	202	13	0	0	0	0	0	439
5:00 PM	0	135	64	0	13	41	0	2	25	204	24	0	0	0	0	0	508
5:15 PM	0	128	50	0	16	32	0	1	15	164	8	0	0	0	0	0	414
5:30 PM	0	98	33	0	22	37	0	3	19	204	14	0	0	0	0	0	430
5:45 PM	0	68	30	0	24	41	0	1	10	219	15	0	0	0	0	0	408
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	829	324	0	125	343	0	12	141	1589	144	0	0	0	0	0	3507
APPROACH %'s :	0.00%	71.90%	28.10%	0.00%	26.04%	71.46%	0.00%	2.50%	7.52%	84.79%	7.68%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	475	202	0	48	166	0	5	76	794	71	0	0	0	0	0	1837
PEAK HR FACTOR :	0.000	0.880	0.789	0.000	0.750	0.814	0.000	0.625	0.760	0.886	0.683	0.000	0.000	0.000	0.000	0.000	0.904
		0.851				0.961				0.888							

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

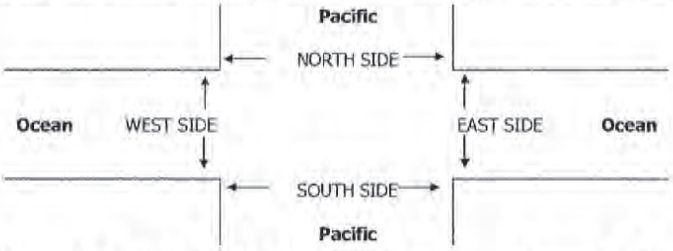
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Wed, May 25, 16	NORTH & SOUTH:	Pacific	LOCATION #:	13
	EAST & WEST:	Ocean	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Pacific)			SOUTHBOUND (Pacific)			EASTBOUND (Ocean)			WESTBOUND (Ocean)				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 1.5	ST 0.5	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 1	TOTAL	NB 0	SB 0	EB X	WB X	TTL
AM	7:00 AM	1	0	1	9	0	31	15	86	2	1	379	18	543	0	0	0	0	0
	7:15 AM	2	0	2	12	0	38	14	131	0	1	493	20	713	0	0	0	1	1
	7:30 AM	2	0	0	9	0	58	23	121	1	1	438	31	684	0	0	0	1	1
	7:45 AM	1	0	0	14	0	51	30	133	0	1	510	45	785	0	0	0	1	1
	8:00 AM	0	1	1	19	0	53	38	127	0	2	420	30	691	0	0	0	2	2
	8:15 AM	1	0	0	18	1	59	39	119	0	6	412	42	697	0	0	0	4	4
	8:30 AM	1	0	2	11	0	57	39	134	1	3	422	32	702	0	0	0	0	0
	8:45 AM	3	2	2	14	2	44	33	127	2	9	330	41	609	0	0	0	6	6
	VOLUMES	11	3	8	106	3	391	231	978	6	24	3,404	259	5,424	0	0	0	15	15
	APPROACH %	50%	14%	36%	21%	1%	78%	19%	80%	0%	1%	92%	7%						
	APP/DEPART	22	/	493	500	/	18	1,215	/	1,107	3,687	/	3,806	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	3	1	3	62	1	220	146	513	1	12	1,764	149	2,875					
	APPROACH %	43%	14%	43%	22%	0%	78%	22%	78%	0%	1%	92%	8%						
	PEAK HR FACTOR		0.583			0.907			0.948			0.866		0.916					
	APP/DEPART	7	/	296	283	/	7	660	/	585	1,925	/	1,987	0					
PM	4:00 PM	3	1	1	30	0	39	41	379	1	2	222	22	741	0	0	0	2	2
	4:15 PM	2	2	2	28	0	32	32	299	1	3	243	24	668	0	0	0	1	1
	4:30 PM	1	2	2	22	0	36	50	343	1	5	245	32	739	0	0	1	5	6
	4:45 PM	1	0	3	30	0	31	41	405	0	1	275	27	814	0	0	0	1	1
	5:00 PM	1	2	2	23	0	54	32	385	3	3	274	30	809	0	0	0	2	2
	5:15 PM	0	0	4	33	0	51	44	346	1	6	235	33	753	0	0	0	5	5
	5:30 PM	1	2	6	24	1	32	34	320	2	2	233	20	677	0	0	0	0	0
	5:45 PM	0	0	1	33	0	33	33	325	0	3	234	29	691	0	0	0	3	3
	VOLUMES	9	9	21	223	1	308	307	2,802	9	25	1,961	217	5,892	0	0	1	19	20
	APPROACH %	23%	23%	54%	42%	0%	58%	10%	90%	0%	1%	89%	10%						
	APP/DEPART	39	/	532	532	/	16	3,118	/	3,065	2,203	/	2,279	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	3	4	11	108	0	172	167	1,479	5	15	1,029	122	3,115					
	APPROACH %	17%	22%	61%	39%	0%	61%	10%	90%	0%	1%	88%	10%						
	PEAK HR FACTOR		0.900			0.833			0.925			0.950		0.957					
	APP/DEPART	18	/	292	280	/	7	1,651	/	1,611	1,166	/	1,205	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

National Data & Surveying Services

Intersection Turning Movement Count

Location: Long Beach Blvd & Alondra Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-091
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Alondra Blvd				Alondra Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	98	8	0	18	132	24	0	17	74	9	0	21	161	26	0	605
7:15 AM	20	67	6	0	36	139	21	0	9	104	11	0	23	211	26	0	673
7:30 AM	30	108	13	0	41	176	25	0	26	127	17	0	32	176	39	0	810
7:45 AM	23	115	11	0	29	166	26	0	27	121	21	0	36	184	39	0	798
8:00 AM	23	113	23	0	32	148	26	0	29	108	11	0	31	186	44	0	774
8:15 AM	24	96	15	0	33	123	7	0	30	91	17	0	29	153	41	0	659
8:30 AM	13	102	8	0	35	109	13	0	15	70	16	0	17	141	46	0	585
8:45 AM	19	101	11	0	17	107	13	0	18	84	11	0	18	103	38	0	540
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	169	800	95	0	241	1100	155	0	171	779	113	0	207	1315	299	0	5444
APPROACH %'s :	15.88%	75.19%	8.93%	0.00%	16.11%	73.53%	10.36%	0.00%	16.09%	73.28%	10.63%	0.00%	11.37%	72.21%	16.42%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	96	403	53	0	138	629	98	0	91	460	60	0	122	757	148	0	3055
PEAK HR FACTOR :	0.800	0.876	0.576	0.000	0.841	0.893	0.942	0.000	0.784	0.906	0.714	0.000	0.847	0.897	0.841	0.000	0.943
		0.868				0.894				0.899				0.984			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	193	27	0	44	139	21	0	45	207	29	0	16	99	44	0	886
4:15 PM	12	176	29	0	40	156	28	0	27	231	19	0	29	113	52	0	912
4:30 PM	15	216	27	0	39	161	14	0	35	227	29	0	24	78	49	0	914
4:45 PM	19	221	31	0	50	158	16	0	41	224	21	0	26	88	40	0	935
5:00 PM	24	195	26	0	48	165	16	0	39	238	20	0	25	103	47	0	946
5:15 PM	22	220	43	0	46	143	12	0	39	248	31	0	19	106	41	0	970
5:30 PM	18	205	32	0	47	149	27	0	42	209	33	0	25	95	37	0	919
5:45 PM	29	164	34	0	53	142	27	0	39	227	25	0	24	83	46	0	893
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	161	1590	249	0	367	1213	161	0	307	1811	207	0	188	765	356	0	7375
APPROACH %'s :	8.05%	79.50%	12.45%	0.00%	21.08%	69.67%	9.25%	0.00%	13.20%	77.89%	8.90%	0.00%	14.36%	58.44%	27.20%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	83	841	132	0	191	615	71	0	161	919	105	0	95	392	165	0	3770
PEAK HR FACTOR :	0.865	0.951	0.767	0.000	0.955	0.932	0.657	0.000	0.958	0.926	0.795	0.000	0.913	0.925	0.878	0.000	0.972
		0.926				0.957				0.932				0.931			

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & Artesia Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-030
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Artesia Blvd				Artesia Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	1	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	35	74	12	0	30	189	19	2	5	31	29	1	58	183	36	1	705
7:15 AM	68	90	18	0	42	191	21	0	7	33	32	2	84	210	36	2	836
7:30 AM	65	95	22	0	51	182	24	1	9	46	28	0	75	244	51	12	905
7:45 AM	69	120	21	0	28	171	28	0	17	48	25	2	102	240	53	6	930
8:00 AM	58	99	19	0	33	160	26	2	9	46	23	0	86	157	47	6	771
8:15 AM	36	91	29	0	36	133	18	1	9	37	26	0	66	161	31	0	674
8:30 AM	36	82	30	0	32	132	23	1	10	42	36	1	48	156	31	0	660
8:45 AM	36	102	35	0	18	104	13	0	12	38	29	0	34	116	27	3	567
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	403	753	186	0	270	1262	172	7	78	321	228	6	553	1467	312	30	6048
APPROACH %'s :	30.03%	56.11%	13.86%	0.00%	15.78%	73.76%	10.05%	0.41%	12.32%	50.71%	36.02%	0.95%	23.41%	62.11%	13.21%	1.27%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	260	404	80	0	154	704	99	3	42	173	108	4	347	851	187	26	3442
PEAK HR FACTOR :	0.942	0.842	0.909	0.000	0.755	0.921	0.884	0.375	0.618	0.901	0.844	0.500	0.850	0.872	0.882	0.542	0.925
	0.886				0.930				0.889				0.880				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	1	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	45	175	54	0	32	124	8	0	56	198	65	0	25	60	27	1	870
4:15 PM	37	172	43	0	25	155	18	2	61	211	63	3	14	51	21	3	879
4:30 PM	34	183	60	0	46	144	16	0	82	268	94	1	19	57	41	0	1045
4:45 PM	37	180	38	0	38	141	18	0	56	252	70	4	20	69	29	1	953
5:00 PM	39	223	45	0	34	146	19	1	60	239	81	2	20	56	34	1	1000
5:15 PM	44	192	50	0	29	145	10	0	65	247	87	2	20	79	40	1	1011
5:30 PM	45	169	41	0	32	114	16	0	60	206	84	1	15	63	39	0	885
5:45 PM	30	149	52	0	38	106	16	0	53	185	81	4	28	82	47	2	873
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	311	1443	383	0	274	1075	121	3	493	1806	625	17	161	517	278	9	7516
APPROACH %'s :	14.55%	67.52%	17.92%	0.00%	18.60%	72.98%	8.21%	0.20%	16.76%	61.41%	21.25%	0.58%	16.68%	53.58%	28.81%	0.93%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	154	778	193	0	147	576	63	1	263	1006	332	9	79	261	144	3	4009
PEAK HR FACTOR :	0.875	0.872	0.804	0.000	0.799	0.986	0.829	0.250	0.802	0.938	0.883	0.563	0.988	0.826	0.878	0.750	0.959
	0.916				0.955				0.904				0.870				

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & Market St
City: Long Beach
Control: Signalized

Project ID: 18-05307-029
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Market St				Market St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	1	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	148	19	0	31	121	2	0	12	5	9	0	49	6	83	0	488
7:15 AM	7	165	21	0	41	158	6	0	16	9	12	0	60	8	97	0	600
7:30 AM	4	188	19	0	39	189	0	0	13	12	2	0	76	3	104	0	649
7:45 AM	4	187	31	0	44	174	4	0	17	7	5	0	66	10	87	0	636
8:00 AM	7	158	32	1	47	180	7	0	22	6	4	0	57	9	86	0	616
8:15 AM	6	161	41	0	46	181	6	1	8	8	4	0	56	9	66	0	593
8:30 AM	4	136	36	0	41	188	9	0	13	7	2	0	61	14	44	0	555
8:45 AM	7	156	53	1	43	159	3	0	9	5	9	0	41	8	44	0	538
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	42	1299	252	2	332	1350	37	1	110	59	47	0	466	67	611	0	4675
APPROACH %'s :	2.63%	81.44%	15.80%	0.13%	19.30%	78.49%	2.15%	0.06%	50.93%	27.31%	21.76%	0.00%	40.73%	5.86%	53.41%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	22	698	103	1	171	701	17	0	68	34	23	0	259	30	374	0	2501
PEAK HR FACTOR :	0.786	0.928	0.805	0.250	0.910	0.927	0.607	0.000	0.773	0.708	0.479	0.000	0.852	0.750	0.899	0.000	0.963
		0.928				0.950				0.845				0.906			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	1	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	179	53	0	92	205	7	0	7	7	9	0	33	7	37	0	641
4:15 PM	4	164	70	0	86	222	2	0	7	17	5	0	41	7	44	0	669
4:30 PM	17	149	60	0	112	217	10	1	6	11	5	0	30	2	33	0	653
4:45 PM	9	147	70	0	87	214	4	0	8	15	3	0	47	5	39	0	648
5:00 PM	11	189	59	0	84	246	8	0	13	18	5	0	48	8	46	0	735
5:15 PM	4	179	80	0	96	244	12	0	11	17	3	0	34	5	42	0	727
5:30 PM	11	187	64	1	94	224	7	0	8	22	6	0	39	7	51	0	721
5:45 PM	5	162	66	1	98	257	6	1	8	16	2	0	40	9	38	0	709
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	66	1356	522	2	749	1829	56	2	68	123	38	0	312	50	330	0	5503
APPROACH %'s :	3.39%	69.68%	26.82%	0.10%	28.41%	69.39%	2.12%	0.08%	29.69%	53.71%	16.59%	0.00%	45.09%	7.23%	47.69%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	31	717	269	2	372	971	33	1	40	73	16	0	161	29	177	0	2892
PEAK HR FACTOR :	0.705	0.948	0.841	0.500	0.949	0.945	0.688	0.250	0.769	0.830	0.667	0.000	0.839	0.806	0.868	0.000	0.984
		0.969				0.951				0.896				0.900			

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & Del Amo Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-028
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Del Amo Blvd				Del Amo Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	2	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	44	97	13	0	15	115	53	0	23	108	25	2	16	351	40	0	902
7:15 AM	61	93	7	0	16	148	61	0	31	117	39	1	29	355	29	0	987
7:30 AM	55	96	10	0	30	148	59	0	29	142	41	1	16	424	25	0	1076
7:45 AM	72	121	14	0	25	185	77	0	33	121	43	1	36	342	21	0	1091
8:00 AM	54	102	8	0	19	148	63	0	49	174	66	1	34	390	24	0	1132
8:15 AM	70	119	14	0	29	171	52	0	25	146	58	1	22	354	34	0	1095
8:30 AM	79	103	18	0	38	154	33	0	24	207	58	3	43	319	23	0	1102
8:45 AM	63	107	12	0	28	146	46	0	44	153	70	3	23	329	20	0	1044
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	498	838	96	0	200	1215	444	0	258	1168	400	13	219	2864	216	0	8429
APPROACH %'s :	34.78%	58.52%	6.70%	0.00%	10.76%	65.36%	23.88%	0.00%	14.03%	63.51%	21.75%	0.71%	6.64%	86.81%	6.55%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	275	445	54	0	111	658	225	0	131	648	225	6	135	1405	102	0	4420
PEAK HR FACTOR :	0.870	0.919	0.750	0.000	0.730	0.889	0.731	0.000	0.668	0.783	0.852	0.500	0.785	0.901	0.750	0.000	0.976
	0.935				0.866				0.865				0.916				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	2	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	45	132	23	0	45	131	30	0	71	393	85	0	15	159	36	0	1165
4:15 PM	49	166	24	0	42	136	31	0	54	358	81	0	38	175	39	1	1194
4:30 PM	44	142	24	0	53	157	29	0	66	412	89	0	27	159	27	1	1230
4:45 PM	45	158	32	0	32	163	36	0	59	364	86	2	41	185	34	0	1237
5:00 PM	52	165	20	0	40	173	31	0	66	417	91	0	29	149	36	0	1269
5:15 PM	50	205	25	0	47	154	28	0	72	401	75	1	41	188	26	0	1313
5:30 PM	58	184	28	0	46	140	31	0	55	433	79	1	30	172	35	0	1292
5:45 PM	50	180	30	0	42	145	31	0	52	389	84	0	31	222	33	0	1289
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	393	1332	206	0	347	1199	247	0	495	3167	670	4	252	1409	266	2	9989
APPROACH %'s :	20.35%	68.98%	10.67%	0.00%	19.35%	66.87%	13.78%	0.00%	11.42%	73.04%	15.45%	0.09%	13.06%	73.04%	13.79%	0.10%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	210	734	103	0	175	612	121	0	245	1640	329	2	131	731	130	0	5163
PEAK HR FACTOR :	0.905	0.895	0.858	0.000	0.931	0.884	0.976	0.000	0.851	0.947	0.904	0.500	0.799	0.823	0.903	0.000	0.983
	0.935				0.930				0.965				0.867				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Long Beach Blvd & San Antonio Dr
City: Long Beach
Control: Signalized

Project ID: 18-05307-027
Date: 5/10/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				San Antonio Dr				San Antonio Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	2	0	0	1.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	99	18	0	13	143	10	0	8	10	7	0	48	8	25	0	397
7:15 AM	2	113	33	0	13	186	12	0	12	13	4	0	88	21	23	0	520
7:30 AM	9	135	27	0	13	172	9	0	12	20	8	0	91	16	25	0	537
7:45 AM	3	140	34	0	11	237	14	0	8	16	8	0	100	26	31	0	628
8:00 AM	9	195	26	0	17	177	12	0	15	19	5	0	89	24	22	0	610
8:15 AM	8	154	35	0	26	211	13	0	17	15	11	0	108	36	32	0	666
8:30 AM	9	173	26	0	17	220	25	1	26	19	13	0	66	40	26	0	661
8:45 AM	7	123	25	0	17	176	37	0	20	27	12	0	78	53	31	0	606
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	55	1132	224	0	127	1522	132	1	118	139	68	0	668	224	215	0	4625
APPROACH %'s :	3.90%	80.23%	15.88%	0.00%	7.13%	85.41%	7.41%	0.06%	36.31%	42.77%	20.92%	0.00%	60.34%	20.23%	19.42%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	29	662	121	0	71	845	64	1	66	69	37	0	363	126	111	0	2565
PEAK HR FACTOR :	0.806	0.849	0.864	0.000	0.683	0.891	0.640	0.250	0.635	0.908	0.712	0.000	0.840	0.788	0.867	0.000	0.963
	0.883				0.933				0.741				0.852				

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				San Antonio Dr				San Antonio Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	2	0	0	1.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	213	69	0	34	217	10	0	14	42	10	0	54	20	21	1	710
4:15 PM	8	185	63	0	39	211	9	0	17	24	8	0	78	40	28	0	710
4:30 PM	3	208	68	0	33	208	15	0	16	41	9	0	71	32	28	0	732
4:45 PM	7	203	78	0	38	195	13	0	28	22	12	0	83	25	31	0	735
5:00 PM	6	246	61	0	47	197	13	0	20	39	11	0	85	25	38	0	788
5:15 PM	4	239	72	0	32	188	18	0	34	32	8	0	70	31	34	2	764
5:30 PM	4	234	57	0	41	202	5	0	23	32	13	0	64	23	36	0	734
5:45 PM	1	198	43	0	46	195	12	0	15	27	12	0	67	35	26	1	678
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	38	1726	511	0	310	1613	95	0	167	259	83	0	572	231	242	4	5851
APPROACH %'s :	1.67%	75.87%	22.46%	0.00%	15.36%	79.93%	4.71%	0.00%	32.81%	50.88%	16.31%	0.00%	54.53%	22.02%	23.07%	0.38%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	21	922	268	0	158	782	49	0	105	125	44	0	302	104	139	2	3021
PEAK HR FACTOR :	0.750	0.937	0.859	0.000	0.840	0.968	0.681	0.000	0.772	0.801	0.846	0.000	0.888	0.839	0.914	0.250	0.958
	0.961				0.962				0.926				0.924				

National Data & Surveying Services

Intersection Turning Movement Count

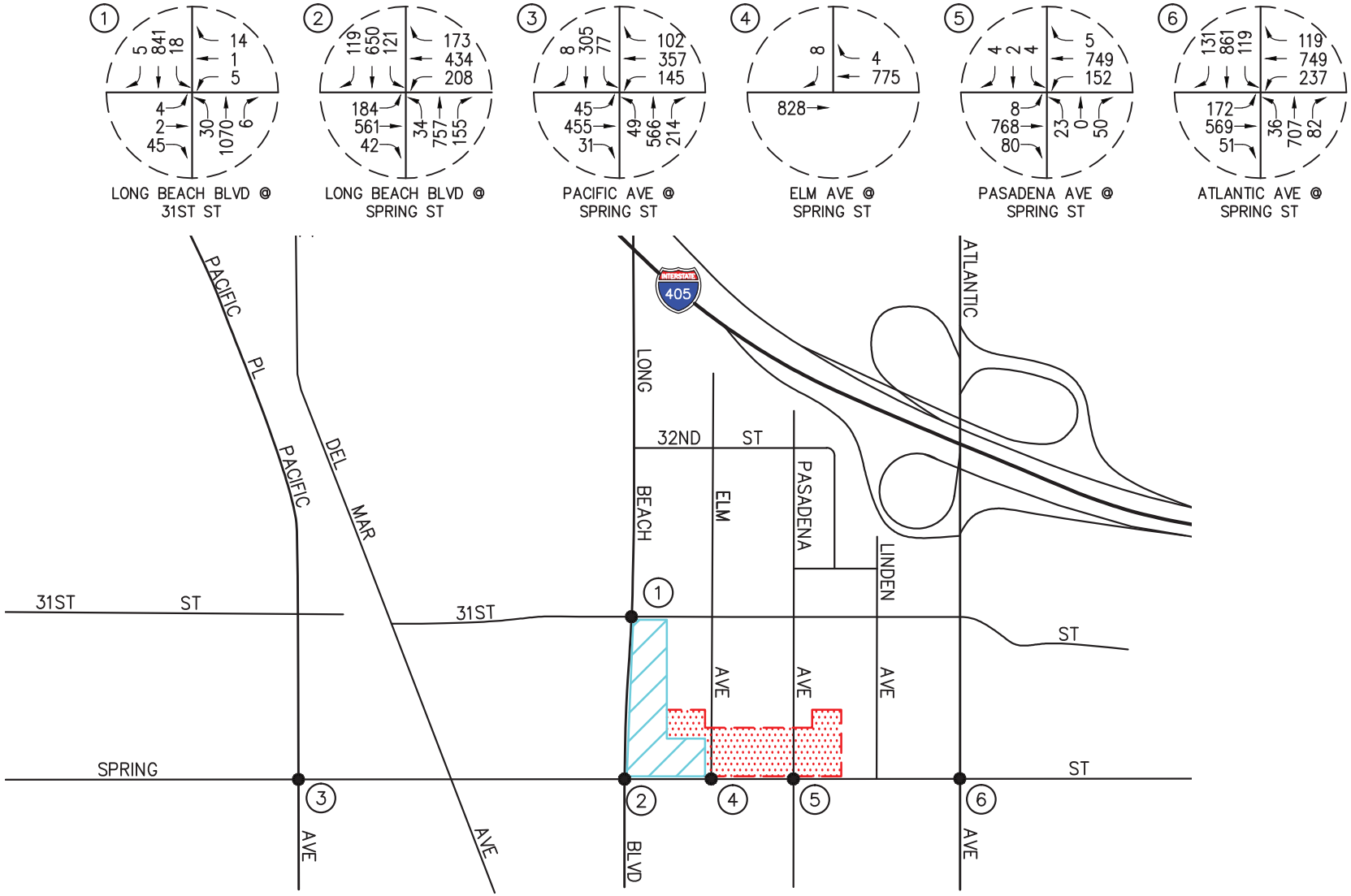
Location: Long Beach Blvd & Wardlow Rd
City: Long Beach
Control: Signalized

Project ID: 18-05307-026
Date: 5/10/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Wardlow Rd				Wardlow Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	75	88	13	0	6	137	80	6	40	57	8	3	9	143	8	0	673
7:15 AM	61	107	16	1	12	167	93	0	45	82	8	6	13	183	6	0	800
7:30 AM	83	143	23	0	14	188	101	1	56	97	5	4	19	169	4	0	907
7:45 AM	75	211	31	0	20	202	97	0	62	121	8	7	27	181	2	0	1044
8:00 AM	56	191	32	2	13	186	101	0	67	127	6	6	18	181	9	0	995
8:15 AM	69	181	28	1	12	166	94	3	60	129	11	9	15	171	11	0	960
8:30 AM	62	211	27	1	8	176	91	0	53	114	7	5	18	125	10	0	908
8:45 AM	67	190	28	2	10	153	86	4	71	142	9	3	23	166	14	0	968
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	548	1322	198	7	95	1375	743	14	454	869	62	43	142	1319	64	0	7255
APPROACH %'s :	26.41%	63.71%	9.54%	0.34%	4.27%	61.74%	33.36%	0.63%	31.79%	60.85%	4.34%	3.01%	9.31%	86.49%	4.20%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	262	794	118	4	53	730	383	3	242	491	32	27	78	658	32	0	3907
PEAK HR FACTOR :	0.873	0.941	0.922	0.500	0.663	0.903	0.948	0.250	0.903	0.952	0.727	0.750	0.722	0.909	0.727	0.000	0.936
	0.929				0.916				0.947				0.914				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	61	212	25	1	14	154	90	3	61	183	9	12	22	187	11	0	1045
4:15 PM	79	239	32	0	26	194	97	2	55	217	18	13	27	146	18	0	1163
4:30 PM	88	236	52	0	28	174	86	1	53	200	12	12	22	157	16	0	1137
4:45 PM	74	257	49	1	34	174	97	2	70	218	14	10	18	154	15	0	1187
5:00 PM	68	248	47	2	20	186	86	1	62	207	8	6	18	177	10	0	1146
5:15 PM	80	266	29	1	22	180	87	2	51	220	8	6	22	192	17	0	1183
5:30 PM	77	245	43	0	22	168	80	1	64	259	11	9	26	147	18	0	1170
5:45 PM	79	244	27	1	22	151	71	0	68	200	8	6	23	155	19	0	1074
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	606	1947	304	6	188	1381	694	12	484	1704	88	74	178	1315	124	0	9105
APPROACH %'s :	21.17%	68.01%	10.62%	0.21%	8.26%	60.70%	30.51%	0.53%	20.60%	72.51%	3.74%	3.15%	11.01%	81.32%	7.67%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	299	1016	168	4	98	708	350	6	247	904	41	31	84	670	60	0	4686
PEAK HR FACTOR :	0.934	0.955	0.857	0.500	0.721	0.952	0.902	0.750	0.882	0.873	0.732	0.775	0.808	0.872	0.833	0.000	0.987
	0.976				0.946				0.891				0.881				



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

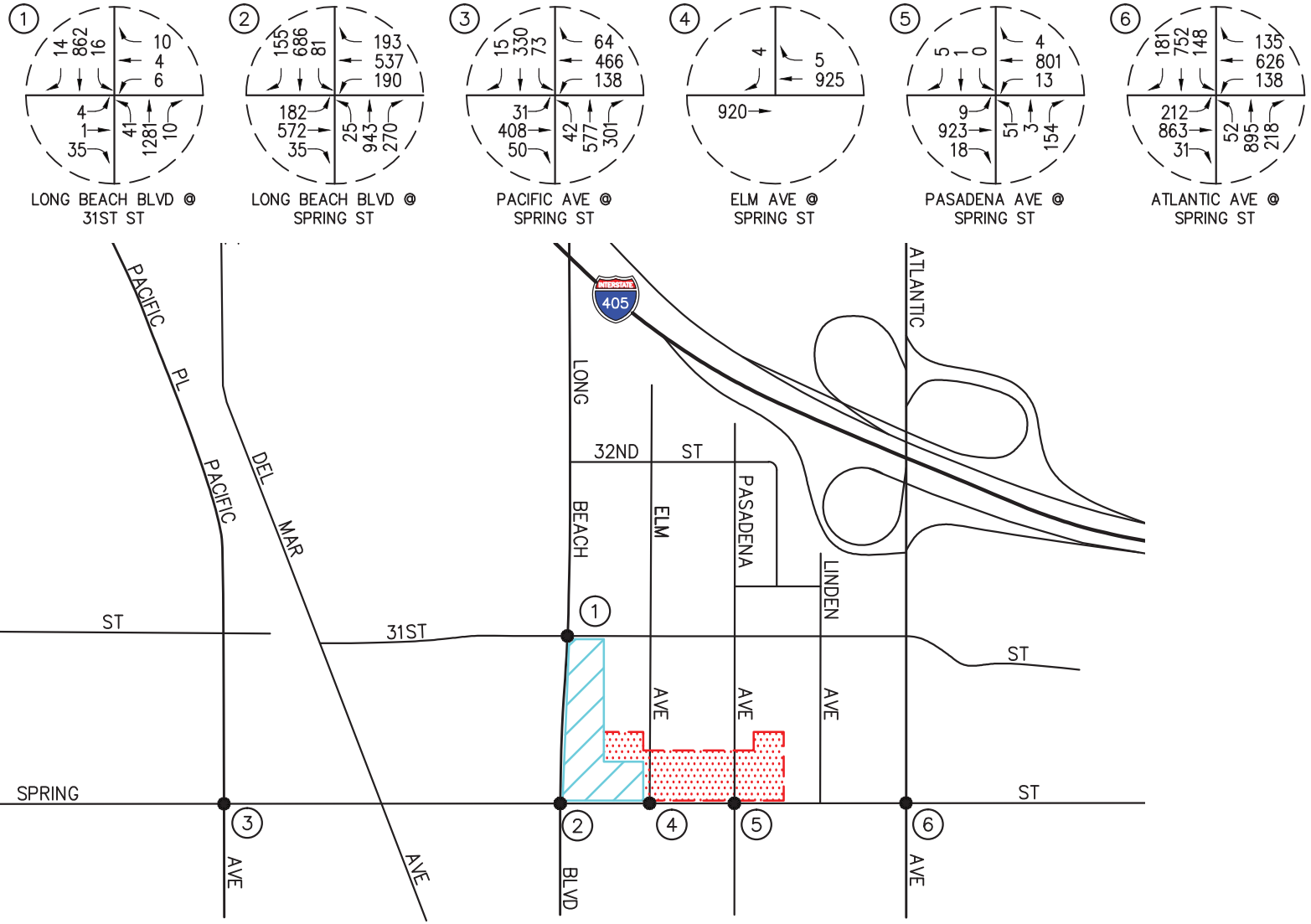
= PROJECT SITE

= EXISTING SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

SALVATION ARMY LONG BEACH CITADEL EXPANSION PROJECT, LONG BEACH



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

= EXISTING SITE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

SALVATION ARMY LONG BEACH CITADEL EXPANSION PROJECT, LONG BEACH

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & Willow St
City: Long Beach
Control: Signalized

Project ID: 18-05307-024
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	1	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	54	77	20	2	16	79	30	11	34	162	22	0	10	196	17	0	730
7:15 AM	48	126	28	4	15	117	32	9	49	197	16	0	29	206	19	0	895
7:30 AM	67	132	20	4	31	126	38	14	59	252	35	0	20	265	27	0	1090
7:45 AM	60	172	33	6	22	139	60	21	62	255	24	0	37	275	23	0	1189
8:00 AM	46	126	22	3	40	129	51	7	59	251	31	0	26	200	29	0	1020
8:15 AM	48	145	27	4	26	133	44	6	53	230	23	0	22	184	15	0	960
8:30 AM	36	110	20	4	28	113	35	8	64	231	27	0	27	200	25	0	928
8:45 AM	41	110	18	5	30	123	45	5	58	180	27	0	24	162	15	0	843
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	400	998	188	32	208	959	335	81	438	1758	205	0	195	1688	170	0	7655
APPROACH %'s :	24.72%	61.68%	11.62%	1.98%	13.14%	60.58%	21.16%	5.12%	18.24%	73.22%	8.54%	0.00%	9.50%	82.22%	8.28%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	221	575	102	17	119	527	193	48	233	988	113	0	105	924	94	0	4259
PEAK HR FACTOR :	0.825	0.836	0.773	0.708	0.744	0.948	0.804	0.571	0.940	0.969	0.807	0.000	0.709	0.840	0.810	0.000	0.896
		0.844				0.916				0.964				0.838			

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Willow St				Willow St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	1	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	46	158	25	10	51	160	41	8	52	286	42	0	47	258	20	0	1204
4:15 PM	45	103	43	11	42	145	50	12	58	335	35	0	38	282	13	0	1212
4:30 PM	44	142	49	5	46	168	55	4	40	292	36	0	49	252	24	0	1206
4:45 PM	44	124	34	11	49	131	37	8	53	321	39	0	40	266	26	0	1183
5:00 PM	32	142	42	6	54	160	58	7	44	285	42	0	42	254	13	0	1181
5:15 PM	56	120	27	6	58	135	46	7	63	367	33	0	51	313	24	0	1306
5:30 PM	51	138	37	6	46	149	44	5	47	277	54	0	49	295	20	0	1218
5:45 PM	51	79	28	12	51	142	47	9	55	289	41	0	35	213	16	0	1068
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	369	1006	285	67	397	1190	378	60	412	2452	322	0	351	2133	156	0	9578
APPROACH %'s :	21.37%	58.25%	16.50%	3.88%	19.60%	58.77%	18.67%	2.96%	12.93%	76.96%	10.11%	0.00%	13.30%	80.80%	5.91%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	183	524	140	29	207	575	185	27	207	1250	168	0	182	1128	83	0	4888
PEAK HR FACTOR :	0.817	0.923	0.833	0.659	0.892	0.898	0.797	0.844	0.821	0.851	0.778	0.000	0.892	0.901	0.798	0.000	0.936
		0.944				0.891				0.877				0.898			

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-023
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	21	64	6	1	25	76	23	0	17	143	13	0	13	201	18	0	621
7:15 AM	44	104	10	0	36	69	21	1	30	168	20	0	17	221	14	0	755
7:30 AM	34	140	15	2	53	123	26	2	18	209	10	0	30	270	14	0	946
7:45 AM	58	169	13	2	59	132	32	1	25	200	17	0	32	299	26	0	1065
8:00 AM	42	128	19	1	33	109	29	2	21	177	21	0	25	289	17	0	913
8:15 AM	29	119	8	0	28	102	26	2	28	183	14	0	18	231	23	0	811
8:30 AM	24	94	11	0	21	87	21	4	34	191	25	0	31	255	20	0	818
8:45 AM	24	94	19	2	25	111	28	2	23	195	18	0	32	208	29	0	810
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	276	912	101	8	280	809	206	14	196	1466	138	0	198	1974	161	0	6739
APPROACH %'s :	21.28%	70.32%	7.79%	0.62%	21.39%	61.80%	15.74%	1.07%	10.89%	81.44%	7.67%	0.00%	8.49%	84.61%	6.90%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	163	556	55	5	173	466	113	7	92	769	62	0	105	1089	80	0	3735
PEAK HR FACTOR :	0.703	0.822	0.724	0.625	0.733	0.883	0.883	0.875	0.821	0.920	0.738	0.000	0.820	0.911	0.769	0.000	0.877
	0.805				0.847				0.954				0.892				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	34	127	24	4	29	120	21	9	41	300	27	0	27	186	31	0	980
4:15 PM	34	140	16	1	55	135	35	1	33	226	33	0	33	191	17	0	950
4:30 PM	29	127	18	5	43	135	36	4	42	341	33	0	24	200	22	0	1059
4:45 PM	35	163	31	6	40	129	33	1	43	318	19	0	28	155	28	0	1029
5:00 PM	21	125	13	0	40	120	12	0	50	393	28	0	24	220	33	0	1079
5:15 PM	26	149	24	2	34	136	30	2	42	328	21	0	18	192	26	0	1030
5:30 PM	28	125	14	1	38	118	25	3	27	322	23	0	26	183	27	0	960
5:45 PM	29	112	21	2	53	144	27	3	28	251	24	0	23	177	19	0	913
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	236	1068	161	21	332	1037	219	23	306	2479	208	0	203	1504	203	0	8000
APPROACH %'s :	15.88%	71.87%	10.83%	1.41%	20.61%	64.37%	13.59%	1.43%	10.22%	82.83%	6.95%	0.00%	10.63%	78.74%	10.63%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	111	564	86	13	157	520	111	7	177	1380	101	0	94	767	109	0	4197
PEAK HR FACTOR :	0.793	0.865	0.694	0.542	0.913	0.956	0.771	0.438	0.885	0.878	0.765	0.000	0.839	0.872	0.826	0.000	0.972
	0.823				0.912				0.880				0.875				

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-022
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	0	3	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	18	53	12	5	18	61	7	1	0	141	18	0	2	210	9	0	555
7:15 AM	26	80	16	2	20	51	10	0	0	173	13	0	2	232	30	0	655
7:30 AM	21	98	14	3	27	91	13	1	0	193	17	0	1	292	20	0	791
7:45 AM	32	112	19	2	35	102	18	1	0	212	15	0	1	290	25	0	864
8:00 AM	34	103	20	4	22	98	11	0	0	212	13	0	1	259	29	0	806
8:15 AM	25	93	18	2	18	92	14	3	0	183	17	0	1	224	30	0	720
8:30 AM	27	80	11	4	24	98	13	0	0	184	26	0	0	207	23	0	697
8:45 AM	28	81	15	0	29	83	12	2	0	186	27	0	1	209	22	0	695
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	211	700	125	22	193	676	98	8	0	1484	146	0	9	1923	188	0	5783
APPROACH %'s :	19.94%	66.16%	11.81%	2.08%	19.79%	69.33%	10.05%	0.82%	0.00%	91.04%	8.96%	0.00%	0.42%	90.71%	8.87%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	112	406	71	11	102	383	56	5	0	800	62	0	4	1065	104	0	3181
PEAK HR FACTOR :	0.824	0.906	0.888	0.688	0.729	0.939	0.778	0.417	0.000	0.943	0.912	0.000	1.000	0.912	0.867	0.000	0.920
		0.909				0.875				0.949				0.928			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	0	3	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	38	127	23	3	27	111	21	5	2	329	20	0	1	179	30	0	916
4:15 PM	39	134	25	2	42	117	14	2	0	337	24	0	2	210	33	0	981
4:30 PM	23	116	24	4	35	129	19	4	2	324	27	0	0	171	33	0	911
4:45 PM	39	133	24	1	42	106	14	5	2	284	28	0	2	191	34	0	905
5:00 PM	41	106	30	0	35	95	14	1	0	262	15	0	2	174	29	0	804
5:15 PM	35	133	22	4	37	110	11	2	0	352	32	0	0	189	24	0	951
5:30 PM	27	116	17	2	32	108	22	1	1	293	27	0	1	169	24	0	840
5:45 PM	23	91	19	4	38	113	17	5	2	262	18	0	1	176	21	0	790
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	265	956	184	20	288	889	132	25	9	2443	191	0	9	1459	228	0	7098
APPROACH %'s :	18.60%	67.09%	12.91%	1.40%	21.59%	66.64%	9.90%	1.87%	0.34%	92.43%	7.23%	0.00%	0.53%	86.03%	13.44%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	139	510	96	10	146	463	68	16	6	1274	99	0	5	751	130	0	3713
PEAK HR FACTOR :	0.891	0.951	0.960	0.625	0.869	0.897	0.810	0.800	0.750	0.945	0.884	0.000	0.625	0.894	0.956	0.000	0.946
		0.944				0.926				0.955				0.904			

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

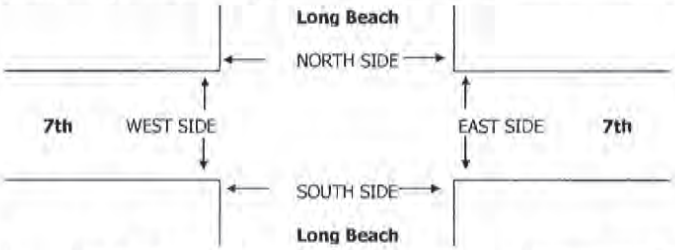
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Wed, May 25, 16	NORTH & SOUTH:	Long Beach	LOCATION #:	21
	EAST & WEST:	7th	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Long Beach			SOUTHBOUND Long Beach			EASTBOUND 7th			WESTBOUND 7th				U-TURNS				
	LANES:	NL 1	NT 2	NR X	SL X	ST 2	SR 1	EL X	ET X	ER X	WL 1	WT 3	WR 1	TOTAL	NB 0	SB X	EB X	WB X	TTL
AM	7:00 AM	28	62	0	0	51	8	0	0	0	27	296	14	486	0	0	0	0	0
	7:15 AM	35	84	0	0	69	22	0	0	0	29	352	14	605	1	0	0	0	1
	7:30 AM	45	99	0	0	103	34	0	0	0	22	338	16	657	5	0	0	0	5
	7:45 AM	37	92	0	0	89	37	0	0	0	20	352	17	644	4	0	0	0	4
	8:00 AM	43	84	0	0	126	24	0	0	0	23	334	24	658	3	0	0	0	3
	8:15 AM	34	86	0	0	101	23	0	0	0	34	257	17	552	7	0	0	0	7
	8:30 AM	28	90	0	0	90	17	0	0	0	24	286	14	549	6	0	0	0	6
	8:45 AM	38	98	0	0	110	21	0	0	0	43	254	17	581	3	0	0	0	3
	VOLUMES	288	695	0	0	739	186	0	0	0	222	2,469	133	4,732	29	0	0	0	29
	APPROACH %	29%	71%	0%	0%	80%	20%	0%	0%	0%	8%	87%	5%						
	APP/DEPART	983	/	828	925	/	990	0	/	0	2,824	/	2,914	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	160	359	0	0	387	117	0	0	0	94	1,376	71	2,564					
	APPROACH %	31%	69%	0%	0%	77%	23%	0%	0%	0%	6%	89%	5%						
	PEAK HR FACTOR		0.901			0.840			0.000			0.975		0.974					
	APP/DEPART	519	/	430	504	/	494	0	/	0	1,541	/	1,640	0					
PM	4:00 PM	20	145	0	0	109	18	0	0	0	21	136	12	461	3	0	0	0	3
	4:15 PM	27	97	0	0	99	16	0	0	0	32	162	17	450	3	0	0	0	3
	4:30 PM	32	122	0	0	107	11	0	0	0	17	169	18	476	7	0	0	0	7
	4:45 PM	25	131	0	0	80	13	0	0	0	11	156	17	433	6	0	0	0	6
	5:00 PM	33	122	0	0	86	11	0	0	0	28	152	16	448	5	0	0	0	5
	5:15 PM	24	123	0	0	132	20	0	0	0	36	171	23	529	7	0	0	0	7
	5:30 PM	36	112	0	0	99	23	0	0	0	21	155	14	460	5	0	0	0	5
	5:45 PM	21	124	0	0	91	8	0	0	0	25	172	26	467	3	0	0	0	3
	VOLUMES	218	976	0	0	803	120	0	0	0	191	1,273	143	3,724	39	0	0	0	39
	APPROACH %	18%	82%	0%	0%	87%	13%	0%	0%	0%	12%	79%	9%						
	APP/DEPART	1,194	/	1,119	923	/	1,033	0	/	0	1,607	/	1,572	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	114	481	0	0	408	62	0	0	0	110	650	79	1,904					
	APPROACH %	19%	81%	0%	0%	87%	13%	0%	0%	0%	13%	77%	9%						
	PEAK HR FACTOR		0.960			0.773			0.000			0.912		0.900					
	APP/DEPART	595	/	560	470	/	538	0	/	0	839	/	806	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & 6th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-008
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				6th St				6th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	1	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	62	10	0	19	64	0	4	12	106	7	0	0	0	0	0	284
7:15 AM	0	79	4	0	13	68	0	5	25	139	21	0	0	0	0	0	354
7:30 AM	0	90	9	0	20	70	0	4	23	170	11	0	0	0	0	0	397
7:45 AM	0	104	8	0	21	88	0	5	21	155	11	0	0	0	0	0	413
8:00 AM	0	105	6	0	14	96	0	3	15	119	13	0	0	0	0	0	371
8:15 AM	0	79	7	0	15	94	0	2	18	143	23	0	0	0	0	0	381
8:30 AM	0	80	11	0	19	85	0	2	18	137	14	0	0	0	0	0	366
8:45 AM	0	84	12	0	12	102	0	6	27	145	25	0	0	0	0	0	413
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	683	67	0	133	667	0	31	159	1114	125	0	0	0	0	0	2979
APPROACH %'s :	0.00%	91.07%	8.93%	0.00%	16.00%	80.26%	0.00%	3.73%	11.37%	79.69%	8.94%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	378	30	0	70	348	0	14	77	587	58	0	0	0	0	0	1562
PEAK HR FACTOR :	0.000	0.900	0.833	0.000	0.833	0.906	0.000	0.700	0.837	0.863	0.630	0.000	0.000	0.000	0.000	0.000	0.946
		0.911				0.947				0.885							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	1	3	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	124	16	0	27	86	0	7	28	285	19	0	0	0	0	0	592
4:15 PM	0	106	16	0	19	86	0	7	31	264	26	0	0	0	0	0	555
4:30 PM	0	116	12	0	36	98	0	4	34	340	25	0	0	0	0	0	665
4:45 PM	0	114	17	0	24	93	0	11	29	368	19	0	0	0	0	0	675
5:00 PM	0	123	12	0	14	93	0	5	38	424	20	0	0	0	0	0	729
5:15 PM	0	104	14	0	19	91	0	15	48	385	21	0	0	0	0	0	697
5:30 PM	0	101	17	0	22	89	0	11	29	339	22	0	0	0	0	0	630
5:45 PM	0	94	14	0	30	109	0	7	23	278	18	0	0	0	0	0	573
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	882	118	0	191	745	0	67	260	2683	170	0	0	0	0	0	5116
APPROACH %'s :	0.00%	88.20%	11.80%	0.00%	19.04%	74.28%	0.00%	6.68%	8.35%	86.19%	5.46%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	457	55	0	93	375	0	35	149	1517	85	0	0	0	0	0	2766
PEAK HR FACTOR :	0.000	0.929	0.809	0.000	0.646	0.957	0.000	0.583	0.776	0.894	0.850	0.000	0.000	0.000	0.000	0.000	0.949
		0.948				0.911				0.908							

National Data & Surveying Services Intersection Turning Movement Count

Location: Long Beach Blvd & 3rd St
City: Long Beach
Control: Signalized

Project ID: 18-05307-009
Date: 5/23/2018

Total

NS/EW Streets:	Long Beach Blvd				Long Beach Blvd				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	39	0	3	0	49	16	0	0	0	0	0	6	209	18	0	350
7:15 AM	10	29	0	2	0	44	11	0	0	0	0	0	8	225	17	0	346
7:30 AM	19	35	0	1	0	46	11	0	0	0	0	0	11	218	16	0	357
7:45 AM	12	36	0	1	0	39	15	0	0	0	0	0	18	217	22	0	360
8:00 AM	9	51	0	0	0	85	23	0	0	0	0	0	12	239	16	0	435
8:15 AM	12	46	0	3	0	78	21	0	0	0	0	0	13	207	17	0	397
8:30 AM	17	47	0	2	0	77	21	0	0	0	0	0	7	220	15	0	406
8:45 AM	16	68	0	1	0	54	22	0	0	0	0	0	15	194	12	0	382
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	105	351	0	13	0	472	140	0	0	0	0	0	90	1729	133	0	3033
APPROACH %'s :	22.39%	74.84%	0.00%	2.77%	0.00%	77.12%	22.88%	0.00%					4.61%	88.58%	6.81%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	54	212	0	6	0	294	87	0	0	0	0	0	47	860	60	0	1620
PEAK HR FACTOR :	0.794	0.779	0.000	0.500	0.000	0.865	0.946	0.000	0.000	0.000	0.000	0.000	0.783	0.900	0.882	0.000	0.931
	0.800				0.882								0.905				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	2	1	0	0	0	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	56	0	0	0	79	16	0	0	0	0	0	12	83	16	0	282
4:15 PM	20	65	0	0	0	82	15	0	0	0	0	0	7	89	19	0	297
4:30 PM	24	75	0	0	0	90	16	0	0	0	0	0	9	96	22	0	332
4:45 PM	18	72	0	4	0	80	22	0	0	0	0	0	10	93	26	0	325
5:00 PM	27	96	0	1	0	88	15	0	0	0	0	0	17	85	25	0	354
5:15 PM	25	69	0	0	0	76	18	0	0	0	0	0	10	86	16	0	300
5:30 PM	38	62	0	1	0	79	16	0	0	0	0	0	13	84	17	0	310
5:45 PM	24	70	0	1	0	92	16	0	0	0	0	0	6	88	21	0	318
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	196	565	0	7	0	666	134	0	0	0	0	0	84	704	162	0	2518
APPROACH %'s :	25.52%	73.57%	0.00%	0.91%	0.00%	83.25%	16.75%	0.00%					8.84%	74.11%	17.05%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	94	312	0	5	0	334	71	0	0	0	0	0	46	360	89	0	1311
PEAK HR FACTOR :	0.870	0.813	0.000	0.313	0.000	0.928	0.807	0.000	0.000	0.000	0.000	0.000	0.676	0.938	0.856	0.000	0.926
	0.829				0.955								0.959				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

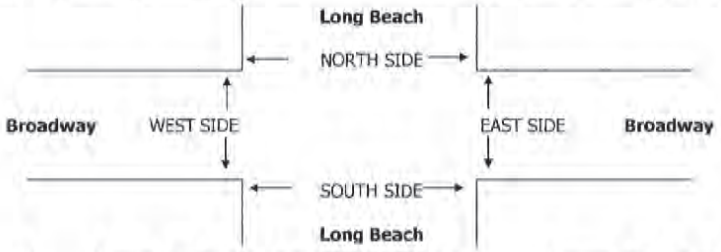
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Long Beach	LOCATION #:	4
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Long Beach			SOUTHBOUND Long Beach			EASTBOUND Broadway			WESTBOUND Broadway				U-TURNS				
	LANES:	NL X	NT 2	NR 0	SL 2	ST 1	SR X	EL 1	ET 2	ER 0	WL X	WT X	WR X	TOTAL	NB X	SB 0	EB X	WB X	TTL
AM	7:00 AM	0	29	2	13	52	0	7	56	26	0	0	0	185	0	2	0	0	2
	7:15 AM	0	35	5	11	52	0	11	52	24	0	0	0	190	0	3	0	0	3
	7:30 AM	0	40	1	13	68	0	12	53	18	0	0	0	205	0	2	0	0	2
	7:45 AM	0	44	6	17	74	0	13	73	22	0	0	0	249	0	0	0	0	0
	8:00 AM	0	39	7	10	83	0	16	72	38	0	0	0	265	0	0	0	0	0
	8:15 AM	0	47	7	12	48	0	13	73	41	0	0	0	241	0	1	0	0	1
	8:30 AM	0	45	1	14	65	0	19	67	30	0	0	0	241	0	1	0	0	1
	8:45 AM	0	58	1	20	70	0	17	84	21	0	0	0	271	0	4	0	0	4
	VOLUMES	0	337	30	110	512	0	108	530	220	0	0	0	1,847	0	13	0	0	13
	APPROACH %	0%	92%	8%	18%	82%	0%	13%	62%	26%	0%	0%	0%						
	APP/DEPART	367	/	458	622	/	732	858	/	657	0	/	0	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	189	16	56	266	0	65	296	130	0	0	0	1,018					
	APPROACH %	0%	92%	8%	17%	83%	0%	13%	60%	26%	0%	0%	0%						
	PEAK HR FACTOR		0.869			0.866			0.967			0.000		0.939					
	APP/DEPART	205	/	260	322	/	396	491	/	362	0	/	0	0					
PM	4:00 PM	0	60	7	20	53	0	23	189	18	0	0	0	370	0	4	0	0	4
	4:15 PM	0	57	5	26	50	0	28	239	15	0	0	0	420	0	1	0	0	1
	4:30 PM	0	64	15	41	45	0	32	242	16	0	0	0	455	0	2	0	0	2
	4:45 PM	0	60	5	20	40	0	25	263	19	0	0	0	432	0	1	0	0	1
	5:00 PM	0	60	14	27	51	0	29	267	12	0	0	0	460	0	1	0	0	1
	5:15 PM	0	70	11	25	67	0	25	273	14	0	0	0	485	0	0	0	0	0
	5:30 PM	0	72	11	25	73	0	37	253	17	0	0	0	488	0	2	0	0	2
	5:45 PM	0	53	7	24	59	0	25	219	24	0	0	0	411	0	2	0	0	2
	VOLUMES	0	496	75	208	438	0	224	1,945	135	0	0	0	3,521	0	13	0	0	13
	APPROACH %	0%	87%	13%	32%	68%	0%	10%	84%	6%	0%	0%	0%						
	APP/DEPART	571	/	733	646	/	573	2,304	/	2,215	0	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	262	41	97	231	0	116	1,056	62	0	0	0	1,865					
	APPROACH %	0%	86%	14%	30%	70%	0%	9%	86%	5%	0%	0%	0%						
	PEAK HR FACTOR		0.913			0.837			0.989			0.000		0.955					
	APP/DEPART	303	/	382	328	/	293	1,234	/	1,190	0	/	0	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Long Beach	LOCATION #:	15
	EAST & WEST:	Ocean	CONTROL:	SIGNAL

NOTES:

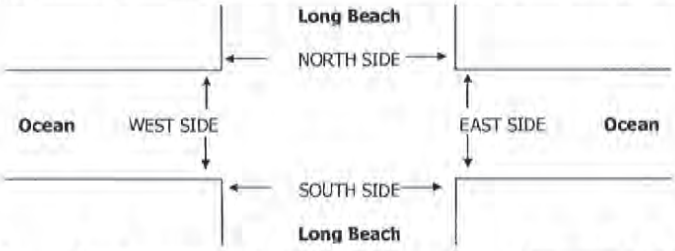
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Long Beach			SOUTHBOUND Long Beach			EASTBOUND Ocean			WESTBOUND Ocean			
	LANES:	NL X	NT X	NR X	SL 1.5	ST X	SR 1.5	EL 1	ET 3	ER X	WL X	WT 3	WR 1	TOTAL
AM	7:00 AM	0	0	0	15	0	36	17	86	0	0	391	14	559
	7:15 AM	0	0	0	14	0	47	20	124	0	0	500	27	732
	7:30 AM	0	0	0	10	0	48	14	117	0	0	468	20	677
	7:45 AM	0	0	0	21	0	51	19	108	0	0	528	30	757
	8:00 AM	0	0	0	16	0	51	24	107	0	0	433	21	652
	8:15 AM	0	0	0	14	0	44	22	135	0	0	506	38	759
	8:30 AM	0	0	0	18	0	59	24	114	0	0	450	22	687
	8:45 AM	0	0	0	17	0	66	37	125	0	0	395	27	667
	VOLUMES	0	0	0	125	0	402	177	916	0	0	3,671	199	5,490
	APPROACH %	0%	0%	0%	24%	0%	76%	16%	84%	0%	0%	95%	5%	
	APP/DEPART	0	/	380	527	/	0	1,093	/	1,032	3,870	/	4,078	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	0	0	0	69	0	205	89	464	0	0	1,917	111	2,855
	APPROACH %	0%	0%	0%	25%	0%	75%	16%	84%	0%	0%	95%	5%	
	PEAK HR FACTOR		0.000			0.890			0.881			0.909		0.940
	APP/DEPART	0	/	203	274	/	0	553	/	528	2,028	/	2,124	0
PM	4:00 PM	0	0	0	30	0	51	32	261	0	0	217	22	613
	4:15 PM	0	0	0	30	0	45	34	358	0	0	239	27	733
	4:30 PM	0	0	0	40	0	44	49	372	0	0	218	27	750
	4:45 PM	0	0	0	23	0	41	46	371	0	0	193	19	693
	5:00 PM	0	0	0	42	0	66	55	412	0	0	241	22	838
	5:15 PM	0	0	0	50	0	61	52	457	0	0	265	27	912
	5:30 PM	0	0	0	43	0	63	39	348	0	0	212	31	736
	5:45 PM	0	0	0	30	0	46	30	387	0	0	246	25	764
	VOLUMES	0	0	0	288	0	417	337	2,966	0	0	1,831	200	6,039
	APPROACH %	0%	0%	0%	41%	0%	59%	10%	90%	0%	0%	90%	10%	
	APP/DEPART	0	/	571	705	/	0	3,303	/	3,213	2,031	/	2,255	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	165	0	236	176	1,604	0	0	964	105	3,250
	APPROACH %	0%	0%	0%	41%	0%	59%	10%	90%	0%	0%	90%	10%	
	PEAK HR FACTOR		0.000			0.903			0.874			0.915		0.891
	APP/DEPART	0	/	302	401	/	0	1,780	/	1,745	1,069	/	1,203	0

U-TURNS

NB X	SB 0	EB X	WB X	TTL
0	3	0	0	3
0	0	2	0	2
0	1	0	0	1
0	1	1	0	2
0	0	0	0	0
0	1	1	0	2
0	3	0	0	3
0	0	1	0	1
0	9	5	0	14
0	8	1	0	9
0	2	1	0	3
0	6	1	0	7
0	1	1	0	2
0	7	1	0	8
0	9	0	0	9
0	4	1	0	5
0	4	1	0	5
0	41	7	0	48



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

National Data & Surveying Services

Intersection Turning Movement Count

Location: Atlantic Ave & Alondra Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-092
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				Alondra Blvd				Alondra Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	3	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	39	78	35	4	67	114	20	0	10	136	12	0	33	166	36	0	750
7:15 AM	41	80	32	1	84	149	27	0	23	205	22	0	39	210	53	1	967
7:30 AM	46	118	64	2	75	214	21	0	33	235	22	0	42	219	70	0	1161
7:45 AM	36	122	46	2	86	207	28	0	28	218	22	0	50	229	73	0	1147
8:00 AM	45	99	32	3	76	157	24	0	44	170	27	0	47	236	69	0	1029
8:15 AM	41	101	15	2	79	124	25	0	29	139	24	0	45	182	66	0	872
8:30 AM	29	81	36	2	70	100	25	1	29	127	21	0	26	141	54	0	742
8:45 AM	40	89	28	1	56	87	23	0	32	137	15	0	28	133	75	0	744
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	317	768	288	17	593	1152	193	1	228	1367	165	0	310	1516	496	1	7412
APPROACH %'s :	22.81%	55.25%	20.72%	1.22%	30.58%	59.41%	9.95%	0.05%	12.95%	77.67%	9.38%	0.00%	13.34%	65.26%	21.35%	0.04%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	168	419	174	8	321	727	100	0	128	828	93	0	178	894	265	1	4304
PEAK HR FACTOR :	0.913	0.859	0.680	0.667	0.933	0.849	0.893	0.000	0.727	0.881	0.861	0.000	0.890	0.947	0.908	0.250	0.927
			0.836				0.894				0.904				0.950		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	3	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	33	111	35	2	63	115	34	0	35	192	44	0	32	157	82	0	935
4:15 PM	39	129	29	5	70	121	21	0	35	210	54	0	46	172	96	1	1028
4:30 PM	29	139	40	3	60	125	39	0	33	217	43	0	52	145	83	0	1008
4:45 PM	35	148	29	0	51	159	28	0	48	233	66	0	38	180	83	0	1098
5:00 PM	31	156	52	0	61	175	36	0	50	229	59	1	38	160	101	1	1150
5:15 PM	31	143	38	0	50	144	15	1	53	284	64	1	42	173	94	0	1133
5:30 PM	25	154	48	6	66	137	33	0	29	239	59	0	41	184	95	0	1116
5:45 PM	31	111	32	3	50	131	28	0	58	251	57	5	42	166	94	1	1060
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	254	1091	303	19	471	1107	234	1	341	1855	446	7	331	1337	728	3	8528
APPROACH %'s :	15.24%	65.45%	18.18%	1.14%	25.98%	61.06%	12.91%	0.06%	12.87%	70.03%	16.84%	0.26%	13.80%	55.73%	30.35%	0.13%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	122	601	167	6	228	615	112	1	180	985	248	2	159	697	373	1	4497
PEAK HR FACTOR :	0.871	0.963	0.803	0.250	0.864	0.879	0.778	0.250	0.849	0.867	0.939	0.500	0.946	0.947	0.923	0.250	0.978
			0.937				0.879				0.880				0.961		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Atlantic Ave & SR-91 WB Ramps
City: Long Beach
Control: Signalized

Project ID: 18-05723-001
Date: 11/1/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				SR-91 WB Ramps				SR-91 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	0	3	0	0	0	0	0	0	2	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	106	109	0	0	0	169	90	0	0	0	0	0	50	2	78	0	604
7:15 AM	98	109	0	0	0	184	83	0	0	0	0	0	24	4	67	0	569
7:30 AM	94	111	0	0	0	238	106	0	0	0	0	0	44	7	69	0	669
7:45 AM	111	136	0	0	0	239	135	0	0	0	0	0	63	9	60	0	753
8:00 AM	100	131	0	0	0	209	124	0	0	0	0	0	43	8	49	0	664
8:15 AM	97	107	0	0	0	205	85	0	0	0	0	0	42	8	49	0	593
8:30 AM	84	124	0	0	0	179	73	0	0	0	0	0	37	3	54	0	554
8:45 AM	80	124	0	0	0	174	57	0	0	0	0	0	32	2	62	0	531
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	770	951	0	0	0	1597	753	0	0	0	0	0	335	43	488	0	4937
APPROACH %'s :	44.74%	55.26%	0.00%	0.00%	0.00%	67.96%	32.04%	0.00%					38.68%	4.97%	56.35%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	402	485	0	0	0	891	450	0	0	0	0	0	192	32	227	0	2679
PEAK HR FACTOR :	0.905	0.892	0.000	0.000	0.000	0.932	0.833	0.000	0.000	0.000	0.000	0.000	0.762	0.889	0.822	0.000	0.889
	0.898				0.896								0.854				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	0	3	0	0	0	0	0	0	2	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	70	186	0	0	0	219	41	0	0	0	0	0	68	1	126	0	711
4:15 PM	75	207	0	0	0	196	37	0	0	0	0	0	69	0	71	0	655
4:30 PM	57	183	0	0	0	228	31	0	0	0	0	0	46	0	81	0	626
4:45 PM	63	175	0	0	0	224	35	0	0	0	0	0	48	0	91	0	636
5:00 PM	73	153	0	0	0	229	35	0	0	0	0	0	58	0	119	0	667
5:15 PM	78	189	0	0	0	252	33	0	0	0	0	0	69	0	115	0	736
5:30 PM	73	168	0	0	0	251	36	0	0	0	0	0	63	0	119	0	710
5:45 PM	68	178	0	0	0	275	28	0	0	0	0	0	66	0	98	0	713
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	557	1439	0	0	0	1874	276	0	0	0	0	0	487	1	820	0	5454
APPROACH %'s :	27.91%	72.09%	0.00%	0.00%	0.00%	87.16%	12.84%	0.00%					37.23%	0.08%	62.69%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	292	688	0	0	0	1007	132	0	0	0	0	0	256	0	451	0	2826
PEAK HR FACTOR :	0.936	0.910	0.000	0.000	0.000	0.915	0.917	0.000	0.000	0.000	0.000	0.000	0.928	0.000	0.947	0.000	0.960
	0.918				0.940								0.961				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Atlantic Ave & SR-91 EB Ramps
City: Long Beach
Control: Signalized

Project ID: 18-05723-002
Date: 11/1/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				SR-91 EB Ramps				SR-91 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	2	2	0	0	1.5	0	1.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	196	80	0	55	163	0	0	19	0	52	0	0	0	0	0	565
7:15 AM	0	192	90	0	62	158	0	0	14	0	51	0	0	0	0	0	567
7:30 AM	0	196	67	0	85	192	0	0	12	0	71	0	0	0	0	0	623
7:45 AM	0	236	71	0	69	233	0	0	11	0	64	0	0	0	0	0	684
8:00 AM	0	217	68	0	59	194	0	0	16	1	48	0	0	0	0	0	603
8:15 AM	0	195	61	0	69	177	0	0	7	0	51	0	0	0	0	0	560
8:30 AM	0	189	47	0	42	173	0	0	16	0	67	0	0	0	0	0	534
8:45 AM	0	186	42	0	38	162	0	0	18	0	69	0	0	0	0	0	515
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1607	526	0	479	1452	0	0	113	1	473	0	0	0	0	0	4651
APPROACH %'s :	0.00%	75.34%	24.66%	0.00%	24.81%	75.19%	0.00%	0.00%	19.25%	0.17%	80.58%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	841	296	0	275	777	0	0	53	1	234	0	0	0	0	0	2477
PEAK HR FACTOR :	0.000	0.891	0.822	0.000	0.809	0.834	0.000	0.000	0.828	0.250	0.824	0.000	0.000	0.000	0.000	0.000	0.905
		0.926				0.871				0.867							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	2	2	0	0	1.5	0	1.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	206	81	0	90	188	0	0	57	16	115	0	0	0	0	0	753
4:15 PM	0	233	88	0	79	194	0	0	37	13	126	0	0	0	0	0	770
4:30 PM	0	199	73	0	83	191	0	0	38	10	140	0	0	0	0	0	734
4:45 PM	0	205	77	0	82	187	0	0	38	11	115	0	0	0	0	0	715
5:00 PM	0	196	90	0	100	195	0	0	33	15	131	0	0	0	0	0	760
5:15 PM	0	241	76	0	94	221	0	0	30	9	131	0	0	0	0	0	802
5:30 PM	0	206	80	0	91	223	0	0	34	13	137	0	0	0	0	0	784
5:45 PM	0	218	74	0	95	242	0	0	36	15	147	0	0	0	0	0	827
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1704	639	0	714	1641	0	0	303	102	1042	0	0	0	0	0	6145
APPROACH %'s :	0.00%	72.73%	27.27%	0.00%	30.32%	69.68%	0.00%	0.00%	20.94%	7.05%	72.01%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	861	320	0	380	881	0	0	133	52	546	0	0	0	0	0	3173
PEAK HR FACTOR :	0.000	0.893	0.889	0.000	0.950	0.910	0.000	0.000	0.924	0.867	0.929	0.000	0.000	0.000	0.000	0.000	0.959
		0.931				0.935				0.923							

National Data & Surveying Services Intersection Turning Movement Count

Location: Atlantic Ave & Artesia Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-043
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				Artesia Blvd				Artesia Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	2	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	52	196	28	1	36	107	55	0	40	76	27	4	15	198	52	0	887
7:15 AM	59	181	24	0	40	108	64	0	57	113	45	8	19	202	62	2	984
7:30 AM	63	186	56	0	60	143	85	0	41	146	61	13	22	245	53	1	1175
7:45 AM	62	164	35	2	33	155	120	0	53	96	58	14	16	204	65	2	1079
8:00 AM	60	158	33	3	25	123	79	0	32	85	44	9	25	204	50	3	933
8:15 AM	67	153	26	0	31	154	81	0	45	99	42	9	26	147	51	1	932
8:30 AM	56	161	24	0	20	123	73	0	58	97	43	6	24	175	54	2	916
8:45 AM	50	136	14	0	28	124	48	0	37	81	49	6	23	159	51	1	807
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	469	1335	240	6	273	1037	605	0	363	793	369	69	170	1534	438	12	7713
APPROACH %'s :	22.88%	65.12%	11.71%	0.29%	14.26%	54.15%	31.59%	0.00%	22.77%	49.75%	23.15%	4.33%	7.89%	71.22%	20.33%	0.56%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	244	689	148	5	158	529	348	0	183	440	208	44	82	855	230	8	4171
PEAK HR FACTOR :	0.968	0.926	0.661	0.417	0.658	0.853	0.725	0.000	0.803	0.753	0.852	0.786	0.820	0.872	0.885	0.667	0.887
	0.890				0.840				0.838				0.915				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	2	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	40	168	23	0	64	205	11	0	80	223	54	0	30	85	48	1	1032
4:15 PM	34	125	29	1	55	199	36	0	78	244	38	2	25	85	56	1	1008
4:30 PM	44	143	29	2	81	224	40	0	105	255	48	0	23	94	60	2	1150
4:45 PM	41	151	33	0	78	245	31	0	92	239	59	1	33	79	60	1	1143
5:00 PM	40	172	26	1	73	235	30	0	83	224	52	0	32	98	58	1	1125
5:15 PM	32	174	21	0	68	219	33	0	85	244	55	1	25	108	57	0	1122
5:30 PM	41	148	31	0	74	244	38	0	53	233	61	4	31	102	51	5	1116
5:45 PM	49	146	34	1	72	197	29	0	40	260	73	2	28	93	40	2	1066
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	321	1227	226	5	565	1768	248	0	616	1922	440	10	227	744	430	13	8762
APPROACH %'s :	18.04%	68.97%	12.70%	0.28%	21.89%	68.50%	9.61%	0.00%	20.62%	64.32%	14.73%	0.33%	16.05%	52.62%	30.41%	0.92%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	157	640	109	3	300	923	134	0	365	962	214	2	113	379	235	4	4540
PEAK HR FACTOR :	0.892	0.920	0.826	0.375	0.926	0.942	0.838	0.000	0.869	0.943	0.907	0.500	0.856	0.877	0.979	0.500	0.987
	0.951				0.958				0.945				0.962				

National Data & Surveying Services Intersection Turning Movement Count

Location: Atlantic Ave & South St
City: Long Beach
Control: Signalized

Project ID: 18-05307-042
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				South St				South St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	93	9	0	28	141	10	0	8	39	7	0	27	40	27	0	435
7:15 AM	4	91	19	0	24	136	17	0	17	46	13	0	26	58	22	0	473
7:30 AM	11	110	20	1	43	203	16	0	23	64	10	0	30	79	24	0	634
7:45 AM	10	112	17	0	44	208	28	0	17	41	8	0	37	57	30	0	609
8:00 AM	11	105	25	0	36	160	10	0	11	46	13	0	29	61	32	0	539
8:15 AM	8	100	17	0	29	154	5	0	19	50	17	0	27	54	26	0	506
8:30 AM	13	85	17	0	28	139	20	0	17	54	16	0	31	45	28	0	493
8:45 AM	7	86	17	0	35	111	10	0	12	44	12	0	32	52	20	0	438
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	70	782	141	1	267	1252	116	0	124	384	96	0	239	446	209	0	4127
APPROACH %'s :	7.04%	78.67%	14.19%	0.10%	16.33%	76.57%	7.09%	0.00%	20.53%	63.58%	15.89%	0.00%	26.73%	49.89%	23.38%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	40	427	79	1	152	725	59	0	70	201	48	0	123	251	112	0	2288
PEAK HR FACTOR :	0.909	0.953	0.790	0.250	0.864	0.871	0.527	0.000	0.761	0.785	0.706	0.000	0.831	0.794	0.875	0.000	0.902
		0.963				0.836				0.822				0.914			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	12	147	30	0	52	129	18	0	19	68	11	0	24	56	43	0	609
4:15 PM	9	131	25	0	57	103	19	0	20	72	12	1	27	54	25	0	555
4:30 PM	15	158	36	0	56	138	14	0	16	75	11	0	25	63	28	0	635
4:45 PM	15	155	40	0	45	118	18	1	15	90	15	0	28	63	41	0	644
5:00 PM	15	186	40	0	73	139	26	0	9	81	7	0	26	63	26	0	691
5:15 PM	16	210	49	0	64	114	13	0	15	82	12	0	26	61	35	0	697
5:30 PM	22	169	35	0	70	127	20	0	22	91	6	0	25	72	32	0	691
5:45 PM	18	151	36	0	48	129	21	0	25	88	10	0	35	56	44	0	661
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	122	1307	291	0	465	997	149	1	141	647	84	1	216	488	274	0	5183
APPROACH %'s :	7.09%	75.99%	16.92%	0.00%	28.85%	61.85%	9.24%	0.06%	16.15%	74.11%	9.62%	0.11%	22.09%	49.90%	28.02%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	71	716	160	0	255	509	80	0	71	342	35	0	112	252	137	0	2740
PEAK HR FACTOR :	0.807	0.852	0.816	0.000	0.873	0.915	0.769	0.000	0.710	0.940	0.729	0.000	0.800	0.875	0.778	0.000	0.983
		0.861				0.887				0.911				0.928			

National Data & Surveying Services Intersection Turning Movement Count

Location: Atlantic Ave & Del Amo Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-041
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				Del Amo Blvd				Del Amo Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	28	44	17	0	24	103	30	0	12	100	19	4	10	324	12	0	727
7:15 AM	43	58	19	0	38	131	61	0	18	144	25	2	13	354	12	0	918
7:30 AM	43	70	22	0	46	175	54	0	20	161	40	0	13	373	23	0	1040
7:45 AM	46	86	17	0	46	192	70	0	23	147	39	1	17	313	33	0	1030
8:00 AM	35	86	13	0	23	177	40	1	16	139	44	1	28	343	24	0	970
8:15 AM	36	78	8	0	34	162	41	1	26	164	43	2	17	269	20	0	901
8:30 AM	39	77	7	0	34	140	54	0	16	175	45	2	26	253	22	0	890
8:45 AM	44	80	8	0	25	143	37	1	20	148	49	3	27	241	25	0	851
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	314	579	111	0	270	1223	387	3	151	1178	304	15	151	2470	171	0	7327
APPROACH %'s :	31.27%	57.67%	11.06%	0.00%	14.34%	64.95%	20.55%	0.16%	9.16%	71.48%	18.45%	0.91%	5.41%	88.47%	6.12%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	167	300	71	0	153	675	225	1	77	591	148	4	71	1383	92	0	3958
PEAK HR FACTOR :	0.908	0.872	0.807	0.000	0.832	0.879	0.804	0.250	0.837	0.918	0.841	0.500	0.634	0.927	0.697	0.000	0.951
	0.903				0.856				0.928				0.945				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	51	148	17	0	27	120	32	1	38	325	61	1	24	167	18	0	1030
4:15 PM	43	142	34	1	26	92	30	3	34	371	72	2	39	167	16	0	1072
4:30 PM	44	165	32	1	25	133	36	1	29	339	67	1	24	151	32	0	1080
4:45 PM	46	159	30	0	29	99	34	0	35	374	68	1	25	161	30	2	1093
5:00 PM	52	207	41	0	27	129	30	1	36	353	58	1	23	141	30	0	1129
5:15 PM	53	196	32	0	27	116	27	0	37	404	81	3	33	177	41	0	1227
5:30 PM	59	207	39	0	27	115	24	0	39	356	66	3	28	182	35	1	1181
5:45 PM	53	173	32	0	25	111	37	1	44	391	54	2	18	183	32	1	1157
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	401	1397	257	2	213	915	250	7	292	2913	527	14	214	1329	234	4	8969
APPROACH %'s :	19.49%	67.91%	12.49%	0.10%	15.38%	66.06%	18.05%	0.51%	7.79%	77.76%	14.07%	0.37%	12.02%	74.62%	13.14%	0.22%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	217	783	144	0	106	471	118	2	156	1504	259	9	102	683	138	2	4694
PEAK HR FACTOR :	0.919	0.946	0.878	0.000	0.981	0.913	0.797	0.500	0.886	0.931	0.799	0.750	0.773	0.933	0.841	0.500	0.956
	0.938				0.932				0.918				0.921				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Atlantic Ave & 33rd St
City: Long Beach
Control: Signalized

Project ID: 18-05723-003
Date: 11/1/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				33rd St				33rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	94	13	0	1	171	1	0	0	1	4	0	5	1	10	0	305
7:15 AM	5	129	15	0	8	229	1	0	0	1	8	0	6	1	6	0	409
7:30 AM	11	123	11	1	5	253	1	0	0	1	4	0	11	3	4	0	428
7:45 AM	1	193	23	0	12	246	0	0	2	1	4	0	4	4	11	0	501
8:00 AM	8	224	22	2	10	210	2	0	2	1	8	0	10	1	21	0	521
8:15 AM	2	178	33	1	18	235	1	0	0	2	2	0	14	2	29	0	517
8:30 AM	4	191	25	1	15	223	4	0	1	4	3	0	8	5	19	0	503
8:45 AM	8	200	33	1	16	206	1	0	1	2	3	0	26	3	28	0	528
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	43	1332	175	6	85	1773	11	0	6	13	36	0	84	20	128	0	3712
APPROACH %'s :	2.76%	85.60%	11.25%	0.39%	4.55%	94.86%	0.59%	0.00%	10.91%	23.64%	65.45%	0.00%	36.21%	8.62%	55.17%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	22	793	113	5	59	874	8	0	4	9	16	0	58	11	97	0	2069
PEAK HR FACTOR :	0.688	0.885	0.856	0.625	0.819	0.930	0.500	0.000	0.500	0.563	0.500	0.000	0.558	0.550	0.836	0.000	0.980
	0.911				0.926				0.659				0.728				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	288	63	2	18	178	0	0	3	3	6	0	26	9	49	0	651
4:15 PM	3	303	45	2	18	203	5	0	4	3	5	0	35	3	34	0	663
4:30 PM	7	263	52	0	18	187	3	0	3	2	11	0	24	3	31	0	604
4:45 PM	9	311	65	0	15	170	2	0	5	3	9	0	32	1	40	0	662
5:00 PM	4	291	61	2	25	198	2	0	1	2	6	0	26	5	43	0	666
5:15 PM	6	311	72	0	20	184	6	0	4	1	8	0	36	6	43	0	697
5:30 PM	5	309	70	0	19	187	3	0	0	3	3	0	24	4	31	0	658
5:45 PM	12	325	48	0	18	149	3	0	4	3	4	0	25	2	33	0	626
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	52	2401	476	6	151	1456	24	0	24	20	52	0	228	33	304	0	5227
APPROACH %'s :	1.77%	81.81%	16.22%	0.20%	9.26%	89.27%	1.47%	0.00%	25.00%	20.83%	54.17%	0.00%	40.35%	5.84%	53.81%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	24	1222	268	2	79	739	13	0	10	9	26	0	118	16	157	0	2683
PEAK HR FACTOR :	0.667	0.982	0.931	0.250	0.790	0.933	0.542	0.000	0.500	0.750	0.722	0.000	0.819	0.667	0.913	0.000	0.962
	0.974				0.923				0.662				0.856				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Atlantic Ave & I-405 WB Ramps
City: Long Beach
Control: 1-Way Yield (WB)

Project ID: 18-05723-103
Date: 11/1/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				I-405 WB Ramps				I-405 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	0	2	0	0	0	0	1	0	0	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	92	43	0	0	169	0	0	0	0	59	0	0	0	29	0	392
7:15 AM	0	108	68	0	0	238	0	0	0	0	55	0	0	0	31	0	500
7:30 AM	0	121	70	0	0	278	0	0	0	0	58	0	0	0	35	0	562
7:45 AM	0	166	53	0	0	266	0	0	0	0	59	0	0	0	39	0	583
8:00 AM	0	186	50	0	0	227	0	0	0	0	81	0	0	0	67	0	611
8:15 AM	0	174	47	0	0	251	0	0	0	0	72	0	0	0	53	0	597
8:30 AM	0	178	53	0	0	227	0	0	0	0	48	0	0	0	33	0	539
8:45 AM	0	186	46	0	0	236	0	0	0	0	57	0	0	0	67	0	592
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1211	430	0	0	1892	0	0	0	0	489	0	0	0	354	0	4376
APPROACH %'s :	0.00%	73.80%	26.20%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	647	220	0	0	1022	0	0	0	0	270	0	0	0	194	0	2353
PEAK HR FACTOR :	0.000	0.870	0.786	0.000	0.000	0.919	0.000	0.000	0.000	0.000	0.833	0.000	0.000	0.000	0.724	0.000	0.963
		0.918				0.919				0.833				0.724			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	0	2	0	0	0	0	1	0	0	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	236	65	0	0	215	0	0	0	0	64	0	0	0	120	0	700
4:15 PM	0	257	67	0	0	239	0	0	0	0	76	0	0	0	103	0	742
4:30 PM	0	231	76	0	0	232	0	0	0	0	75	0	0	0	89	0	703
4:45 PM	0	272	82	0	0	212	0	0	0	0	50	0	0	0	108	0	724
5:00 PM	0	259	89	0	0	220	0	0	0	0	60	0	0	0	106	0	734
5:15 PM	0	286	60	0	0	240	0	0	0	0	68	0	0	0	105	0	759
5:30 PM	0	286	58	0	0	228	0	0	0	0	66	0	0	0	103	0	741
5:45 PM	0	277	54	0	0	163	0	0	0	0	62	0	0	0	99	0	655
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2104	551	0	0	1749	0	0	0	0	521	0	0	0	833	0	5758
APPROACH %'s :	0.00%	79.25%	20.75%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1103	289	0	0	900	0	0	0	0	244	0	0	0	422	0	2958
PEAK HR FACTOR :	0.000	0.964	0.812	0.000	0.000	0.938	0.000	0.000	0.000	0.000	0.897	0.000	0.000	0.000	0.977	0.000	0.974
		0.983				0.938				0.897				0.977			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Atlantic Ave & I-405 EB Ramps
City: Long Beach
Control: Signalized

Project ID: 18-05723-004
Date: 11/1/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				I-405 EB Ramps				I-405 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	2	1	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	121	58	0	0	145	86	0	26	0	73	0	0	0	0	0	509
7:15 AM	0	133	81	0	0	210	86	0	42	0	91	0	0	0	0	0	643
7:30 AM	0	150	104	0	1	240	90	0	30	0	78	0	0	0	0	0	693
7:45 AM	0	175	84	0	0	233	69	0	53	0	91	0	0	0	0	0	705
8:00 AM	0	188	64	0	0	233	78	0	41	0	82	0	0	0	0	0	686
8:15 AM	0	177	64	0	0	231	94	0	43	2	90	0	0	0	0	0	701
8:30 AM	0	170	63	0	0	213	73	0	50	1	97	0	0	0	0	0	667
8:45 AM	0	174	51	0	0	219	57	0	44	0	81	0	0	0	0	0	626
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1288	569	0	1	1724	633	0	329	3	683	0	0	0	0	0	5230
APPROACH %'s :	0.00%	69.36%	30.64%	0.00%	0.04%	73.11%	26.84%	0.00%	32.41%	0.30%	67.29%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	690	316	0	1	937	331	0	167	2	341	0	0	0	0	0	2785
PEAK HR FACTOR :	0.000	0.918	0.760	0.000	0.250	0.976	0.880	0.000	0.788	0.250	0.937	0.000	0.000	0.000	0.000	0.000	0.988
		0.971				0.958				0.885							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	3	0	0	0	2	1	0	1	0	1	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	257	55	0	0	233	38	0	59	1	62	0	0	0	0	0	705
4:15 PM	0	263	37	0	0	246	59	0	61	0	57	0	0	0	0	0	723
4:30 PM	0	259	62	0	0	256	55	0	49	0	51	0	0	0	0	0	732
4:45 PM	0	278	58	0	1	199	72	0	70	0	76	0	0	0	0	0	754
5:00 PM	0	281	54	0	1	214	58	0	60	0	76	0	0	0	0	0	744
5:15 PM	0	290	63	0	0	242	51	0	67	0	58	0	0	0	0	0	771
5:30 PM	0	261	55	0	0	238	61	0	68	0	57	0	0	0	0	0	740
5:45 PM	0	263	66	0	0	199	39	0	78	0	51	0	0	0	0	0	696
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2152	450	0	2	1827	433	0	512	1	488	0	0	0	0	0	5865
APPROACH %'s :	0.00%	82.71%	17.29%	0.00%	0.09%	80.77%	19.14%	0.00%	51.15%	0.10%	48.75%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	1110	230	0	2	893	242	0	265	0	267	0	0	0	0	0	3009
PEAK HR FACTOR :	0.000	0.957	0.913	0.000	0.500	0.923	0.840	0.000	0.946	0.000	0.878	0.000	0.000	0.000	0.000	0.000	0.976
		0.949				0.951				0.911							

National Data & Surveying Services Intersection Turning Movement Count

Location: Atlantic Ave & Willow St
City: Long Beach
Control: Signalized

Project ID: 18-05307-040
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	2	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	27	129	15	0	9	91	15	0	22	131	8	0	20	161	19	0	647
7:15 AM	20	142	20	0	14	143	18	0	32	216	16	0	26	242	33	0	922
7:30 AM	31	198	23	0	31	158	17	0	23	226	24	0	29	225	38	0	1023
7:45 AM	40	170	37	0	37	117	22	0	50	239	18	0	28	282	59	0	1099
8:00 AM	22	156	25	0	15	147	17	0	30	213	21	0	22	210	36	0	914
8:15 AM	16	133	19	0	22	108	23	1	39	258	20	0	15	220	39	0	913
8:30 AM	28	147	23	0	23	140	24	0	36	175	15	0	15	179	43	1	849
8:45 AM	15	149	18	0	15	136	19	1	37	196	12	0	19	201	42	3	863
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	199	1224	180	0	166	1040	155	2	269	1654	134	0	174	1720	309	4	7230
APPROACH %'s :	12.41%	76.36%	11.23%	0.00%	12.18%	76.30%	11.37%	0.15%	13.08%	80.41%	6.51%	0.00%	7.88%	77.93%	14.00%	0.18%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	113	666	105	0	97	565	74	0	135	894	79	0	105	959	166	0	3958
PEAK HR FACTOR :	0.706	0.841	0.709	0.000	0.655	0.894	0.841	0.000	0.675	0.935	0.823	0.000	0.905	0.850	0.703	0.000	0.900
		0.877				0.893				0.902				0.833			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	2	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	35	130	30	0	49	151	45	0	32	351	27	0	37	281	36	0	1204
4:15 PM	17	153	43	0	39	171	39	0	40	296	27	0	46	225	25	0	1121
4:30 PM	22	142	24	0	46	148	34	0	33	361	31	0	24	278	20	0	1163
4:45 PM	13	131	29	0	40	173	38	0	26	279	20	0	31	226	24	1	1031
5:00 PM	26	144	40	0	46	169	40	0	18	394	24	0	18	303	25	1	1248
5:15 PM	19	139	37	0	35	183	30	0	35	335	25	0	34	264	20	0	1156
5:30 PM	27	138	35	0	40	140	30	0	28	336	27	0	29	280	18	0	1128
5:45 PM	24	111	28	0	23	181	36	0	33	257	25	0	28	197	22	0	965
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	183	1088	266	0	318	1316	292	0	245	2609	206	0	247	2054	190	2	9016
APPROACH %'s :	11.91%	70.79%	17.31%	0.00%	16.51%	68.33%	15.16%	0.00%	8.01%	85.26%	6.73%	0.00%	9.91%	82.39%	7.62%	0.08%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	80	556	130	0	167	673	142	0	112	1369	100	0	107	1071	89	2	4598
PEAK HR FACTOR :	0.769	0.965	0.813	0.000	0.908	0.919	0.888	0.000	0.800	0.869	0.806	0.000	0.787	0.884	0.890	0.500	0.921
		0.912				0.963				0.907				0.914			

National Data & Surveying Services Intersection Turning Movement Count

Location: Atlantic Ave & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-039
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	16	65	22	0	15	82	12	0	11	145	24	0	21	200	19	0	632
7:15 AM	14	106	28	0	15	150	9	0	17	153	45	0	51	253	29	0	870
7:30 AM	16	169	62	0	11	208	18	0	22	160	74	0	54	244	31	0	1069
7:45 AM	23	191	78	0	11	173	24	0	35	181	56	0	45	316	27	0	1160
8:00 AM	16	106	32	0	13	129	21	0	24	195	17	0	31	288	22	0	894
8:15 AM	21	102	24	0	12	129	21	0	12	173	20	0	33	246	20	0	813
8:30 AM	14	97	26	0	17	117	17	0	14	193	24	0	23	267	27	0	836
8:45 AM	21	110	16	0	16	128	25	0	24	179	23	0	27	224	25	0	818
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	141	946	288	0	110	1116	147	0	159	1379	283	0	285	2038	200	0	7092
APPROACH %'s :	10.25%	68.80%	20.95%	0.00%	8.01%	81.28%	10.71%	0.00%	8.73%	75.73%	15.54%	0.00%	11.30%	80.78%	7.93%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	69	572	200	0	50	660	72	0	98	689	192	0	181	1101	109	0	3993
PEAK HR FACTOR :	0.750	0.749	0.641	0.000	0.833	0.793	0.750	0.000	0.700	0.883	0.649	0.000	0.838	0.871	0.879	0.000	0.861
	0.720				0.825				0.900				0.896				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	159	41	0	19	156	16	0	24	259	22	0	34	209	23	0	972
4:15 PM	12	138	30	0	19	135	24	0	17	306	28	0	25	208	25	0	967
4:30 PM	15	148	41	0	27	132	19	0	21	338	24	0	26	178	19	0	988
4:45 PM	20	151	47	0	16	138	21	0	19	372	19	0	23	191	17	0	1034
5:00 PM	18	159	45	0	27	132	22	0	18	373	23	0	30	221	16	0	1084
5:15 PM	15	145	43	0	23	141	17	0	19	310	28	0	34	201	20	0	996
5:30 PM	15	145	42	0	20	142	19	0	25	303	27	0	24	196	23	0	981
5:45 PM	11	103	37	0	19	147	13	0	20	278	25	0	33	187	19	0	892
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	1148	326	0	170	1123	151	0	163	2539	196	0	229	1591	162	0	7914
APPROACH %'s :	7.30%	72.20%	20.50%	0.00%	11.77%	77.77%	10.46%	0.00%	5.62%	87.61%	6.76%	0.00%	11.55%	80.27%	8.17%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	68	603	176	0	93	543	79	0	77	1393	94	0	113	791	72	0	4102
PEAK HR FACTOR :	0.850	0.948	0.936	0.000	0.861	0.963	0.898	0.000	0.917	0.934	0.839	0.000	0.831	0.895	0.900	0.000	0.946
	0.954				0.988				0.944				0.914				

National Data & Surveying Services Intersection Turning Movement Count

Location: Atlantic Ave & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-038
Date: 5/23/2018

Total

NS/EW Streets:	Atlantic Ave				Atlantic Ave				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	62	7	0	12	45	10	0	23	134	11	0	27	208	16	0	566
7:15 AM	16	75	11	0	19	90	16	0	20	153	10	0	21	242	33	0	706
7:30 AM	16	132	14	0	25	105	20	0	32	141	18	0	29	287	48	0	867
7:45 AM	22	109	12	0	37	135	28	0	38	182	15	0	42	271	32	0	923
8:00 AM	12	96	12	0	27	135	14	0	33	165	24	0	26	261	10	0	815
8:15 AM	10	80	7	0	21	120	16	0	21	148	30	0	30	233	19	0	735
8:30 AM	15	91	12	0	18	106	21	0	30	139	29	0	21	192	23	0	697
8:45 AM	14	79	14	0	21	125	19	0	29	170	20	0	32	204	18	0	745
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	724	89	0	180	861	144	0	226	1232	157	0	228	1898	199	0	6054
APPROACH %'s :	12.49%	77.93%	9.58%	0.00%	15.19%	72.66%	12.15%	0.00%	13.99%	76.28%	9.72%	0.00%	9.81%	81.63%	8.56%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	60	417	45	0	110	495	78	0	124	636	87	0	127	1052	109	0	3340
PEAK HR FACTOR :	0.682	0.790	0.804	0.000	0.743	0.917	0.696	0.000	0.816	0.874	0.725	0.000	0.756	0.916	0.568	0.000	0.905
			0.806				0.854				0.901				0.885		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	14	116	18	0	23	142	24	0	30	304	25	0	26	176	26	0	924
4:15 PM	16	116	26	0	26	138	20	0	48	297	20	0	29	207	19	0	962
4:30 PM	20	125	31	0	24	132	15	0	45	298	23	1	22	177	24	0	937
4:45 PM	14	120	28	0	24	130	20	0	42	311	19	0	24	200	14	0	946
5:00 PM	15	140	16	0	22	118	20	0	45	275	21	0	25	184	34	0	915
5:15 PM	9	145	33	0	22	130	18	0	32	318	12	0	32	183	27	0	961
5:30 PM	15	122	25	0	24	127	17	0	41	307	28	0	25	171	20	0	922
5:45 PM	13	115	21	0	30	139	15	0	25	273	17	0	31	201	24	0	904
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	116	999	198	0	195	1056	149	0	308	2383	165	1	214	1499	188	0	7471
APPROACH %'s :	8.83%	76.09%	15.08%	0.00%	13.93%	75.43%	10.64%	0.00%	10.78%	83.41%	5.78%	0.04%	11.26%	78.85%	9.89%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	64	477	103	0	97	542	79	0	165	1210	87	1	101	760	83	0	3769
PEAK HR FACTOR :	0.800	0.954	0.831	0.000	0.933	0.954	0.823	0.000	0.859	0.973	0.870	0.250	0.871	0.918	0.798	0.000	0.979
			0.915				0.950				0.983				0.925		

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

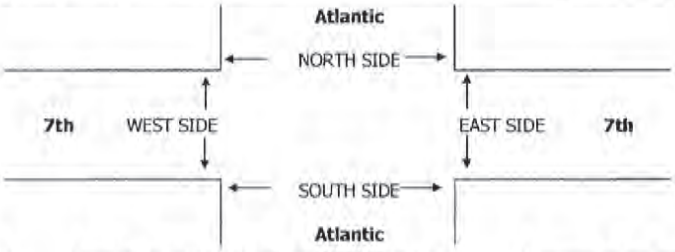
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Atlantic	LOCATION #:	22
	EAST & WEST:	7th	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Atlantic)			SOUTHBOUND (Atlantic)			EASTBOUND (7th)			WESTBOUND (7th)				U-TURNS				
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL X	ET X	ER X	WL 1	WT 2	WR 0	TOTAL	NB 0	SB X	EB 0	WB 0	TTL
AM	7:00 AM	10	57	22	12	49	13	0	0	0	14	289	22	488	0	0	0	0	0
	7:15 AM	24	61	24	22	53	10	0	0	0	8	321	19	542	0	0	0	0	0
	7:30 AM	29	115	32	14	63	20	0	0	0	21	319	37	650	0	0	0	0	0
	7:45 AM	35	82	34	36	76	27	0	0	0	17	274	25	606	0	0	0	0	0
	8:00 AM	31	81	39	30	65	18	0	0	0	22	282	22	590	0	0	0	0	0
	8:15 AM	18	57	23	27	67	21	0	0	0	39	284	38	574	0	0	0	0	0
	8:30 AM	15	71	22	16	85	14	0	0	0	28	259	27	537	0	0	0	0	0
	8:45 AM	15	67	30	29	69	17	0	0	0	21	275	41	564	0	0	0	0	0
	VOLUMES	177	591	226	186	527	140	0	0	0	170	2,303	231	4,551	0	0	0	0	0
	APPROACH %	18%	59%	23%	22%	62%	16%	0%	0%	0%	6%	85%	9%						
	APP/DEPART	994	/	822	853	/	697	0	/	412	2,704	/	2,620	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	113	335	128	107	271	86	0	0	0	99	1,159	122	2,420					
	APPROACH %	20%	58%	22%	23%	58%	19%	0%	0%	0%	7%	84%	9%						
	PEAK HR FACTOR		0.818			0.835			0.000			0.915		0.931					
	APP/DEPART	576	/	457	464	/	370	0	/	235	1,380	/	1,358	0					
PM	4:00 PM	15	81	88	40	90	19	0	0	1	24	193	27	578	0	0	0	0	0
	4:15 PM	21	69	88	30	90	28	0	0	0	26	165	29	546	0	0	0	0	0
	4:30 PM	13	85	96	32	88	19	0	0	0	24	209	28	594	0	0	0	0	0
	4:45 PM	15	86	113	15	95	16	0	0	0	22	163	21	546	0	0	0	0	0
	5:00 PM	11	100	118	22	78	12	0	0	0	18	148	12	519	0	0	0	0	0
	5:15 PM	16	86	137	25	95	16	0	0	0	16	174	16	581	0	0	0	0	0
	5:30 PM	18	106	86	19	69	18	0	0	0	22	146	28	512	0	0	0	0	0
	5:45 PM	28	84	123	19	81	24	0	0	0	26	187	21	593	0	0	0	0	0
	VOLUMES	137	697	849	202	686	152	0	0	1	178	1,385	182	4,469	0	0	0	0	0
	APPROACH %	8%	41%	50%	19%	66%	15%	0%	0%	100%	10%	79%	10%						
	APP/DEPART	1,683	/	879	1,040	/	865	1	/	1,051	1,745	/	1,674	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	64	321	385	117	363	82	0	0	1	96	730	105	2,264					
	APPROACH %	8%	42%	50%	21%	65%	15%	0%	0%	100%	10%	78%	11%						
	PEAK HR FACTOR		0.900			0.943			0.250			0.892		0.953					
	APP/DEPART	770	/	426	562	/	460	1	/	502	931	/	876	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0
	TOTAL	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

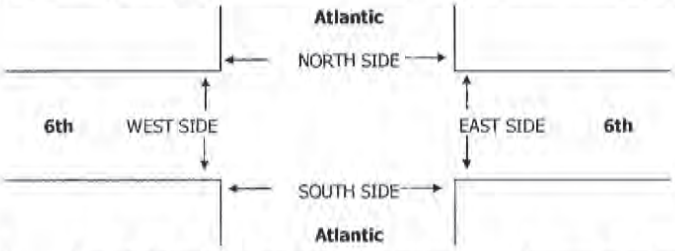
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Wed, May 25, 16	NORTH & SOUTH:	Atlantic	LOCATION #:	23
	EAST & WEST:	6th	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Atlantic			SOUTHBOUND Atlantic			EASTBOUND 6th			WESTBOUND 6th				U-TURNS				
	LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL 1	ET 2	ER 0	WL 1	WT X	WR 1	TOTAL	NB X	SB X	EB X	WB 0	TTL
AM	7:00 AM	0	61	3	6	55	0	25	63	11	0	0	4	228	0	0	0	0	0
	7:15 AM	0	61	4	8	53	0	28	89	10	1	0	15	269	0	0	0	0	0
	7:30 AM	0	85	8	8	72	0	40	105	16	4	0	6	344	0	0	0	1	1
	7:45 AM	0	88	13	20	89	1	54	98	22	9	0	12	406	0	0	0	0	0
	8:00 AM	0	86	7	11	74	0	66	93	18	5	0	9	369	0	0	0	0	0
	8:15 AM	0	82	6	6	90	0	39	96	14	3	0	6	342	0	0	0	0	0
	8:30 AM	0	86	5	11	89	0	49	90	16	0	0	3	349	0	0	0	0	0
	8:45 AM	0	60	0	7	89	0	39	86	11	2	0	3	297	0	0	0	0	0
	VOLUMES	0	609	46	77	611	1	340	720	118	24	0	58	2,604	0	0	0	1	1
	APPROACH %	0%	93%	7%	11%	89%	0%	29%	61%	10%	29%	0%	71%						
	APP/DEPART	655	/	1,007	689	/	752	1,178	/	844	82	/	1	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	342	31	48	342	1	208	377	70	17	0	30	1,466					
	APPROACH %	0%	92%	8%	12%	87%	0%	32%	58%	11%	36%	0%	64%						
	PEAK HR FACTOR		0.923			0.889			0.925			0.560		0.903					
	APP/DEPART	373	/	580	391	/	429	655	/	456	47	/	1	0					
PM	4:00 PM	0	72	2	10	99	0	81	161	19	1	0	2	447	0	0	0	0	0
	4:15 PM	0	73	2	3	88	0	111	169	15	0	0	3	464	0	0	0	0	0
	4:30 PM	0	82	3	8	97	0	132	173	33	0	0	2	530	0	0	0	0	0
	4:45 PM	0	86	6	7	86	0	132	198	18	0	0	2	535	0	1	0	0	1
	5:00 PM	0	107	4	4	124	0	171	232	21	1	0	2	666	0	0	0	0	0
	5:15 PM	0	93	1	10	113	0	137	217	31	1	0	5	608	0	0	0	0	0
	5:30 PM	0	84	5	10	97	0	114	179	20	0	0	7	516	0	0	0	0	0
	5:45 PM	0	81	7	7	103	0	102	176	20	0	0	2	498	0	0	0	0	0
	VOLUMES	0	678	30	59	807	0	980	1,505	177	3	0	25	4,264	0	1	0	0	1
	APPROACH %	0%	96%	4%	7%	93%	0%	37%	57%	7%	11%	0%	89%						
	APP/DEPART	708	/	1,684	866	/	987	2,662	/	1,593	28	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	368	14	29	420	0	572	820	103	2	0	11	2,339					
	APPROACH %	0%	96%	4%	6%	94%	0%	38%	55%	7%	15%	0%	85%						
	PEAK HR FACTOR		0.860			0.877			0.881			0.542		0.878					
	APP/DEPART	382	/	952	449	/	525	1,495	/	862	13	/	0	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

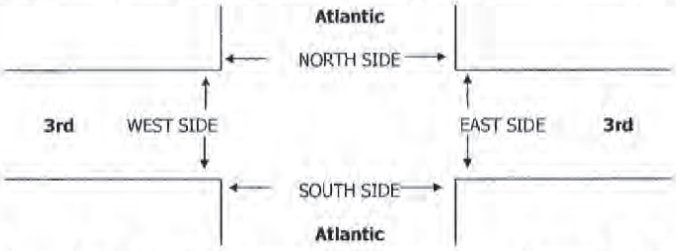
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Wed, May 25, 16	NORTH & SOUTH:	Atlantic	LOCATION #:	26
	EAST & WEST:	3rd	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Atlantic)			SOUTHBOUND (Atlantic)			EASTBOUND (3rd)			WESTBOUND (3rd)				U-TURNS				
	LANES:	NL 0	NT 2	NR X	SL X	ST 2	SR 0	EL X	ET X	ER X	WL 1	WT 2	WR 0	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	4	26	0	0	34	15	0	0	0	4	207	6	296	0	0	0	0	0
	7:15 AM	9	32	0	0	42	12	0	0	0	2	235	18	350	0	0	0	0	0
	7:30 AM	7	27	0	0	56	15	0	0	0	3	261	17	386	0	0	0	0	0
	7:45 AM	3	36	0	0	68	22	0	0	0	8	244	14	395	0	0	0	0	0
	8:00 AM	5	32	0	0	57	14	0	0	0	10	250	17	385	0	0	0	0	0
	8:15 AM	8	38	0	0	58	12	0	0	0	7	243	17	383	0	0	0	0	0
	8:30 AM	5	33	0	0	54	18	0	0	0	1	171	13	295	0	0	0	0	0
	8:45 AM	6	37	0	0	52	13	0	0	0	10	178	10	306	0	0	0	0	0
	VOLUMES	47	261	0	0	421	121	0	0	0	45	1,789	112	2,796	0	0	0	0	0
	APPROACH %	15%	85%	0%	0%	78%	22%	0%	0%	0%	2%	92%	6%						
	APP/DEPART	308	/	373	542	/	466	0	/	0	1,946	/	1,957	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	23	133	0	0	239	63	0	0	0	28	998	65	1,549					
	APPROACH %	15%	85%	0%	0%	79%	21%	0%	0%	0%	3%	91%	6%						
	PEAK HR FACTOR		0.848			0.839			0.000			0.971		0.980					
	APP/DEPART	156	/	198	302	/	267	0	/	0	1,091	/	1,084	0					
PM	4:00 PM	9	45	0	0	54	20	0	0	0	7	87	10	232	0	0	0	0	0
	4:15 PM	10	46	0	0	69	14	0	0	0	6	76	7	228	0	0	0	0	0
	4:30 PM	10	58	0	0	75	12	0	0	0	6	92	10	263	0	0	0	0	0
	4:45 PM	5	60	0	0	76	10	0	0	0	5	94	9	259	0	0	0	0	0
	5:00 PM	5	51	0	0	61	13	0	0	0	6	76	12	224	0	0	0	0	0
	5:15 PM	9	54	0	0	75	21	0	0	0	4	70	8	241	0	0	0	0	0
	5:30 PM	6	44	0	0	61	12	0	0	0	7	77	11	218	0	0	0	0	0
	5:45 PM	15	46	0	0	59	18	0	0	0	6	79	11	234	1	0	0	0	1
	VOLUMES	69	404	0	0	530	120	0	0	0	47	651	78	1,899	1	0	0	0	1
	APPROACH %	15%	85%	0%	0%	82%	18%	0%	0%	0%	6%	84%	10%						
	APP/DEPART	473	/	482	650	/	578	0	/	0	776	/	839	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	29	223	0	0	287	56	0	0	0	21	332	39	987					
	APPROACH %	12%	88%	0%	0%	84%	16%	0%	0%	0%	5%	85%	10%						
	PEAK HR FACTOR		0.926			0.893			0.000			0.907		0.938					
	APP/DEPART	252	/	262	343	/	308	0	/	0	392	/	417	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

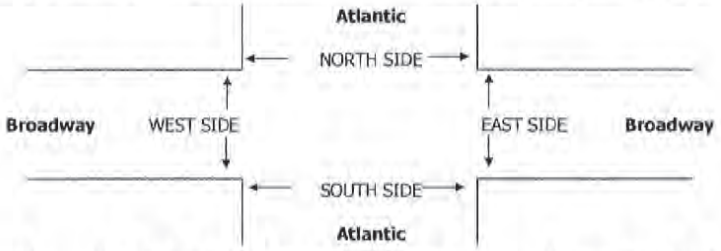
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Wed, May 25, 16	NORTH & SOUTH:	Atlantic	LOCATION #:	5
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Atlantic)			SOUTHBOUND (Atlantic)			EASTBOUND (Broadway)			WESTBOUND (Broadway)				U-TURNS				
	LANES:	NL X	NT 2	NR 0	SL 0	ST 2	SR X	EL 1	ET 2	ER 0	WL X	WT X	WR X	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	27	4	8	33	0	3	59	6	0	0	0	140	0	0	0	0	0
	7:15 AM	0	32	8	3	37	0	5	67	2	0	0	0	154	0	0	0	0	0
	7:30 AM	0	37	7	9	47	0	1	57	7	0	0	0	165	0	0	0	0	0
	7:45 AM	0	33	5	13	68	0	9	62	7	0	0	0	197	0	0	0	0	0
	8:00 AM	0	33	9	14	56	0	4	73	11	0	0	0	200	0	0	0	0	0
	8:15 AM	0	35	8	16	50	0	4	60	5	0	0	0	178	0	0	0	0	0
	8:30 AM	0	34	7	11	41	0	5	67	8	0	0	0	173	0	0	0	0	0
	8:45 AM	0	37	13	10	52	0	6	67	11	0	0	0	196	0	0	0	0	0
	VOLUMES	0	268	61	84	384	0	37	512	57	0	0	0	1,403	0	0	0	0	0
	APPROACH %	0%	81%	19%	18%	82%	0%	6%	84%	9%	0%	0%	0%						
	APP/DEPART	329	/	305	468	/	441	606	/	657	0	/	0	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	135	29	54	215	0	22	262	31	0	0	0	748					
	APPROACH %	0%	82%	18%	20%	80%	0%	7%	83%	10%	0%	0%	0%						
	PEAK HR FACTOR		0.953			0.830			0.895			0.000		0.935					
	APP/DEPART	164	/	157	269	/	246	315	/	345	0	/	0	0					
PM	4:00 PM	0	37	17	21	42	0	13	216	13	0	0	0	359	0	0	0	0	0
	4:15 PM	0	50	15	20	51	0	10	238	18	0	0	0	402	0	0	0	0	0
	4:30 PM	0	55	22	14	59	0	11	268	17	0	0	0	446	0	0	0	0	0
	4:45 PM	0	54	17	20	62	0	11	243	13	0	0	0	420	0	0	0	0	0
	5:00 PM	0	56	19	19	63	0	12	283	28	0	0	0	480	0	0	0	0	0
	5:15 PM	0	49	20	16	54	0	7	307	17	0	0	0	470	0	0	0	0	0
	5:30 PM	0	40	17	14	54	0	10	231	15	0	0	0	381	0	0	0	0	0
	5:45 PM	0	45	28	19	48	0	17	248	12	0	0	0	417	0	0	0	0	0
	VOLUMES	0	386	155	143	433	0	91	2,034	133	0	0	0	3,375	0	0	0	0	0
	APPROACH %	0%	71%	29%	25%	75%	0%	4%	90%	6%	0%	0%	0%						
	APP/DEPART	541	/	477	576	/	566	2,258	/	2,332	0	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	214	78	69	238	0	41	1,101	75	0	0	0	1,816					
	APPROACH %	0%	73%	27%	22%	78%	0%	3%	90%	6%	0%	0%	0%						
	PEAK HR FACTOR		0.948			0.936			0.919			0.000		0.946					
	APP/DEPART	292	/	255	307	/	313	1,217	/	1,248	0	/	0	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

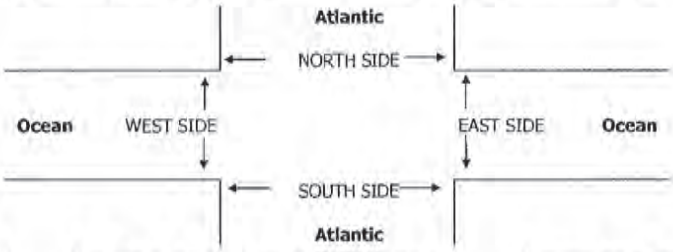
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Atlantic	LOCATION #:	16
	EAST & WEST:	Ocean	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Atlantic)			SOUTHBOUND (Atlantic)			EASTBOUND (Ocean)			WESTBOUND (Ocean)				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	3	0	0	6	0	25	12	103	0	0	401	10	560	0	0	2	0	2
	7:15 AM	1	0	0	7	0	29	13	126	1	2	471	8	658	0	0	0	1	1
	7:30 AM	1	1	0	13	1	47	7	123	0	2	439	16	650	0	0	0	2	2
	7:45 AM	3	0	2	13	0	43	6	108	0	0	465	8	648	0	0	0	0	0
	8:00 AM	0	0	1	19	0	33	7	140	0	3	427	8	638	0	1	1	1	3
	8:15 AM	0	0	1	17	1	43	10	131	0	1	466	12	682	0	0	0	1	1
	8:30 AM	0	0	0	14	0	40	17	109	1	3	354	17	555	0	0	2	2	4
	8:45 AM	1	1	1	12	0	31	11	121	1	3	372	15	569	0	0	1	3	4
	VOLUMES	9	2	5	101	2	291	83	961	3	14	3,395	94	4,960	0	1	6	10	17
	APPROACH %	56%	13%	31%	26%	1%	74%	8%	92%	0%	0%	97%	3%						
	APP/DEPART	16	/	174	394	/	9	1,047	/	1,076	3,503	/	3,701	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	4	1	4	62	2	166	30	502	0	6	1,797	44	2,618					
	APPROACH %	44%	11%	44%	27%	1%	72%	6%	94%	0%	0%	97%	2%						
	PEAK HR FACTOR		0.450			0.943			0.905			0.964		0.960					
	APP/DEPART	9	/	75	230	/	4	532	/	571	1,847	/	1,968	0					
PM	4:00 PM	1	0	0	18	0	21	25	245	0	1	163	8	482	0	0	2	1	3
	4:15 PM	0	0	0	23	0	48	24	364	0	4	190	18	671	0	1	2	4	7
	4:30 PM	0	0	0	22	0	31	21	406	0	0	202	11	693	0	0	1	0	1
	4:45 PM	0	0	0	17	0	36	22	372	0	4	176	17	644	0	0	1	2	3
	5:00 PM	0	0	0	29	1	32	32	409	0	0	194	19	716	0	0	2	0	2
	5:15 PM	0	1	0	17	1	38	29	475	0	1	257	20	839	0	0	3	0	3
	5:30 PM	0	1	0	22	1	33	26	340	0	4	199	18	644	0	0	1	2	3
	5:45 PM	0	0	0	22	0	34	26	393	0	5	213	12	705	0	0	0	5	5
	VOLUMES	1	2	0	170	3	273	205	3,004	0	19	1,594	123	5,394	0	1	12	14	27
	APPROACH %	33%	67%	0%	38%	1%	61%	6%	94%	0%	1%	92%	7%						
	APP/DEPART	3	/	319	446	/	8	3,209	/	3,187	1,736	/	1,880	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	2	0	90	3	137	113	1,617	0	10	863	69	2,904					
	APPROACH %	0%	100%	0%	39%	1%	60%	7%	93%	0%	1%	92%	7%						
	PEAK HR FACTOR		0.500			0.927			0.858			0.847		0.865					
	APP/DEPART	2	/	178	230	/	6	1,730	/	1,714	942	/	1,006	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

National Data & Surveying Services Intersection Turning Movement Count

Location: Orange Ave & Wardlow Rd
City: Long Beach
Control: Signalized

Project ID: 18-05307-046
Date: 5/23/2018

Total

NS/EW Streets:	Orange Ave				Orange Ave				Wardlow Rd				Wardlow Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	50	7	0	3	122	14	0	15	41	13	0	15	74	1	0	360
7:15 AM	5	59	6	0	13	153	22	0	9	67	21	0	23	72	7	0	457
7:30 AM	11	80	8	0	5	168	17	0	15	81	20	0	15	85	5	0	510
7:45 AM	9	98	9	0	10	157	24	0	29	92	17	0	20	101	7	0	573
8:00 AM	13	87	10	0	5	147	24	0	28	74	15	0	21	94	6	0	524
8:15 AM	18	74	8	0	6	138	22	0	13	71	13	0	15	94	11	0	483
8:30 AM	9	96	8	0	6	154	15	0	18	74	14	0	18	53	6	0	471
8:45 AM	6	94	8	0	11	160	31	0	20	64	17	0	11	76	7	0	505
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	76	638	64	0	59	1199	169	0	147	564	130	0	138	649	50	0	3883
APPROACH %'s :	9.77%	82.01%	8.23%	0.00%	4.13%	84.02%	11.84%	0.00%	17.48%	67.06%	15.46%	0.00%	16.49%	77.54%	5.97%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	51	339	35	0	26	610	87	0	85	318	65	0	71	374	29	0	2090
PEAK HR FACTOR :	0.708	0.865	0.875	0.000	0.650	0.908	0.906	0.000	0.733	0.864	0.813	0.000	0.845	0.926	0.659	0.000	0.912
	0.916				0.946				0.848				0.926				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	19	141	14	0	4	139	18	0	31	134	19	0	12	66	8	0	605
4:15 PM	8	157	11	0	6	120	15	0	29	147	20	0	15	84	7	0	619
4:30 PM	18	151	21	0	7	117	13	0	34	145	13	0	10	83	5	0	617
4:45 PM	10	129	15	0	7	115	22	0	49	172	23	0	10	89	9	0	650
5:00 PM	22	154	16	0	10	136	20	0	44	169	24	0	9	91	10	0	705
5:15 PM	14	160	13	0	6	93	16	0	34	176	20	0	15	119	16	0	682
5:30 PM	15	164	17	0	5	123	13	0	34	174	12	0	7	71	7	0	642
5:45 PM	13	153	16	0	4	117	19	0	36	156	14	0	9	91	6	0	634
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	119	1209	123	0	49	960	136	0	291	1273	145	0	87	694	68	0	5154
APPROACH %'s :	8.20%	83.32%	8.48%	0.00%	4.28%	83.84%	11.88%	0.00%	17.03%	74.49%	8.48%	0.00%	10.25%	81.74%	8.01%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	61	607	61	0	28	467	71	0	161	691	79	0	41	370	42	0	2679
PEAK HR FACTOR :	0.693	0.925	0.897	0.000	0.700	0.858	0.807	0.000	0.821	0.982	0.823	0.000	0.683	0.777	0.656	0.000	0.950
	0.930				0.852				0.954				0.755				

National Data & Surveying Services Intersection Turning Movement Count

Location: Orange Ave & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-045
Date: 5/23/2018

Total

NS/EW Streets:	Orange Ave				Orange Ave				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	20	66	27	0	21	41	17	0	14	158	13	0	30	229	19	0	655
7:15 AM	22	100	30	0	18	70	31	0	17	190	16	0	48	304	18	0	864
7:30 AM	23	141	51	0	6	77	45	0	37	184	27	0	55	330	26	0	1002
7:45 AM	13	117	59	0	14	80	20	0	30	256	14	0	63	347	48	0	1061
8:00 AM	31	117	48	0	21	102	17	0	26	204	18	0	39	287	32	0	942
8:15 AM	14	103	46	0	19	66	12	0	18	200	21	0	39	264	29	0	831
8:30 AM	17	99	44	0	24	90	20	1	22	201	16	0	43	247	48	0	872
8:45 AM	17	93	44	0	18	82	19	0	18	213	17	0	45	312	39	0	917
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	157	836	349	0	141	608	181	1	182	1606	142	0	362	2320	259	0	7144
APPROACH %'s :	11.70%	62.30%	26.01%	0.00%	15.15%	65.31%	19.44%	0.11%	9.43%	83.21%	7.36%	0.00%	12.31%	78.88%	8.81%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	89	475	188	0	59	329	113	0	110	834	75	0	205	1268	124	0	3869
PEAK HR FACTOR :	0.718	0.842	0.797	0.000	0.702	0.806	0.628	0.000	0.743	0.814	0.694	0.000	0.813	0.914	0.646	0.000	0.912
	0.874				0.895				0.849				0.872				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	17	121	60	0	17	112	34	0	20	314	22	0	45	199	32	0	993
4:15 PM	17	111	52	0	25	125	20	0	12	285	26	0	45	230	37	0	985
4:30 PM	19	98	68	0	20	110	36	0	17	358	34	0	34	213	14	0	1021
4:45 PM	18	120	71	0	19	116	25	0	23	350	23	0	24	180	31	0	1000
5:00 PM	22	112	73	0	24	131	33	0	26	393	25	0	40	213	46	0	1138
5:15 PM	17	114	64	0	24	143	20	0	21	398	19	0	48	201	38	0	1107
5:30 PM	14	104	55	0	21	102	34	0	24	323	23	0	44	217	36	0	997
5:45 PM	16	94	53	0	21	100	33	0	18	317	19	0	43	187	30	0	931
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	140	874	496	0	171	939	235	0	161	2738	191	0	323	1640	264	0	8172
APPROACH %'s :	9.27%	57.88%	32.85%	0.00%	12.71%	69.81%	17.47%	0.00%	5.21%	88.61%	6.18%	0.00%	14.50%	73.64%	11.85%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	76	444	276	0	87	500	114	0	87	1499	101	0	146	807	129	0	4266
PEAK HR FACTOR :	0.864	0.925	0.945	0.000	0.906	0.874	0.792	0.000	0.837	0.942	0.743	0.000	0.760	0.947	0.701	0.000	0.937
	0.952				0.932				0.950				0.905				

National Data & Surveying Services Intersection Turning Movement Count

Location: Alamitos Ave & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-044
Date: 5/23/2018

Total

NS/EW Streets:	Alamitos Ave				Alamitos Ave				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	41	11	0	10	62	12	0	12	141	5	0	18	213	5	0	547
7:15 AM	18	94	15	0	14	79	14	0	16	185	1	0	23	256	10	0	725
7:30 AM	19	120	23	0	18	92	18	0	14	181	11	0	31	328	16	0	871
7:45 AM	20	133	34	0	12	109	24	0	20	229	9	0	30	294	19	0	933
8:00 AM	19	108	19	0	15	99	22	0	16	199	8	0	15	248	11	0	779
8:15 AM	17	97	21	0	12	76	17	0	11	189	12	0	22	258	10	0	742
8:30 AM	14	94	19	0	17	106	19	0	11	182	9	0	19	216	11	0	717
8:45 AM	17	95	29	0	9	112	20	0	20	167	9	0	21	237	14	0	750
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	141	782	171	0	107	735	146	0	120	1473	64	0	179	2050	96	0	6064
APPROACH %'s :	12.89%	71.48%	15.63%	0.00%	10.83%	74.39%	14.78%	0.00%	7.24%	88.90%	3.86%	0.00%	7.70%	88.17%	4.13%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	75	458	97	0	57	376	81	0	61	798	40	0	98	1128	56	0	3325
PEAK HR FACTOR :	0.938	0.861	0.713	0.000	0.792	0.862	0.844	0.000	0.763	0.871	0.833	0.000	0.790	0.860	0.737	0.000	0.891
	0.842				0.886				0.871				0.855				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	1	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	26	104	29	0	15	99	23	0	19	316	14	0	13	207	19	0	884
4:15 PM	17	101	19	0	16	103	16	0	25	330	13	0	15	246	19	0	920
4:30 PM	25	96	25	0	17	89	16	0	29	327	17	0	17	201	13	0	872
4:45 PM	19	118	34	0	15	93	27	0	32	331	13	0	23	212	20	0	937
5:00 PM	16	115	26	0	18	105	19	0	22	265	14	0	19	227	22	0	868
5:15 PM	19	115	27	0	11	123	17	0	17	348	22	0	23	223	14	0	959
5:30 PM	15	93	27	0	23	112	17	0	28	319	13	0	15	213	18	0	893
5:45 PM	10	90	34	0	23	105	14	0	22	307	14	0	21	229	12	0	881
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	147	832	221	0	138	829	149	0	194	2543	120	0	146	1758	137	0	7214
APPROACH %'s :	12.25%	69.33%	18.42%	0.00%	12.37%	74.28%	13.35%	0.00%	6.79%	89.01%	4.20%	0.00%	7.15%	86.13%	6.71%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	69	441	114	0	67	433	80	0	99	1263	62	0	80	875	74	0	3657
PEAK HR FACTOR :	0.908	0.934	0.838	0.000	0.728	0.880	0.741	0.000	0.773	0.907	0.705	0.000	0.870	0.964	0.841	0.000	0.953
	0.912				0.954				0.920				0.960				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Alamitos	LOCATION #:	27
	EAST & WEST:	7th	CONTROL:	SIGNAL

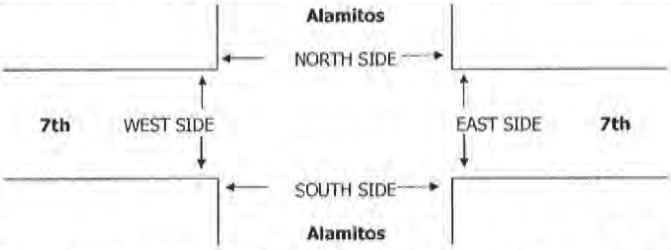
NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Alamitos)			SOUTHBOUND (Alamitos)			EASTBOUND (7th)			WESTBOUND (7th)			
	LANES:	NL 1	NT 1	NR 2	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	20	45	75	13	46	15	3	55	5	37	299	8	621
	7:15 AM	22	64	81	14	68	19	7	69	3	56	350	7	760
	7:30 AM	30	86	93	14	72	29	9	77	8	51	333	11	813
	7:45 AM	22	80	83	10	96	44	5	84	11	56	285	18	794
	8:00 AM	25	83	102	15	76	18	3	90	12	48	279	16	767
	8:15 AM	21	70	88	17	96	18	5	69	5	49	329	13	780
	8:30 AM	25	69	98	16	91	9	1	55	6	32	257	14	673
	8:45 AM	24	74	93	13	98	13	8	73	8	47	307	21	779
	VOLUMES	189	571	713	112	643	165	41	572	58	376	2,439	108	5,987
	APPROACH %	13%	39%	48%	12%	70%	18%	6%	85%	9%	13%	83%	4%	
	APP/DEPART	1,473	/	720	920	/	1,077	671	/	1,397	2,923	/	2,793	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	98	319	366	56	340	109	22	320	36	204	1,226	58	3,154
	APPROACH %	13%	41%	47%	11%	67%	22%	6%	85%	10%	14%	82%	4%	
	PEAK HR FACTOR		0.932			0.842			0.900			0.942		0.970
	APP/DEPART	783	/	399	505	/	580	378	/	742	1,488	/	1,433	0
PM	4:00 PM	24	106	139	17	61	14	9	158	5	21	207	19	780
	4:15 PM	25	100	188	17	70	14	10	133	5	29	199	16	806
	4:30 PM	23	102	180	21	92	12	7	160	9	32	216	13	867
	4:45 PM	25	96	199	14	91	17	9	167	12	32	158	22	842
	5:00 PM	24	100	185	8	67	14	10	198	7	29	155	12	809
	5:15 PM	25	118	191	15	79	20	11	190	11	37	173	12	882
	5:30 PM	22	96	182	16	82	11	8	152	13	33	166	13	794
	5:45 PM	26	103	184	20	75	17	4	165	5	29	162	20	810
	VOLUMES	194	821	1,448	128	617	119	68	1,323	67	242	1,436	127	6,590
	APPROACH %	8%	33%	59%	15%	71%	14%	5%	91%	5%	13%	80%	7%	
	APP/DEPART	2,463	/	1,016	864	/	926	1,458	/	2,899	1,805	/	1,749	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	97	416	755	58	329	63	37	715	39	130	702	59	3,400
	APPROACH %	8%	33%	60%	13%	73%	14%	5%	90%	5%	15%	79%	7%	
	PEAK HR FACTOR		0.949			0.900			0.920			0.853		0.964
	APP/DEPART	1,268	/	512	450	/	498	791	/	1,528	891	/	862	0

U-TURNS					
NB X	SB X	EB X	WB X	TTL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	0	0	0	0	0

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

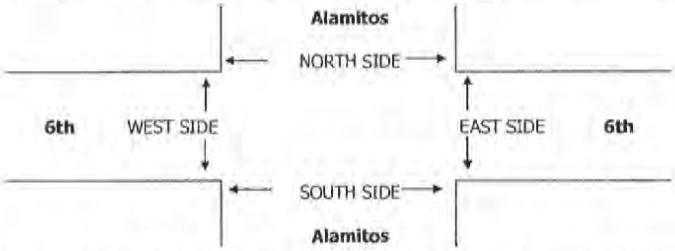
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Alamitos	LOCATION #:	28
	EAST & WEST:	6th	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Alamitos)			SOUTHBOUND (Alamitos)			EASTBOUND (6th)			WESTBOUND (6th)				U-TURNS				
	LANES:	NL X	NT 2	NR 0	SL 0	ST 2	SR X	EL 0.5	ET 0.5	ER 1	WL 0.5	WT X	WR 0.5	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	77	1	0	88	0	52	0	17	0	0	6	241	0	0	0	0	0
	7:15 AM	0	90	6	0	129	0	50	0	26	0	0	3	304	0	0	0	0	0
	7:30 AM	0	131	2	0	131	0	77	0	20	2	0	4	367	0	0	0	0	0
	7:45 AM	0	123	2	1	162	0	66	4	46	7	0	6	417	0	0	0	0	0
	8:00 AM	0	120	2	2	131	0	80	4	35	1	0	9	384	0	0	0	0	0
	8:15 AM	0	102	3	2	150	0	66	5	19	0	0	6	353	0	0	0	0	0
	8:30 AM	0	108	3	9	113	0	56	8	24	5	0	26	352	0	0	0	0	0
	8:45 AM	0	95	2	11	134	0	56	17	29	13	0	59	416	0	0	0	0	0
	VOLUMES	0	846	21	25	1,038	0	503	38	216	28	0	119	2,834	0	0	0	0	0
	APPROACH %	0%	98%	2%	2%	98%	0%	66%	5%	29%	19%	0%	81%						
	APP/DEPART	867	/	1,468	1,063	/	1,282	757	/	84	147	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	476	9	5	574	0	289	13	120	10	0	25	1,521					
	APPROACH %	0%	98%	2%	1%	99%	0%	68%	3%	28%	29%	0%	71%						
	PEAK HR FACTOR		0.912			0.888			0.887			0.673		0.912					
	APP/DEPART	485	/	790	579	/	704	422	/	27	35	/	0	0					
PM	4:00 PM	0	192	3	2	89	0	87	3	61	1	0	7	445	0	0	0	0	0
	4:15 PM	0	185	2	3	94	0	95	6	54	1	0	2	442	0	0	0	0	0
	4:30 PM	0	208	2	3	128	0	87	9	66	1	0	6	510	0	0	0	0	0
	4:45 PM	0	214	1	0	124	0	105	7	63	2	0	2	518	0	0	0	0	0
	5:00 PM	0	217	4	4	109	0	110	2	62	3	0	1	512	0	0	0	0	0
	5:15 PM	0	208	2	1	127	0	105	6	75	1	0	3	528	0	0	0	0	0
	5:30 PM	0	196	2	3	129	0	98	7	67	3	0	7	512	0	0	0	0	0
	5:45 PM	0	194	5	3	101	0	112	3	53	2	0	5	478	0	0	0	0	0
	VOLUMES	0	1,614	21	19	901	0	799	43	501	14	0	33	3,945	0	0	0	0	0
	APPROACH %	0%	99%	1%	2%	98%	0%	59%	3%	37%	30%	0%	70%						
	APP/DEPART	1,635	/	2,446	920	/	1,416	1,343	/	83	47	/	0	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	0	835	9	8	489	0	418	22	267	9	0	13	2,070					
	APPROACH %	0%	99%	1%	2%	98%	0%	59%	3%	38%	41%	0%	59%						
	PEAK HR FACTOR		0.955			0.941			0.950			0.550		0.980					
	APP/DEPART	844	/	1,266	497	/	765	707	/	39	22	/	0	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

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

City of Long Beach
N/S: Alamitos Avenue
E/W: E 3rd Street
Weather: Clear

File Name : LBCAL3RAM
Site Code : 04216672
Start Date : 12/8/2016
Page No : 1

Groups Printed- Total Volume

	Alamitos Avenue Southbound				E 3rd Street Westbound				Alamitos Avenue Northbound				E 3rd 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	9	113	27	149	2	106	9	117	58	79	3	140	0	0	0	0	406
07:15 AM	1	127	29	157	1	142	14	157	71	92	10	173	0	0	0	0	487
07:30 AM	2	137	27	166	0	124	18	142	88	105	4	197	0	0	0	0	505
07:45 AM	12	136	42	190	4	141	25	170	82	119	10	211	0	0	0	0	571
Total	24	513	125	662	7	513	66	586	299	395	27	721	0	0	0	0	1969
08:00 AM	7	153	32	192	0	123	13	136	73	83	7	163	0	0	0	0	491
08:15 AM	6	129	33	168	1	107	9	117	80	98	5	183	0	0	0	0	468
08:30 AM	12	139	33	184	0	89	15	104	85	108	5	198	0	0	0	0	486
08:45 AM	7	138	46	191	0	84	14	98	75	100	5	180	0	0	0	0	469
Total	32	559	144	735	1	403	51	455	313	389	22	724	0	0	0	0	1914
Grand Total	56	1072	269	1397	8	916	117	1041	612	784	49	1445	0	0	0	0	3883
Apprch %	4	76.7	19.3		0.8	88	11.2		42.4	54.3	3.4		0	0	0		
Total %	1.4	27.6	6.9	36	0.2	23.6	3	26.8	15.8	20.2	1.3	37.2	0	0	0	0	

	Alamitos Avenue Southbound				E 3rd Street Westbound				Alamitos Avenue Northbound				E 3rd 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 07:15 AM																	
07:15 AM	1	127	29	157	1	**142**	14	157	71	92	**10**	173	0	0	0	0	487
07:30 AM	2	137	27	166	0	124	18	142	**88**	105	4	197	0	0	0	0	505
07:45 AM	**12**	136	**42**	190	**4**	141	**25**	**170**	82	**119**	10	**211**	0	0	0	0	**571**
08:00 AM	7	**153**	32	**192**	0	123	13	136	73	83	7	163	0	0	0	0	491
Total Volume	22	553	130	705	5	530	70	605	314	399	31	744	0	0	0	0	2054
% App. Total	3.1	78.4	18.4		0.8	87.6	11.6		42.2	53.6	4.2		0	0	0		
PHF	.458	.904	.774	.918	.313	.933	.700	.890	.892	.838	.775	.882	.000	.000	.000	.000	.899

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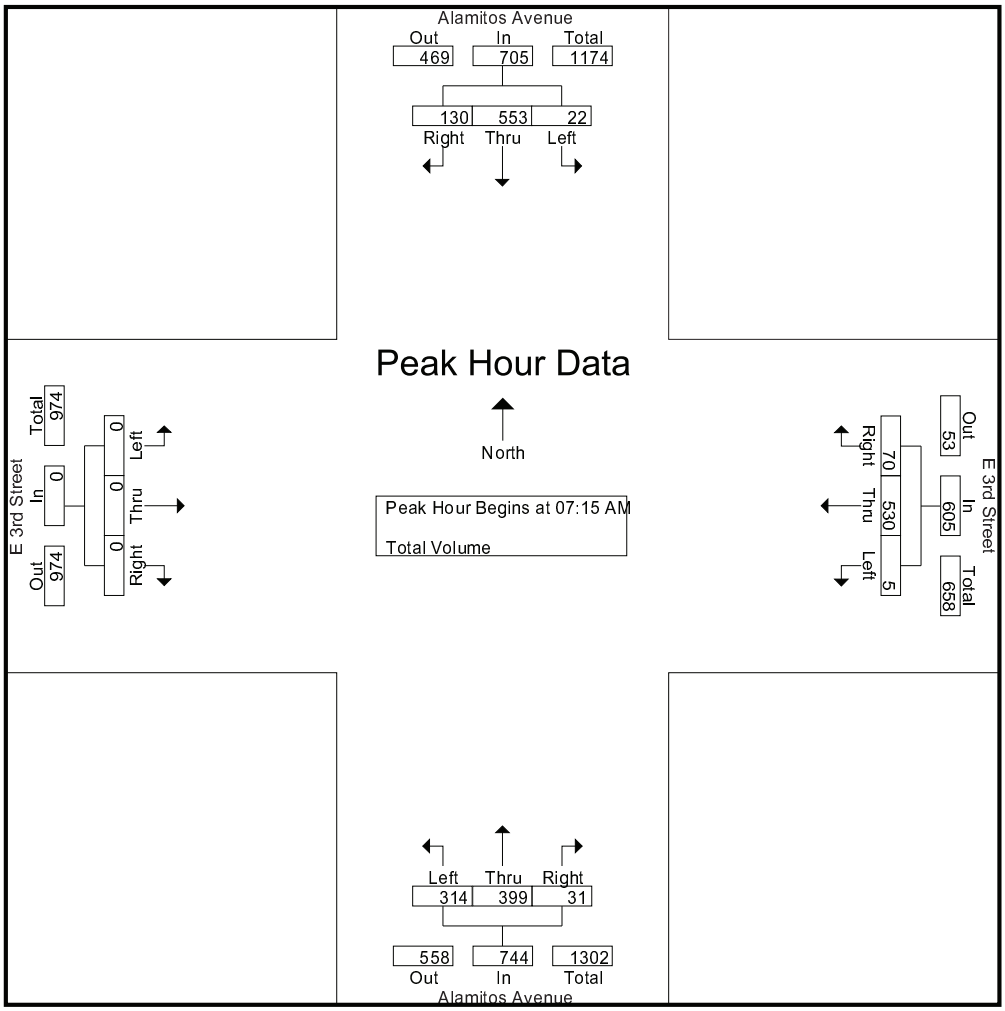
City of Long Beach
N/S: Alamitos Avenue
E/W: E 3rd Street
Weather: Clear

File Name : LBCAL3RAM
Site Code : 04216672
Start Date : 12/8/2016
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				07:15 AM				07:45 AM				07:00 AM			
+0 mins.	7	**153**	32	**192**	1	**142**	14	157	82	**119**	**10**	**211**	0	0	0	0
+15 mins.	6	129	33	168	0	124	18	142	73	83	7	163	0	0	0	0
+30 mins.	**12**	139	33	184	**4**	141	**25**	**170**	80	98	5	183	0	0	0	0
+45 mins.	7	138	**46**	191	0	123	13	136	**85**	108	5	198	0	0	0	0
Total Volume	32	559	144	735	5	530	70	605	320	408	27	755	0	0	0	0
% App. Total	4.4	76.1	19.6		0.8	87.6	11.6		42.4	54	3.6		0	0	0	
PHF	.667	.913	.783	.957	.313	.933	.700	.890	.941	.857	.675	.895	.000	.000	.000	.000

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

City of Long Beach
N/S: Alamitos Avenue
E/W: E 3rd Street
Weather: Clear

File Name : LBCAL3RPM
Site Code : 04216672
Start Date : 12/8/2016
Page No : 1

Groups Printed- Total Volume

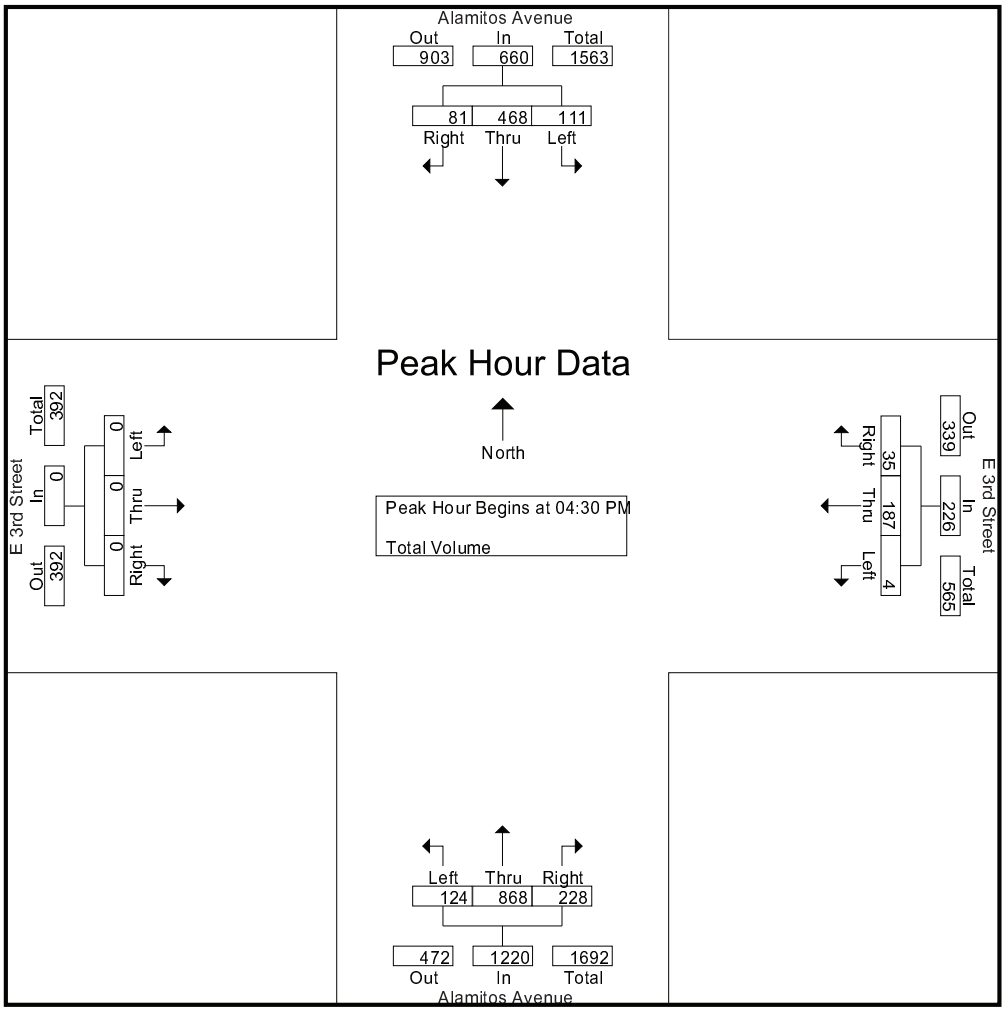
	Alamitos Avenue Southbound				E 3rd Street Westbound				Alamitos Avenue Northbound				E 3rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	17	101	23	141	0	48	7	55	29	210	36	275	0	0	0	0	471
04:15 PM	30	88	13	131	2	38	4	44	21	179	28	228	0	0	0	0	403
04:30 PM	22	126	22	170	2	40	12	54	37	223	47	307	0	0	0	0	531
04:45 PM	26	110	20	156	1	51	11	63	36	205	55	296	0	0	0	0	515
Total	95	425	78	598	5	177	34	216	123	817	166	1106	0	0	0	0	1920
05:00 PM	30	113	16	159	0	59	9	68	33	222	64	319	0	0	0	0	546
05:15 PM	33	119	23	175	1	37	3	41	18	218	62	298	0	0	0	0	514
05:30 PM	32	95	21	148	2	50	12	64	36	168	56	260	0	0	0	0	472
05:45 PM	31	111	25	167	2	48	14	64	41	198	41	280	0	0	0	0	511
Total	126	438	85	649	5	194	38	237	128	806	223	1157	0	0	0	0	2043
Grand Total	221	863	163	1247	10	371	72	453	251	1623	389	2263	0	0	0	0	3963
Apprch %	17.7	69.2	13.1		2.2	81.9	15.9		11.1	71.7	17.2		0	0	0		
Total %	5.6	21.8	4.1	31.5	0.3	9.4	1.8	11.4	6.3	41	9.8	57.1	0	0	0	0	

	Alamitos Avenue Southbound				E 3rd Street Westbound				Alamitos Avenue Northbound				E 3rd 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	22	**126**	22	170	**2**	40	**12**	54	**37**	**223**	47	307	0	0	0	0	531
04:45 PM	26	110	20	156	1	51	11	63	36	205	55	296	0	0	0	0	515
05:00 PM	30	113	16	159	0	**59**	9	**68**	33	222	**64**	**319**	0	0	0	0	**546**
05:15 PM	**33**	119	**23**	**175**	1	37	3	41	18	218	62	298	0	0	0	0	514
Total Volume	111	468	81	660	4	187	35	226	124	868	228	1220	0	0	0	0	2106
% App. Total	16.8	70.9	12.3		1.8	82.7	15.5		10.2	71.1	18.7		0	0	0		
PHF	.841	.929	.880	.943	.500	.792	.729	.831	.838	.973	.891	.956	.000	.000	.000	.000	.964

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

City of Long Beach
N/S: Alamitos Avenue
E/W: E 3rd Street
Weather: Clear

File Name : LBCAL3RPM
Site Code : 04216672
Start Date : 12/8/2016
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:

	04:30 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	22	**126**	22	170	0	**59**	9	**68**	**37**	**223**	47	307	0	0	0	0
+15 mins.	26	110	20	156	1	37	3	41	36	205	55	296	0	0	0	0
+30 mins.	30	113	16	159	**2**	50	12	64	33	222	**64**	**319**	0	0	0	0
+45 mins.	**33**	119	**23**	**175**	2	48	**14**	64	18	218	62	298	0	0	0	0
Total Volume	111	468	81	660	5	194	38	237	124	868	228	1220	0	0	0	0
% App. Total	16.8	70.9	12.3		2.1	81.9	16		10.2	71.1	18.7		0	0	0	
PHF	.841	.929	.880	.943	.625	.822	.679	.871	.838	.973	.891	.956	.000	.000	.000	.000

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

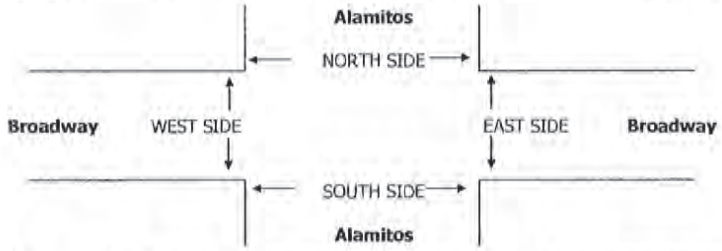
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Alamitos	LOCATION #:	7
	EAST & WEST:	Broadway	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N, W, E, S

☑ Add U-Turns to Left Turns

		NORTHBOUND Alamitos			SOUTHBOUND Alamitos			EASTBOUND Broadway			WESTBOUND Broadway				U-TURNS				
	LANES:	NL X	NT 2	NR 0	SL 1	ST 1	SR X	EL 2	ET 2	ER 1	WL 1	WT X	WR 1	TOTAL	NB X	SB X	EB X	WB X	TTL
AM	7:00 AM	0	39	4	8	69	0	14	45	6	49	0	69	303	0	0	0	1	1
	7:15 AM	0	69	9	5	99	0	18	39	6	76	0	84	405	0	0	0	1	1
	7:30 AM	0	69	5	8	99	0	12	43	4	82	0	89	411	0	0	0	0	0
	7:45 AM	0	65	7	15	122	0	17	61	10	110	0	92	499	0	0	0	1	1
	8:00 AM	0	72	12	10	102	0	16	44	6	89	0	73	424	0	0	0	0	0
	8:15 AM	0	70	6	4	118	0	20	60	4	87	0	79	448	0	0	0	0	0
	8:30 AM	0	76	12	9	87	0	22	59	9	74	0	70	418	0	0	0	0	0
	8:45 AM	0	61	10	15	104	0	27	53	12	74	0	94	450	0	0	0	0	0
	VOLUMES	0	521	65	74	800	0	146	404	57	641	0	650	3,358	0	0	0	3	3
	APPROACH %	0%	89%	11%	8%	92%	0%	24%	67%	9%	50%	0%	50%						
	APP/DEPART	586	/	1,317	874	/	1,495	607	/	546	1,291	/	0	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	283	37	38	429	0	75	224	29	360	0	314	1,789					
	APPROACH %	0%	88%	12%	8%	92%	0%	23%	68%	9%	53%	0%	47%						
	PEAK HR FACTOR		0.909			0.852			0.911			0.834		0.896					
	APP/DEPART	320	/	672	467	/	817	328	/	300	674	/	0	0					
PM	4:00 PM	0	138	46	16	67	0	61	171	14	28	0	29	570	0	0	0	0	0
	4:15 PM	0	148	47	25	71	0	72	164	11	26	0	43	607	0	0	0	0	0
	4:30 PM	0	196	52	21	69	0	93	193	10	25	0	35	694	0	0	0	0	0
	4:45 PM	0	145	46	26	68	0	89	218	13	29	0	32	666	0	0	0	0	0
	5:00 PM	0	206	69	17	67	0	94	208	17	35	0	50	763	0	0	0	0	0
	5:15 PM	0	190	56	23	80	0	89	230	10	37	0	39	754	0	0	0	0	0
	5:30 PM	0	160	55	21	87	0	92	198	13	27	0	32	685	0	0	0	0	0
	5:45 PM	0	167	34	15	75	0	60	188	21	25	0	40	625	0	0	0	0	0
	VOLUMES	0	1,350	405	164	584	0	650	1,570	109	232	0	300	5,364	0	0	0	0	0
	APPROACH %	0%	77%	23%	22%	78%	0%	28%	67%	5%	44%	0%	56%						
	APP/DEPART	1,755	/	2,300	748	/	925	2,329	/	2,139	532	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	737	223	87	284	0	365	849	50	126	0	156	2,877					
	APPROACH %	0%	77%	23%	23%	77%	0%	29%	67%	4%	45%	0%	55%						
	PEAK HR FACTOR		0.873			0.900			0.960			0.829		0.943					
	APP/DEPART	960	/	1,258	371	/	460	1,264	/	1,159	282	/	0	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

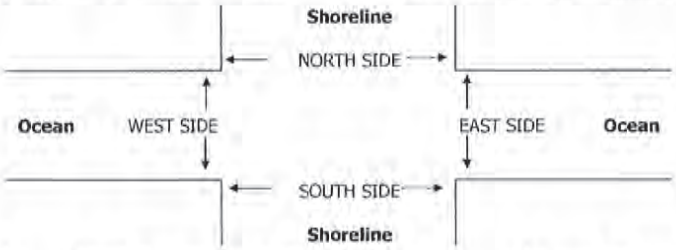
DATE:	LOCATION:	Long Beach	PROJECT #:	SC0972
Thu, May 26, 16	NORTH & SOUTH:	Shoreline	LOCATION #:	18
	EAST & WEST:	Ocean	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Shoreline)			SOUTHBOUND (Shoreline)			EASTBOUND (Ocean)			WESTBOUND (Ocean)				U-TURNS				
	LANES:	NL 2	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 3	ER 0	WL 2	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	3	10	26	4	40	64	18	101	6	37	333	6	648	0	0	0	0	0
	7:15 AM	4	14	25	8	52	92	21	101	1	56	334	9	717	0	0	1	1	2
	7:30 AM	9	13	31	10	49	80	17	108	3	67	369	13	769	3	0	0	1	4
	7:45 AM	2	18	41	11	80	111	18	101	6	100	340	11	839	0	1	0	0	1
	8:00 AM	12	23	34	13	66	83	41	98	14	76	340	15	815	0	0	3	0	3
	8:15 AM	9	15	33	8	82	109	24	107	15	76	342	11	831	1	0	1	0	2
	8:30 AM	10	22	22	11	49	90	26	93	11	78	301	15	728	0	0	1	0	1
	8:45 AM	10	18	34	17	66	81	26	81	10	56	276	22	697	0	0	2	0	2
	VOLUMES	59	133	246	82	484	710	191	790	66	546	2,635	102	6,044	4	1	8	2	15
	APPROACH %	13%	30%	56%	6%	38%	56%	18%	75%	6%	17%	80%	3%						
	APP/DEPART	438	/	419	1,276	/	1,098	1,047	/	1,119	3,283	/	3,408	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	32	69	139	42	277	383	100	414	38	319	1,391	50	3,254					
	APPROACH %	13%	29%	58%	6%	39%	55%	18%	75%	7%	18%	79%	3%						
	PEAK HR FACTOR		0.870			0.869			0.902			0.976		0.970					
	APP/DEPART	240	/	216	702	/	637	552	/	595	1,760	/	1,806	0					
PM	4:00 PM	11	79	93	21	29	51	62	254	5	30	137	25	797	0	0	0	2	2
	4:15 PM	13	103	90	17	26	40	57	270	10	42	143	17	828	0	0	0	3	3
	4:30 PM	13	105	99	17	32	17	74	369	7	34	183	19	969	0	0	1	1	2
	4:45 PM	14	127	110	20	41	45	58	304	4	36	121	15	895	0	0	0	2	2
	5:00 PM	12	132	109	20	23	51	71	396	10	48	170	27	1,069	0	2	2	3	7
	5:15 PM	9	125	109	19	33	59	76	359	12	33	187	23	1,044	1	0	1	3	5
	5:30 PM	9	100	101	9	32	48	83	341	16	38	187	19	983	0	0	2	2	4
	5:45 PM	12	96	103	17	34	48	70	311	13	59	148	18	929	0	0	2	5	7
	VOLUMES	93	867	814	140	250	359	551	2,604	77	320	1,276	163	7,514	1	2	8	21	32
	APPROACH %	5%	49%	46%	19%	33%	48%	17%	81%	2%	18%	73%	9%						
	APP/DEPART	1,774	/	1,575	749	/	627	3,232	/	3,577	1,759	/	1,735	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	42	453	422	65	122	206	300	1,407	51	178	692	87	4,025					
	APPROACH %	5%	49%	46%	17%	31%	52%	17%	80%	3%	19%	72%	9%						
	PEAK HR FACTOR		0.906			0.885			0.921			0.977		0.941					
	APP/DEPART	917	/	835	393	/	339	1,758	/	1,905	957	/	946	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	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

National Data & Surveying Services Intersection Turning Movement Count

Location: Cherry Ave & Artesia Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-053
Date: 5/23/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Artesia Blvd				Artesia Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	1	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	39	209	24	0	35	168	21	0	44	110	30	0	23	190	36	2	931
7:15 AM	32	190	38	0	32	198	22	0	56	148	39	0	25	195	45	1	1021
7:30 AM	30	190	32	0	40	180	21	0	48	120	27	1	24	162	31	2	908
7:45 AM	26	176	23	0	48	153	24	0	41	95	34	1	25	175	22	1	844
8:00 AM	18	129	26	0	30	135	38	0	41	125	20	2	22	151	28	10	775
8:15 AM	7	112	31	0	21	137	26	0	37	122	36	2	31	166	28	4	760
8:30 AM	6	117	19	0	29	151	16	0	32	101	21	1	30	118	24	1	666
8:45 AM	12	124	28	0	22	130	18	0	36	81	20	0	24	101	32	5	633
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	170	1247	221	0	257	1252	186	0	335	902	227	7	204	1258	246	26	6538
APPROACH %'s :	10.38%	76.13%	13.49%	0.00%	15.16%	73.86%	10.97%	0.00%	22.77%	61.32%	15.43%	0.48%	11.76%	72.55%	14.19%	1.50%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	127	765	117	0	155	699	88	0	189	473	130	2	97	722	134	6	3704
PEAK HR FACTOR :	0.814	0.915	0.770	0.000	0.807	0.883	0.917	0.000	0.844	0.799	0.833	0.500	0.970	0.926	0.744	0.750	0.907
	0.927				0.935				0.817				0.901				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	1	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	204	29	0	22	186	41	0	48	228	29	0	31	81	46	1	982
4:15 PM	29	207	27	0	33	204	29	0	44	268	32	1	25	139	47	2	1087
4:30 PM	37	209	41	0	21	174	30	0	44	266	32	0	19	132	45	3	1053
4:45 PM	28	242	19	0	29	178	35	0	46	230	35	0	33	135	44	2	1056
5:00 PM	30	212	38	0	32	186	22	0	40	212	43	1	31	116	48	2	1013
5:15 PM	32	205	26	0	25	194	30	0	44	236	28	0	26	130	47	3	1026
5:30 PM	17	134	26	0	28	169	34	0	33	254	32	2	37	125	26	2	919
5:45 PM	27	181	27	0	22	184	36	0	58	230	37	1	31	97	26	3	960
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	236	1594	233	0	212	1475	257	0	357	1924	268	5	233	955	329	18	8096
APPROACH %'s :	11.44%	77.27%	11.29%	0.00%	10.91%	75.87%	13.22%	0.00%	13.98%	75.33%	10.49%	0.20%	15.18%	62.21%	21.43%	1.17%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	124	870	125	0	115	742	116	0	174	976	142	2	108	522	184	9	4209
PEAK HR FACTOR :	0.838	0.899	0.762	0.000	0.871	0.909	0.829	0.000	0.946	0.910	0.826	0.500	0.818	0.939	0.958	0.750	0.968
	0.968				0.914				0.938				0.961				

National Data & Surveying Services Intersection Turning Movement Count

Location: Cherry Ave & Market St
City: Long Beach
Control: Signalized

Project ID: 18-05307-052
Date: 5/23/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Market St				Market St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	8	152	19	0	22	266	8	0	14	63	25	0	35	95	22	0	729
7:15 AM	16	183	17	0	28	277	10	0	16	102	41	0	17	98	23	0	828
7:30 AM	14	163	38	1	41	335	9	0	16	102	48	0	35	102	19	0	923
7:45 AM	15	167	25	2	24	283	19	0	27	89	29	0	36	111	25	0	852
8:00 AM	11	179	22	0	35	251	18	1	23	77	36	0	31	81	29	0	794
8:15 AM	12	151	23	1	22	239	14	0	17	78	29	0	38	59	18	0	701
8:30 AM	10	138	12	0	43	237	13	0	20	106	29	0	27	78	20	0	733
8:45 AM	21	186	23	0	18	200	9	2	31	42	14	0	20	65	21	0	652
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	107	1319	179	4	233	2088	100	3	164	659	251	0	239	689	177	0	6212
APPROACH %'s :	6.65%	81.98%	11.12%	0.25%	9.61%	86.14%	4.13%	0.12%	15.27%	61.36%	23.37%	0.00%	21.63%	62.35%	16.02%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	56	692	102	3	128	1146	56	1	82	370	154	0	119	392	96	0	3397
PEAK HR FACTOR :	0.875	0.945	0.671	0.375	0.780	0.855	0.737	0.250	0.759	0.907	0.802	0.000	0.826	0.883	0.828	0.000	0.920
		0.987				0.864				0.913				0.882			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	252	38	1	34	184	24	3	29	122	19	0	26	89	23	0	867
4:15 PM	32	247	53	1	25	222	12	1	18	118	23	0	25	81	19	0	877
4:30 PM	23	250	50	0	39	205	17	5	24	133	29	0	18	82	25	0	900
4:45 PM	24	297	66	0	30	158	27	1	19	114	24	0	27	93	23	0	903
5:00 PM	25	275	63	1	36	202	13	3	29	145	23	0	26	101	42	0	984
5:15 PM	41	298	71	0	34	213	23	1	30	134	14	0	25	104	29	0	1017
5:30 PM	27	244	69	0	49	197	21	2	29	143	22	0	27	109	21	0	960
5:45 PM	31	275	79	2	31	182	22	4	25	136	20	0	29	82	25	0	943
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	226	2138	489	5	278	1563	159	20	203	1045	174	0	203	741	207	0	7451
APPROACH %'s :	7.91%	74.81%	17.11%	0.17%	13.76%	77.38%	7.87%	0.99%	14.28%	73.49%	12.24%	0.00%	17.64%	64.38%	17.98%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	124	1092	282	3	150	794	79	10	113	558	79	0	107	396	117	0	3904
PEAK HR FACTOR :	0.756	0.916	0.892	0.375	0.765	0.932	0.859	0.625	0.942	0.962	0.859	0.000	0.922	0.908	0.696	0.000	0.960
		0.915				0.953				0.952				0.917			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cherry Ave & Del Amo Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-051
Date: 5/9/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Del Amo Blvd				Del Amo Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	3	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	22	106	31	0	15	214	24	3	21	119	33	0	70	273	18	0	949
7:15 AM	30	123	40	0	36	302	31	0	23	139	35	1	61	306	14	1	1142
7:30 AM	33	148	58	0	33	323	43	2	27	186	58	0	79	309	16	1	1316
7:45 AM	18	177	47	3	30	360	51	0	30	153	46	0	93	284	17	0	1309
8:00 AM	27	159	60	2	29	277	20	1	23	133	54	0	91	323	21	0	1220
8:15 AM	29	161	58	0	26	265	26	3	18	130	45	2	79	224	9	0	1075
8:30 AM	27	148	48	0	39	247	24	3	27	170	48	0	94	242	12	2	1131
8:45 AM	30	177	59	2	33	243	25	3	22	140	44	0	71	169	20	2	1040
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	216	1199	401	7	241	2231	244	15	191	1170	363	3	638	2130	127	6	9182
APPROACH %'s :	11.85%	65.77%	22.00%	0.38%	8.82%	81.69%	8.93%	0.55%	11.06%	67.75%	21.02%	0.17%	21.99%	73.42%	4.38%	0.21%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	108	607	205	5	128	1262	145	3	103	611	193	1	324	1222	68	2	4987
PEAK HR FACTOR :	0.818	0.857	0.854	0.417	0.889	0.876	0.711	0.375	0.858	0.821	0.832	0.250	0.871	0.946	0.810	0.500	0.947
		0.932				0.872				0.838				0.929			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	1	3	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	288	62	2	17	175	20	3	41	289	50	2	84	190	21	1	1281
4:15 PM	43	315	91	1	27	198	18	2	39	303	48	1	77	153	18	0	1334
4:30 PM	33	297	78	2	24	192	35	4	40	326	42	0	73	175	34	1	1356
4:45 PM	42	335	86	1	24	203	19	2	47	239	61	3	66	161	27	1	1317
5:00 PM	42	265	82	2	23	179	22	5	44	270	64	1	81	201	45	0	1326
5:15 PM	56	364	82	3	23	212	24	1	44	257	52	0	83	173	17	1	1392
5:30 PM	42	284	90	0	21	200	23	1	59	312	58	1	97	184	31	0	1403
5:45 PM	52	310	71	1	14	204	21	0	35	245	56	2	87	155	25	1	1279
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	346	2458	642	12	173	1563	182	18	349	2241	431	10	648	1392	218	5	10688
APPROACH %'s :	10.01%	71.08%	18.57%	0.35%	8.94%	80.73%	9.40%	0.93%	11.51%	73.94%	14.22%	0.33%	28.63%	61.51%	9.63%	0.22%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	182	1248	340	6	91	794	88	9	194	1078	235	5	327	719	120	2	5438
PEAK HR FACTOR :	0.813	0.857	0.944	0.500	0.948	0.936	0.917	0.450	0.822	0.864	0.918	0.417	0.843	0.894	0.667	0.500	0.969
		0.879				0.944				0.879				0.893			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cherry Ave & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05307-050
Date: 5/9/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Carson St				Carson St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	2	4	1	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	99	35	0	71	309	12	0	7	99	18	0	65	96	32	0	858
7:15 AM	20	131	46	0	69	328	19	0	8	140	29	0	96	184	39	0	1109
7:30 AM	24	139	41	0	94	371	19	0	15	181	19	0	91	180	34	0	1208
7:45 AM	31	158	51	0	74	324	14	0	19	145	27	0	108	211	45	0	1207
8:00 AM	29	151	38	0	73	247	15	0	16	138	24	0	78	179	52	0	1040
8:15 AM	24	153	46	0	64	269	24	0	15	143	20	0	76	151	40	0	1025
8:30 AM	29	119	57	0	77	247	16	0	20	143	30	0	69	210	45	0	1062
8:45 AM	26	154	43	0	63	245	10	0	21	138	11	0	75	161	44	0	991
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	198	1104	357	0	585	2340	129	0	121	1127	178	0	658	1372	331	0	8500
APPROACH %'s :	11.93%	66.55%	21.52%	0.00%	19.16%	76.62%	4.22%	0.00%	8.49%	79.03%	12.48%	0.00%	27.87%	58.11%	14.02%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	104	579	176	0	310	1270	67	0	58	604	99	0	373	754	170	0	4564
PEAK HR FACTOR :	0.839	0.916	0.863	0.000	0.824	0.856	0.882	0.000	0.763	0.834	0.853	0.000	0.863	0.893	0.817	0.000	0.945
	0.895				0.851				0.885				0.891				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	2	4	1	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	24	266	45	0	78	181	13	0	33	206	16	0	66	170	73	0	1171
4:15 PM	27	282	77	0	93	166	9	0	35	229	16	0	75	155	65	0	1229
4:30 PM	22	286	63	0	94	187	13	0	23	256	17	0	79	158	77	0	1275
4:45 PM	39	289	81	0	90	172	14	0	19	239	12	0	80	148	55	0	1238
5:00 PM	32	276	67	0	99	178	10	0	49	283	20	0	71	165	74	0	1324
5:15 PM	39	314	82	0	68	202	15	0	42	264	16	0	78	157	66	0	1343
5:30 PM	30	244	73	0	113	200	16	0	27	276	24	0	83	183	71	0	1340
5:45 PM	30	290	69	0	75	193	11	0	21	209	19	0	59	163	49	0	1188
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	243	2247	557	0	710	1479	101	0	249	1962	140	0	591	1299	530	0	10108
APPROACH %'s :	7.98%	73.74%	18.28%	0.00%	31.00%	64.59%	4.41%	0.00%	10.59%	83.45%	5.95%	0.00%	24.42%	53.68%	21.90%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	140	1123	303	0	370	752	55	0	137	1062	72	0	312	653	266	0	5245
PEAK HR FACTOR :	0.897	0.894	0.924	0.000	0.819	0.931	0.859	0.000	0.699	0.938	0.750	0.000	0.940	0.892	0.899	0.000	0.976
	0.900				0.894				0.903				0.913				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cherry Ave & Wardlow Rd
City: Long Beach
Control: Signalized

Project ID: 18-05307-049
Date: 5/9/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Wardlow Rd				Wardlow Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	1.5	1.5	0	0	1.5	1.5	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	13	214	8	0	9	370	40	0	52	2	22	0	7	0	12	0	749
7:15 AM	32	262	8	0	5	448	54	1	43	2	28	0	6	1	4	0	894
7:30 AM	43	267	7	0	10	502	63	1	70	5	37	0	14	6	7	0	1032
7:45 AM	33	320	11	1	12	540	65	1	61	4	34	0	5	7	5	0	1099
8:00 AM	64	307	18	0	7	403	67	1	80	8	29	0	10	3	7	0	1004
8:15 AM	41	319	6	1	15	406	54	0	51	6	31	0	10	1	4	0	945
8:30 AM	38	295	15	1	6	385	47	2	58	5	28	0	19	5	6	0	910
8:45 AM	38	318	15	0	9	409	52	1	55	5	26	0	6	5	8	0	947
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	302	2302	88	3	73	3463	442	7	470	37	235	0	77	28	53	0	7580
APPROACH %'s :	11.21%	85.42%	3.27%	0.11%	1.83%	86.90%	11.09%	0.18%	63.34%	4.99%	31.67%	0.00%	48.73%	17.72%	33.54%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	181	1213	42	2	44	1851	249	3	262	23	131	0	39	17	23	0	4080
PEAK HR FACTOR :	0.707	0.948	0.583	0.500	0.733	0.857	0.929	0.750	0.819	0.719	0.885	0.000	0.696	0.607	0.821	0.000	0.928
		0.924				0.869				0.889				0.731			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	1.5	1.5	0	0	1.5	1.5	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	19	387	9	0	10	323	57	2	106	6	51	0	24	1	10	0	1005
4:15 PM	23	414	11	0	14	378	55	1	102	7	38	0	13	5	10	0	1071
4:30 PM	34	384	13	0	18	321	57	1	136	8	44	0	19	4	14	0	1053
4:45 PM	45	435	11	0	12	373	48	1	103	5	28	0	9	2	10	0	1082
5:00 PM	38	391	13	0	9	352	51	4	140	7	42	0	20	2	10	0	1079
5:15 PM	44	455	15	0	7	430	56	2	126	12	39	0	12	9	17	0	1224
5:30 PM	33	367	8	0	5	364	60	1	134	5	42	0	22	5	16	0	1062
5:45 PM	32	476	14	0	6	409	59	0	105	2	25	0	14	6	5	0	1153
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	268	3309	94	0	81	2950	443	12	952	52	309	0	133	34	92	0	8729
APPROACH %'s :	7.30%	90.14%	2.56%	0.00%	2.32%	84.62%	12.71%	0.34%	72.51%	3.96%	23.53%	0.00%	51.35%	13.13%	35.52%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	147	1689	50	0	27	1555	226	7	505	26	148	0	68	22	48	0	4518
PEAK HR FACTOR :	0.835	0.887	0.833	0.000	0.750	0.904	0.942	0.438	0.902	0.542	0.881	0.000	0.773	0.611	0.706	0.000	0.923
		0.903				0.917				0.898				0.802			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Cherry Ave & Willow St
City: Long Beach
Control: Signalized

Project ID: 18-05307-105
Date: 5/23/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	2	3	0	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	33	209	39	10	40	144	26	0	31	125	16	0	38	178	18	0	907
7:15 AM	36	223	34	7	53	170	29	0	46	218	12	0	53	271	29	0	1181
7:30 AM	44	291	46	7	39	224	45	0	34	246	18	3	67	256	14	0	1334
7:45 AM	34	270	59	9	44	158	30	0	34	266	17	0	65	296	45	1	1328
8:00 AM	54	263	60	14	54	207	23	0	50	217	21	0	62	247	26	0	1298
8:15 AM	21	226	57	10	45	163	30	0	63	243	32	2	54	231	31	0	1208
8:30 AM	36	242	62	12	49	222	31	0	44	198	20	1	46	216	23	0	1202
8:45 AM	39	211	59	10	51	173	35	0	47	198	34	1	55	216	39	0	1168
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	297	1935	416	79	375	1461	249	0	349	1711	170	7	440	1911	225	1	9626
APPROACH %'s :	10.89%	70.96%	15.25%	2.90%	17.99%	70.07%	11.94%	0.00%	15.60%	76.49%	7.60%	0.31%	17.07%	74.16%	8.73%	0.04%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	153	1050	222	40	182	752	128	0	181	972	88	5	248	1030	116	1	5168
PEAK HR FACTOR :	0.708	0.902	0.925	0.714	0.843	0.839	0.711	0.000	0.718	0.914	0.688	0.417	0.925	0.870	0.644	0.250	0.969
		0.937				0.862				0.916				0.857			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	2	3	0	0	2	3	0	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	23	172	59	3	85	226	44	0	53	283	29	0	46	221	70	2	1316
4:15 PM	39	202	39	4	83	203	44	0	46	278	30	0	67	196	42	1	1274
4:30 PM	24	198	50	1	79	227	37	0	34	348	33	0	59	230	56	1	1377
4:45 PM	36	207	60	4	60	209	43	0	48	311	24	0	75	204	51	0	1332
5:00 PM	23	173	55	4	84	215	39	0	38	349	31	0	65	272	60	1	1409
5:15 PM	29	203	67	7	68	226	40	0	56	284	22	0	90	236	56	0	1384
5:30 PM	37	175	37	3	82	225	42	0	60	343	42	0	69	247	50	0	1412
5:45 PM	36	194	58	11	74	245	37	0	43	275	39	0	85	207	47	1	1352
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	247	1524	425	37	615	1776	326	0	378	2471	250	0	556	1813	432	6	10856
APPROACH %'s :	11.06%	68.25%	19.03%	1.66%	22.64%	65.37%	12.00%	0.00%	12.20%	79.74%	8.07%	0.00%	19.81%	64.59%	15.39%	0.21%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	125	745	217	25	308	911	158	0	197	1251	134	0	309	962	213	2	5557
PEAK HR FACTOR :	0.845	0.917	0.810	0.568	0.917	0.930	0.940	0.000	0.821	0.896	0.798	0.000	0.858	0.884	0.888	0.500	0.984
		0.908				0.967				0.889				0.933			

National Data & Surveying Services Intersection Turning Movement Count

Location: Cherry Ave & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-048
Date: 5/23/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	100	7	0	19	59	26	0	32	182	7	0	7	239	40	0	735
7:15 AM	17	148	2	0	22	84	62	0	34	219	19	0	5	287	45	0	944
7:30 AM	23	134	4	0	43	80	80	0	53	194	26	0	8	359	46	0	1050
7:45 AM	30	135	8	0	39	99	53	0	55	239	14	0	14	320	35	0	1041
8:00 AM	16	113	8	0	38	102	69	0	32	231	18	0	8	289	55	0	979
8:15 AM	13	127	9	0	34	98	39	0	40	213	12	0	10	257	40	0	892
8:30 AM	19	106	5	0	40	119	56	0	39	241	20	0	5	290	59	0	999
8:45 AM	19	130	9	0	35	138	77	0	44	197	18	0	25	283	58	0	1033
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	154	993	52	0	270	779	462	0	329	1716	134	0	82	2324	378	0	7673
APPROACH %'s :	12.84%	82.82%	4.34%	0.00%	17.87%	51.56%	30.58%	0.00%	15.10%	78.75%	6.15%	0.00%	2.95%	83.48%	13.58%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	86	530	22	0	142	365	264	0	174	883	77	0	35	1255	181	0	4014
PEAK HR FACTOR :	0.717	0.895	0.688	0.000	0.826	0.895	0.825	0.000	0.791	0.924	0.740	0.000	0.625	0.874	0.823	0.000	0.956
	0.922				0.922				0.920				0.890				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	18	99	6	0	52	163	79	0	45	322	24	0	12	236	40	0	1096
4:15 PM	12	107	8	0	46	156	62	0	43	283	25	0	18	244	29	0	1033
4:30 PM	12	103	6	0	53	131	54	0	42	359	17	0	14	206	39	0	1036
4:45 PM	8	99	7	0	52	134	54	0	53	378	20	0	17	211	39	0	1072
5:00 PM	19	106	6	0	47	168	43	0	57	407	20	0	16	267	39	0	1195
5:15 PM	18	100	8	0	56	133	53	0	51	390	22	0	19	247	51	0	1148
5:30 PM	15	104	11	0	38	150	63	0	48	321	25	0	20	223	35	0	1053
5:45 PM	15	100	8	0	39	151	58	0	50	293	13	0	17	210	34	0	988
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	117	818	60	0	383	1186	466	0	389	2753	166	0	133	1844	306	0	8621
APPROACH %'s :	11.76%	82.21%	6.03%	0.00%	18.82%	58.28%	22.90%	0.00%	11.76%	83.22%	5.02%	0.00%	5.83%	80.77%	13.40%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	60	409	32	0	193	585	213	0	209	1496	87	0	72	948	164	0	4468
PEAK HR FACTOR :	0.789	0.965	0.727	0.000	0.862	0.871	0.845	0.000	0.917	0.919	0.870	0.000	0.900	0.888	0.804	0.000	0.935
	0.956				0.960				0.926				0.919				

National Data & Surveying Services Intersection Turning Movement Count

Location: Cherry Ave & 7th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-047
Date: 5/23/2018

Total

NS/EW Streets:	Cherry Ave				Cherry Ave				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	29	20	0	23	25	4	0	7	187	2	0	13	293	13	0	627
7:15 AM	8	48	22	0	27	46	7	0	8	233	2	0	10	303	18	0	732
7:30 AM	14	54	31	0	23	39	8	0	7	245	5	0	12	354	13	0	805
7:45 AM	11	68	18	0	28	52	9	0	9	233	8	0	15	321	13	0	785
8:00 AM	14	59	20	0	22	63	9	0	15	205	6	0	26	317	15	0	771
8:15 AM	11	57	18	0	14	44	21	0	9	209	3	0	20	299	16	0	721
8:30 AM	14	53	18	0	22	49	9	0	16	194	7	0	10	318	17	0	727
8:45 AM	6	53	27	0	23	63	15	0	12	183	8	0	21	277	18	0	706
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	89	421	174	0	182	381	82	0	83	1689	41	0	127	2482	123	0	5874
APPROACH %'s :	13.01%	61.55%	25.44%	0.00%	28.22%	59.07%	12.71%	0.00%	4.58%	93.16%	2.26%	0.00%	4.65%	90.85%	4.50%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	47	229	91	0	100	200	33	0	39	916	21	0	63	1295	59	0	3093
PEAK HR FACTOR :	0.839	0.842	0.734	0.000	0.893	0.794	0.917	0.000	0.650	0.935	0.656	0.000	0.606	0.915	0.819	0.000	0.961
	0.927				0.886				0.949				0.935				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	7	51	17	0	14	59	9	0	25	275	17	0	21	227	15	0	737
4:15 PM	12	60	24	0	19	72	14	0	19	283	4	0	14	207	18	0	746
4:30 PM	9	50	19	0	22	59	15	0	15	271	5	0	14	192	16	0	687
4:45 PM	9	49	15	0	14	70	11	0	15	317	3	0	19	223	15	0	760
5:00 PM	12	66	19	0	28	69	9	0	18	321	11	0	20	245	15	0	833
5:15 PM	10	56	18	0	24	66	9	0	22	379	10	0	13	236	13	0	856
5:30 PM	9	50	22	0	13	68	22	0	18	319	9	0	15	233	12	0	790
5:45 PM	10	47	19	0	17	72	14	0	12	284	6	0	14	203	25	0	723
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	78	429	153	0	151	535	103	0	144	2449	65	0	130	1766	129	0	6132
APPROACH %'s :	11.82%	65.00%	23.18%	0.00%	19.14%	67.81%	13.05%	0.00%	5.42%	92.14%	2.45%	0.00%	6.42%	87.21%	6.37%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	40	221	74	0	79	273	51	0	73	1336	33	0	67	937	55	0	3239
PEAK HR FACTOR :	0.833	0.837	0.841	0.000	0.705	0.975	0.580	0.000	0.830	0.881	0.750	0.000	0.838	0.956	0.917	0.000	0.946
	0.863				0.950				0.877				0.946				

National Data & Surveying Services Intersection Turning Movement Count

Location: Paramount Blvd & Artesia Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-054
Date: 5/23/2018

Total

NS/EW Streets:	Paramount Blvd				Paramount Blvd				Artesia Blvd				Artesia Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	35	183	15	0	17	148	10	0	31	68	30	0	25	157	23	1	743
7:15 AM	46	188	16	0	11	162	19	0	20	87	33	0	28	171	26	0	807
7:30 AM	48	179	20	0	21	188	25	0	45	129	30	0	36	199	39	0	959
7:45 AM	44	176	12	0	25	189	26	0	27	123	42	0	32	173	34	2	905
8:00 AM	29	152	11	0	17	211	33	0	16	90	28	0	17	163	32	0	799
8:15 AM	33	129	12	0	20	168	32	0	31	108	22	0	15	147	31	2	750
8:30 AM	35	149	24	0	18	171	35	0	30	93	31	1	22	155	32	1	797
8:45 AM	17	150	11	0	21	141	23	0	26	98	32	1	16	121	17	1	675
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	287	1306	121	0	150	1378	203	0	226	796	248	2	191	1286	234	7	6435
APPROACH %'s :	16.74%	76.20%	7.06%	0.00%	8.67%	79.61%	11.73%	0.00%	17.77%	62.58%	19.50%	0.16%	11.12%	74.85%	13.62%	0.41%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	167	695	59	0	74	750	103	0	108	429	133	0	113	706	131	2	3470
PEAK HR FACTOR :	0.870	0.924	0.738	0.000	0.740	0.889	0.780	0.000	0.600	0.831	0.792	0.000	0.785	0.887	0.840	0.250	0.905
	0.921				0.888				0.821				0.869				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	2	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	219	19	0	28	147	17	0	45	188	27	0	28	105	28	0	879
4:15 PM	35	204	31	0	20	130	26	0	43	194	29	0	15	112	41	0	880
4:30 PM	35	186	22	0	27	175	24	0	44	217	35	0	12	108	40	2	927
4:45 PM	31	207	34	0	36	164	18	0	55	234	33	2	24	107	34	2	981
5:00 PM	31	228	14	0	18	137	24	0	48	233	34	2	16	124	37	2	948
5:15 PM	33	213	30	0	36	156	25	0	40	153	40	1	18	124	37	1	907
5:30 PM	31	206	25	0	26	118	17	0	52	243	46	1	20	133	45	1	964
5:45 PM	18	199	35	0	20	171	14	0	37	214	48	2	14	143	34	1	950
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	242	1662	210	0	211	1198	165	0	364	1676	292	8	147	956	296	9	7436
APPROACH %'s :	11.45%	78.62%	9.93%	0.00%	13.41%	76.11%	10.48%	0.00%	15.56%	71.62%	12.48%	0.34%	10.44%	67.90%	21.02%	0.64%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	126	854	103	0	116	575	84	0	195	863	153	6	78	488	153	6	3800
PEAK HR FACTOR :	0.955	0.936	0.757	0.000	0.806	0.877	0.840	0.000	0.886	0.888	0.832	0.750	0.813	0.917	0.850	0.750	0.968
	0.981				0.889				0.890				0.911				

National Data & Surveying Services Intersection Turning Movement Count

Location: Paramount Blvd & South St
City: Long Beach
Control: Signalized

Project ID: 18-05307-055
Date: 5/23/2018

Total

NS/EW Streets:	Paramount Blvd				Paramount Blvd				South St				South St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	14	139	23	1	6	110	20	0	26	126	19	0	32	127	24	0	667
7:15 AM	27	160	18	0	15	143	18	0	15	150	33	0	23	149	28	0	779
7:30 AM	25	138	48	1	34	131	32	0	23	145	20	1	37	160	37	0	832
7:45 AM	17	165	48	0	32	137	28	0	31	144	27	0	28	147	42	0	846
8:00 AM	27	124	42	2	32	120	36	0	22	149	23	0	36	148	30	1	792
8:15 AM	16	95	33	1	26	137	18	0	25	147	22	1	53	128	32	0	734
8:30 AM	19	110	30	0	34	136	27	0	25	124	33	0	42	147	22	0	749
8:45 AM	25	113	28	1	25	125	20	0	25	135	25	0	27	136	27	0	712
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	170	1044	270	6	204	1039	199	0	192	1120	202	2	278	1142	242	1	6111
APPROACH %'s :	11.41%	70.07%	18.12%	0.40%	14.15%	72.05%	13.80%	0.00%	12.66%	73.88%	13.32%	0.13%	16.72%	68.67%	14.55%	0.06%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	96	587	156	3	113	531	114	0	91	588	103	1	124	604	137	1	3249
PEAK HR FACTOR :	0.889	0.889	0.813	0.375	0.831	0.928	0.792	0.000	0.734	0.980	0.780	0.250	0.838	0.944	0.815	0.250	0.960
		0.915				0.962				0.969				0.925			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	30	182	42	1	20	149	27	0	21	175	24	1	41	165	29	0	907
4:15 PM	19	150	33	1	32	129	29	1	40	182	41	0	49	172	32	0	910
4:30 PM	26	169	54	1	25	138	30	0	19	215	39	0	44	178	23	0	961
4:45 PM	31	118	45	2	42	152	36	0	39	222	48	0	46	167	28	1	977
5:00 PM	33	207	39	4	33	135	38	0	28	219	37	0	51	190	27	0	1041
5:15 PM	34	163	53	4	31	146	22	0	28	204	44	0	43	178	23	0	973
5:30 PM	35	166	45	0	20	116	30	0	26	228	44	0	33	153	27	0	923
5:45 PM	39	163	42	1	24	140	26	0	33	204	27	1	40	176	38	0	954
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	247	1318	353	14	227	1105	238	1	234	1649	304	2	347	1379	227	1	7646
APPROACH %'s :	12.78%	68.22%	18.27%	0.72%	14.45%	70.34%	15.15%	0.06%	10.69%	75.33%	13.89%	0.09%	17.76%	70.57%	11.62%	0.05%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	124	657	191	11	131	571	126	0	114	860	168	0	184	713	101	1	3952
PEAK HR FACTOR :	0.912	0.793	0.884	0.688	0.780	0.939	0.829	0.000	0.731	0.968	0.875	0.000	0.902	0.938	0.902	0.250	0.949
		0.868				0.900				0.924				0.932			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Paramount Blvd & Del Amo Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-094
Date: 5/23/2018

Total

NS/EW Streets:	Paramount Blvd				Paramount Blvd				Del Amo Blvd				Del Amo Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	27	63	5	0	23	124	41	0	15	139	18	0	16	261	13	0	745
7:15 AM	24	72	9	0	25	168	50	2	21	206	18	0	19	295	17	0	926
7:30 AM	27	100	23	0	36	185	46	0	14	206	30	0	32	356	13	0	1068
7:45 AM	37	109	23	0	45	186	46	0	20	272	32	0	29	334	17	0	1150
8:00 AM	38	118	18	0	28	138	49	1	15	165	27	0	25	349	28	0	999
8:15 AM	17	101	24	0	27	141	45	0	23	225	20	0	34	300	13	0	970
8:30 AM	28	97	17	1	51	154	35	4	21	191	31	0	16	212	19	0	877
8:45 AM	28	120	22	1	33	149	34	0	14	227	22	0	19	240	36	0	945
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	226	780	141	2	268	1245	346	7	143	1631	198	0	190	2347	156	0	7680
APPROACH %'s :	19.67%	67.89%	12.27%	0.17%	14.36%	66.72%	18.54%	0.38%	7.25%	82.71%	10.04%	0.00%	7.06%	87.15%	5.79%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	119	428	88	0	136	650	186	1	72	868	109	0	120	1339	71	0	4187
PEAK HR FACTOR :	0.783	0.907	0.917	0.000	0.756	0.874	0.949	0.250	0.783	0.798	0.852	0.000	0.882	0.940	0.634	0.000	0.910
		0.912				0.878				0.809				0.951			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	43	222	30	1	35	137	36	2	29	305	24	0	30	235	40	1	1170
4:15 PM	22	158	48	3	29	115	44	3	16	338	39	0	44	216	28	0	1103
4:30 PM	44	188	32	3	29	141	31	5	24	301	24	1	28	190	20	0	1061
4:45 PM	39	204	33	0	25	127	34	1	29	302	31	0	35	208	29	0	1097
5:00 PM	32	198	44	2	43	148	41	5	20	307	38	0	29	214	33	1	1155
5:15 PM	36	213	45	2	35	131	43	3	29	293	23	1	34	257	29	1	1175
5:30 PM	53	207	53	1	25	132	37	3	26	305	28	0	30	251	32	0	1183
5:45 PM	40	185	37	1	31	136	51	4	26	283	41	0	30	248	24	1	1138
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	309	1575	322	13	252	1067	317	26	199	2434	248	2	260	1819	235	4	9082
APPROACH %'s :	13.93%	70.98%	14.51%	0.59%	15.16%	64.20%	19.07%	1.56%	6.90%	84.43%	8.60%	0.07%	11.22%	78.47%	10.14%	0.17%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	161	803	179	6	134	547	172	15	101	1188	130	1	123	970	118	3	4651
PEAK HR FACTOR :	0.759	0.942	0.844	0.750	0.779	0.924	0.843	0.750	0.871	0.967	0.793	0.250	0.904	0.944	0.894	0.750	0.983
		0.915				0.916				0.973				0.945			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Paramount Blvd & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05307-095
Date: 5/23/2018

Total

NS/EW Streets:	Paramount Blvd				Paramount Blvd				Carson St				Carson St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	34	10	0	54	107	37	2	25	151	10	4	19	120	12	1	595
7:15 AM	6	31	15	0	72	138	45	2	23	211	16	6	27	201	28	2	823
7:30 AM	5	48	20	0	82	151	54	5	27	202	17	3	23	227	11	1	876
7:45 AM	9	49	17	0	70	140	58	3	38	216	15	6	39	248	26	1	935
8:00 AM	14	45	26	0	54	108	65	0	33	185	13	9	26	246	26	0	850
8:15 AM	11	39	23	0	52	100	49	3	28	219	16	2	39	243	33	2	859
8:30 AM	11	45	20	0	65	118	48	2	30	268	13	2	24	239	20	2	907
8:45 AM	6	40	30	0	53	67	46	1	41	216	19	8	29	209	32	1	798
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	71	331	161	0	502	929	402	18	245	1668	119	40	226	1733	188	10	6643
APPROACH %'s :	12.61%	58.79%	28.60%	0.00%	27.12%	50.19%	21.72%	0.97%	11.82%	80.50%	5.74%	1.93%	10.48%	80.34%	8.72%	0.46%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	45	178	86	0	241	466	220	8	129	888	57	19	128	976	105	5	3551
PEAK HR FACTOR :	0.804	0.908	0.827	0.000	0.861	0.832	0.846	0.667	0.849	0.828	0.891	0.528	0.821	0.984	0.795	0.625	0.949
	0.909				0.863				0.873				0.957				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	26	170	34	0	37	82	51	2	49	268	12	7	26	226	53	2	1045
4:15 PM	24	113	31	0	44	69	32	3	62	316	15	8	33	218	54	5	1027
4:30 PM	24	141	38	0	37	89	38	2	55	306	12	10	23	240	64	1	1080
4:45 PM	34	134	39	0	45	70	49	1	58	355	14	4	22	217	61	1	1104
5:00 PM	26	158	36	0	52	81	38	1	57	340	17	7	34	243	55	1	1146
5:15 PM	27	159	50	0	58	95	46	3	57	343	18	13	26	224	81	3	1203
5:30 PM	33	147	32	0	62	76	41	1	68	371	16	10	20	239	85	1	1202
5:45 PM	26	128	39	0	36	93	39	5	70	318	8	8	33	228	81	2	1114
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	220	1150	299	0	371	655	334	18	476	2617	112	67	217	1835	534	16	8921
APPROACH %'s :	13.18%	68.90%	17.91%	0.00%	26.92%	47.53%	24.24%	1.31%	14.55%	79.98%	3.42%	2.05%	8.34%	70.52%	20.52%	0.61%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	112	592	157	0	208	345	164	10	252	1372	59	38	113	934	302	7	4665
PEAK HR FACTOR :	0.848	0.931	0.785	0.000	0.839	0.908	0.891	0.500	0.900	0.925	0.819	0.731	0.831	0.961	0.888	0.583	0.969
	0.912				0.900				0.925				0.983				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Downey Ave & Alondra Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-101
Date: 5/23/2018

Total

NS/EW Streets:	Downey Ave				Downey Ave				Alondra Blvd				Alondra Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	19	95	7	0	15	124	10	0	11	66	14	0	19	168	21	0	569
7:15 AM	24	156	24	0	21	169	22	0	28	77	23	0	53	184	29	1	811
7:30 AM	23	178	26	0	27	160	27	1	48	113	17	0	56	190	47	0	913
7:45 AM	40	142	38	0	47	155	35	0	24	144	30	1	50	234	51	1	992
8:00 AM	21	89	20	0	54	178	29	0	13	116	18	0	35	166	30	1	770
8:15 AM	27	80	14	0	27	116	15	0	12	112	18	1	35	150	39	0	646
8:30 AM	18	82	16	0	22	108	10	0	6	79	11	3	37	138	17	0	547
8:45 AM	22	74	25	2	28	90	12	0	13	107	13	1	23	143	24	0	577
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	194	896	170	2	241	1100	160	1	155	814	144	6	308	1373	258	3	5825
APPROACH %'s :	15.37%	71.00%	13.47%	0.16%	16.05%	73.24%	10.65%	0.07%	13.85%	72.74%	12.87%	0.54%	15.86%	70.70%	13.29%	0.15%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	108	565	108	0	149	662	113	1	113	450	88	1	194	774	157	3	3486
PEAK HR FACTOR :	0.675	0.794	0.711	0.000	0.690	0.930	0.807	0.250	0.589	0.781	0.733	0.250	0.866	0.827	0.770	0.750	0.879
	0.860				0.886				0.819				0.839				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	26	122	40	0	35	149	26	4	35	197	29	2	30	131	38	0	864
4:15 PM	25	126	29	1	41	118	14	2	20	204	17	0	35	155	27	1	815
4:30 PM	37	120	29	0	39	145	20	1	32	220	20	2	40	149	30	1	885
4:45 PM	29	122	20	0	50	129	18	3	25	200	27	3	34	138	38	0	836
5:00 PM	25	124	33	0	49	122	20	0	27	203	20	1	38	155	38	1	856
5:15 PM	32	148	33	0	44	134	12	1	24	226	24	1	32	155	37	2	905
5:30 PM	30	131	30	0	45	160	22	2	36	213	32	0	33	152	31	0	917
5:45 PM	42	161	41	0	49	162	20	0	33	215	33	1	27	171	38	0	993
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	246	1054	255	1	352	1119	152	13	232	1678	202	10	269	1206	277	5	7071
APPROACH %'s :	15.81%	67.74%	16.39%	0.06%	21.52%	68.40%	9.29%	0.79%	10.93%	79.08%	9.52%	0.47%	15.31%	68.64%	15.77%	0.28%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	129	564	137	0	187	578	74	3	120	857	109	3	130	633	144	3	3671
PEAK HR FACTOR :	0.768	0.876	0.835	0.000	0.954	0.892	0.841	0.375	0.833	0.948	0.826	0.750	0.855	0.925	0.947	0.375	0.924
	0.850				0.911				0.965				0.964				

Prepared by National Data & Surveying Services

Redondo Ave & Spring St

Peak Hour Turning Movement Count

ID: 17-5595-001
City: Long Beach

Day: Wednesday
Date: 09/13/2017

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Redondo Ave

AM	1	2	5	0	15	AM
NOON	0	0	0	0	0	NOON
PM	3	3	5	0	9	PM

EASTBOUND — Spring St

AM	NOON	PM	
1832	0	1457	⇦
0	0	5	0 ↶
3	0	4	1 ↷
729	0	1085	3 →
338	0	388	0 ↷
AM	NOON	PM	

WESTBOUND — Spring St

PM	NOON	AM	
5	0	10	0 ↶
894	0	1296	3 ←
237	0	313	2 ↶
0	0	1	0 ↶
1469	0	1021	⇨
PM	NOON	AM	

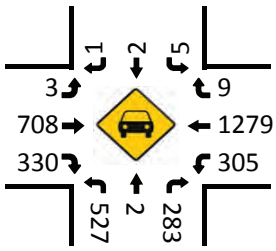
NORTHBOUND — Redondo Ave

PM	628	0	555	0	379	PM
NOON	0	0	0	0	0	NOON
AM	653	0	535	2	286	AM

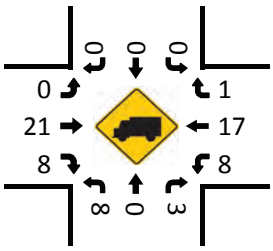
0.5 1.5 1 0 — 0 2 0.5 1.5

CONTROL			
Signalized			
TEV	3521 AM	0 NOON	3563 PM
PHF	0.91		0.89

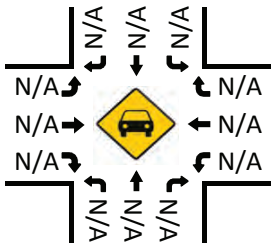
Cars (AM)



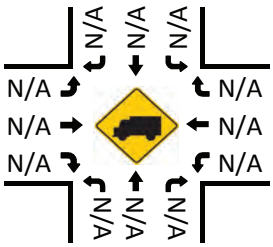
HT (AM)



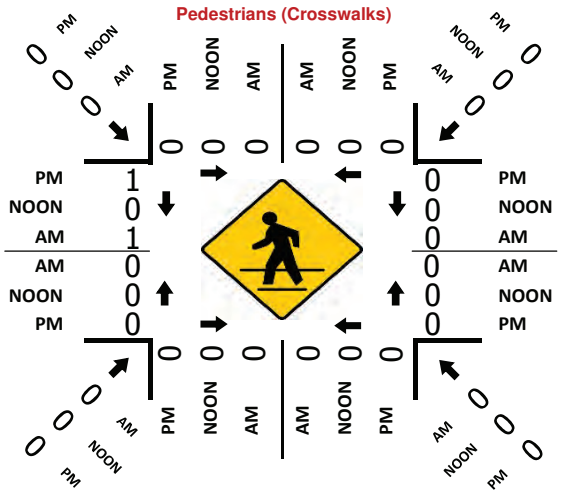
Cars (NOON)



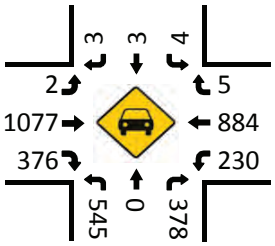
HT (NOON)



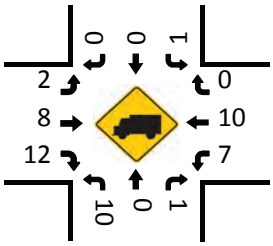
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Redondo Ave & Willow St

Peak Hour Turning Movement Count

ID: 17-5595-002
City: Long Beach

Day: Wednesday
Date: 09/13/2017

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

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

Redondo Ave — SOUTHBOUND

AM	48	358	108	0	1320	AM
NOON	0	0	0	0	0	NOON
PM	124	641	271	0	771	PM

EASTBOUND — Willow St

AM	NOON	PM		
1625	0	1365	⇦	
2	0	2	↶	0
116	0	66	↱	1
1020	0	1521	→	3
159	0	285	↴	1

WESTBOUND — Willow St

PM	NOON	AM		
122	0	275	↰	1
1030	0	1322	←	3
247	0	196	↰	2
0	0	0	↶	0
2200	0	1593	⇨	

CONTROL

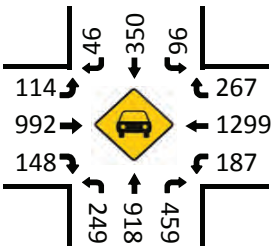
Signalized

TEV	5252 AM	0 NOON	5509 PM
PHF	0.94		0.94

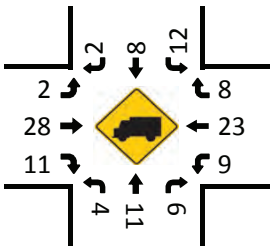
Redondo Ave — NORTHBOUND

PM	1173	0	209	583	408	PM
NOON	0	0	0	0	0	NOON
AM	714	1	253	929	465	AM

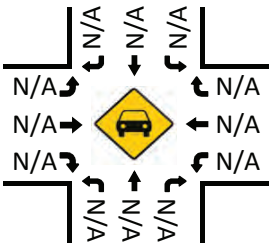
Cars (AM)



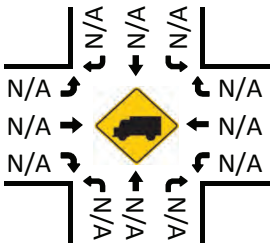
HT (AM)



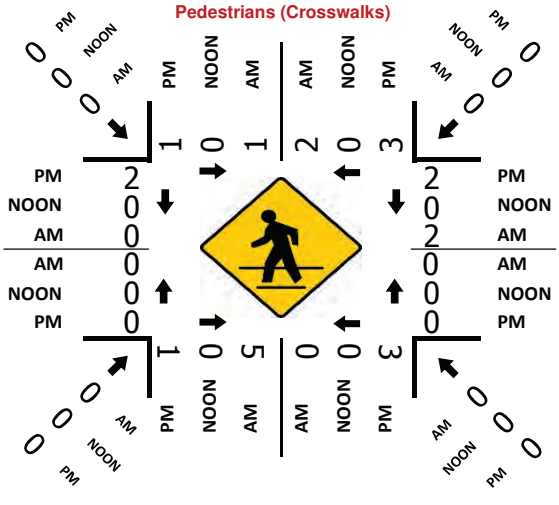
Cars (NOON)



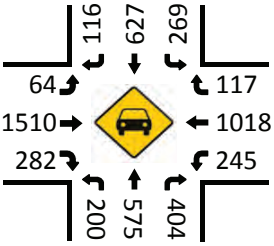
HT (NOON)



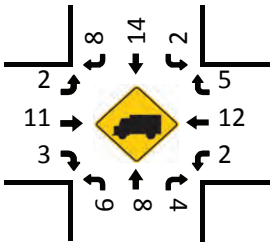
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Redondo Ave & Pacific Coast Hwy (SR-1)

Peak Hour Turning Movement Count

ID: 17-5595-008
City: Long Beach

Day: Wednesday
Date: 09/13/2017

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Redondo Ave — SOUTHBOUND

AM	150	426	88	0	1241	AM
NOON	0	0	0	0	0	NOON
PM	196	813	169	0	958	PM
	1	2	1	0		

EASTBOUND — Pacific Coast Hwy (SR-1)

AM	NOON	PM	
1596	0	1517	
0	0	0	0
221	0	211	1
1032	0	1246	3
10	0	17	0
AM	NOON	PM	

CONTROL

Signalized

TEV	4859	0	5294
	AM	NOON	PM
PHF	0.97		0.99

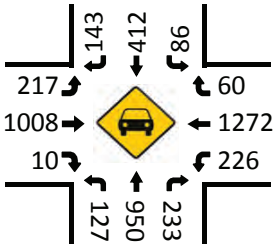
WESTBOUND — Pacific Coast Hwy (SR-1)

PM	NOON	AM	
42	0	62	0
1182	0	1318	3
284	0	231	1
0	0	0	0
1705	0	1355	
PM	NOON	AM	

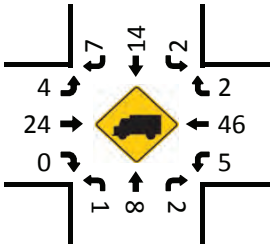
		0	1	2	0	
PM	1114	0	139	705	290	PM
NOON	0	0	0	0	0	NOON
AM	667	0	128	958	235	AM

NORTHBOUND — Redondo Ave

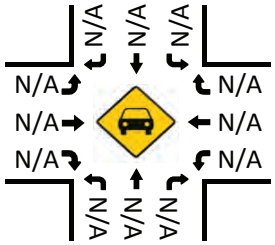
Cars (AM)



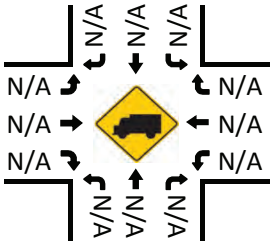
HT (AM)



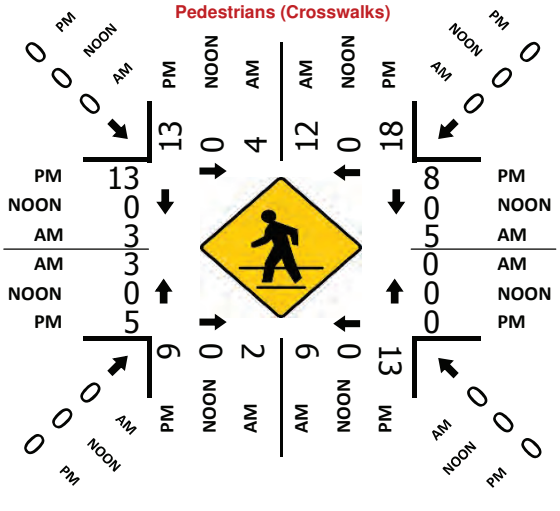
Cars (NOON)



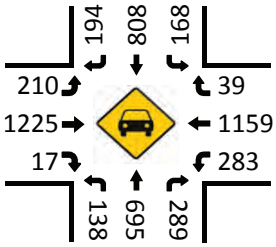
HT (NOON)



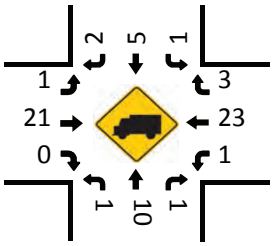
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Redondo Ave & Anaheim St
City: Long Beach
Control: Signalized

Project ID: 18-05307-059
Date: 5/23/2018

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				Anaheim St				Anaheim St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	184	11	0	14	88	12	0	33	195	12	0	11	118	22	0	715
7:15 AM	14	245	18	0	11	121	15	0	49	253	12	0	12	184	19	0	953
7:30 AM	14	261	19	0	12	134	23	0	44	299	27	0	24	248	19	0	1124
7:45 AM	16	271	22	0	14	172	24	0	36	241	34	0	25	253	25	0	1133
8:00 AM	12	234	14	0	12	142	23	0	36	189	28	0	30	186	16	0	922
8:15 AM	14	244	17	0	10	159	20	0	31	181	27	0	24	196	21	0	944
8:30 AM	16	258	13	0	16	174	24	0	38	226	34	0	25	177	24	0	1025
8:45 AM	19	261	19	0	7	170	27	0	31	213	37	0	32	194	14	0	1024
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	120	1958	133	0	96	1160	168	0	298	1797	211	0	183	1556	160	0	7840
APPROACH %'s :	5.43%	88.56%	6.02%	0.00%	6.74%	81.46%	11.80%	0.00%	12.92%	77.93%	9.15%	0.00%	9.64%	81.94%	8.43%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	56	1011	73	0	49	569	85	0	165	982	101	0	91	871	79	0	4132
PEAK HR FACTOR :	0.875	0.933	0.830	0.000	0.875	0.827	0.885	0.000	0.842	0.821	0.743	0.000	0.758	0.861	0.790	0.000	0.912
		0.922				0.837				0.843				0.859			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	211	23	0	24	208	18	1	36	254	31	1	39	227	20	0	1115
4:15 PM	22	208	31	0	13	258	21	0	35	248	27	0	38	196	14	0	1111
4:30 PM	19	227	32	0	13	211	28	0	38	251	31	0	34	230	27	0	1141
4:45 PM	17	191	28	0	19	229	25	0	33	264	28	0	50	251	26	0	1161
5:00 PM	16	215	25	0	20	228	22	0	39	275	26	0	50	243	26	0	1185
5:15 PM	16	213	38	0	13	247	23	0	31	257	31	0	40	256	18	0	1183
5:30 PM	20	204	26	0	16	241	15	0	44	251	34	0	49	237	19	0	1156
5:45 PM	18	220	22	0	19	247	16	0	41	279	30	0	34	222	17	0	1165
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	150	1689	225	0	137	1869	168	1	297	2079	238	1	334	1862	167	0	9217
APPROACH %'s :	7.27%	81.83%	10.90%	0.00%	6.30%	85.93%	7.72%	0.05%	11.36%	79.50%	9.10%	0.04%	14.13%	78.80%	7.07%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	70	852	111	0	68	963	76	0	155	1062	121	0	173	958	80	0	4689
PEAK HR FACTOR :	0.875	0.968	0.730	0.000	0.850	0.975	0.826	0.000	0.881	0.952	0.890	0.000	0.865	0.936	0.769	0.000	0.989
		0.967				0.978				0.956				0.949			

National Data & Surveying Services Intersection Turning Movement Count

Location: Redondo Ave & 7th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-058
Date: 5/23/2018

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	141	59	0	17	78	25	0	29	260	6	0	18	237	12	0	894
7:15 AM	13	179	73	0	19	88	22	0	42	326	7	0	19	281	13	0	1082
7:30 AM	14	213	38	0	19	113	31	0	38	318	8	0	19	326	21	0	1158
7:45 AM	14	216	33	0	14	187	39	0	45	282	16	0	43	310	20	0	1219
8:00 AM	15	183	62	0	17	128	31	0	42	271	15	0	30	306	14	0	1114
8:15 AM	10	208	41	0	15	130	29	0	39	280	11	0	27	325	15	0	1130
8:30 AM	18	202	49	0	15	148	27	0	52	269	9	0	26	311	23	0	1149
8:45 AM	8	186	49	0	16	162	30	0	50	261	19	0	34	316	23	0	1154
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	104	1528	404	0	132	1034	234	0	337	2267	91	0	216	2412	141	0	8900
APPROACH %'s :	5.11%	75.05%	19.84%	0.00%	9.43%	73.86%	16.71%	0.00%	12.50%	84.12%	3.38%	0.00%	7.80%	87.11%	5.09%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	53	820	174	0	65	558	130	0	164	1151	50	0	119	1267	70	0	4621
PEAK HR FACTOR :	0.883	0.949	0.702	0.000	0.855	0.746	0.833	0.000	0.911	0.905	0.781	0.000	0.692	0.972	0.833	0.000	0.948
	0.988				0.784				0.938				0.976				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	13	170	26	0	10	194	29	0	31	224	11	0	39	248	19	0	1014
4:15 PM	15	210	32	0	16	220	36	0	55	252	16	0	41	222	20	0	1135
4:30 PM	15	171	27	0	18	193	35	0	31	237	19	0	44	228	19	0	1037
4:45 PM	13	151	28	0	15	215	27	0	50	258	11	0	38	241	19	0	1066
5:00 PM	16	203	34	0	12	215	43	0	54	261	13	0	46	264	20	0	1181
5:15 PM	14	167	33	0	12	221	31	0	51	277	14	0	42	225	13	0	1100
5:30 PM	9	188	41	0	19	224	38	0	37	281	15	0	35	256	18	0	1161
5:45 PM	11	180	49	0	22	214	30	0	48	277	22	0	33	271	14	0	1171
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	106	1440	270	0	124	1696	269	0	357	2067	121	0	318	1955	142	0	8865
APPROACH %'s :	5.84%	79.30%	14.87%	0.00%	5.94%	81.19%	12.88%	0.00%	14.03%	81.22%	4.75%	0.00%	13.17%	80.95%	5.88%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	50	738	157	0	65	874	142	0	190	1096	64	0	156	1016	65	0	4613
PEAK HR FACTOR :	0.781	0.909	0.801	0.000	0.739	0.975	0.826	0.000	0.880	0.975	0.727	0.000	0.848	0.937	0.813	0.000	0.977
	0.934				0.962				0.973				0.937				

National Data & Surveying Services Intersection Turning Movement Count

Location: Redondo Ave & 3rd St
City: Long Beach
Control: Signalized

Project ID: 18-05307-057
Date: 5/23/2018

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	115	1	0	2	53	15	0	29	12	4	0	1	11	13	0	258
7:15 AM	3	115	2	0	8	72	7	0	29	12	2	0	3	10	17	0	280
7:30 AM	6	138	3	0	8	69	13	0	35	25	4	0	4	12	9	0	326
7:45 AM	1	133	4	0	15	160	26	0	26	25	8	0	5	26	13	0	442
8:00 AM	6	129	2	0	6	102	20	0	39	19	7	0	3	18	7	0	358
8:15 AM	5	152	4	0	8	97	11	0	28	21	13	0	3	23	16	0	381
8:30 AM	5	139	3	0	12	106	22	0	34	17	7	0	2	15	12	0	374
8:45 AM	5	145	4	0	13	129	38	0	41	26	10	0	0	25	16	0	452
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	1066	23	0	72	788	152	0	261	157	55	0	21	140	103	0	2871
APPROACH %'s :	2.94%	95.01%	2.05%	0.00%	7.11%	77.87%	15.02%	0.00%	55.18%	33.19%	11.63%	0.00%	7.95%	53.03%	39.02%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	21	565	13	0	39	434	91	0	142	83	37	0	8	81	51	0	1565
PEAK HR FACTOR :	0.875	0.929	0.813	0.000	0.750	0.841	0.599	0.000	0.866	0.798	0.712	0.000	0.667	0.810	0.797	0.000	0.866
		0.930				0.783				0.851				0.833			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	166	3	0	10	140	32	0	19	17	7	0	3	17	5	0	425
4:15 PM	2	151	2	0	15	160	28	0	30	23	1	0	4	19	12	0	447
4:30 PM	6	125	5	0	15	166	27	0	23	30	9	0	3	15	18	0	442
4:45 PM	7	137	1	0	15	162	21	0	18	38	5	0	4	22	8	0	438
5:00 PM	3	170	3	0	13	158	26	0	23	23	4	0	0	17	24	0	464
5:15 PM	8	131	2	0	18	177	27	0	23	29	5	0	5	32	15	0	472
5:30 PM	11	144	2	0	7	159	31	0	28	18	9	0	5	27	8	0	449
5:45 PM	4	137	2	0	16	163	21	0	31	19	3	0	2	14	16	0	428
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	47	1161	20	0	109	1285	213	0	195	197	43	0	26	163	106	0	3565
APPROACH %'s :	3.83%	94.54%	1.63%	0.00%	6.78%	79.96%	13.25%	0.00%	44.83%	45.29%	9.89%	0.00%	8.81%	55.25%	35.93%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	29	582	8	0	53	656	105	0	92	108	23	0	14	98	55	0	1823
PEAK HR FACTOR :	0.659	0.856	0.667	0.000	0.736	0.927	0.847	0.000	0.821	0.711	0.639	0.000	0.700	0.766	0.573	0.000	0.966
		0.879				0.917				0.914				0.803			

National Data & Surveying Services Intersection Turning Movement Count

Location: Redondo Ave & Ocean Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-056
Date: 5/23/2018

Total

NS/EW Streets:	Redondo Ave				Redondo Ave				Ocean Blvd				Ocean Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	22	0	13	0	10	148	0	0	0	261	20	0	474
7:15 AM	0	0	0	0	20	0	27	0	4	136	0	0	0	276	17	0	480
7:30 AM	0	0	0	0	16	0	18	0	14	176	0	0	0	275	27	0	526
7:45 AM	0	0	0	0	33	0	23	0	18	197	0	0	0	282	26	0	579
8:00 AM	0	0	0	0	28	0	20	0	12	164	0	0	0	267	40	0	531
8:15 AM	0	0	0	0	31	0	21	0	17	169	0	0	0	232	23	0	493
8:30 AM	0	0	0	0	39	0	13	0	17	178	0	0	0	248	23	0	518
8:45 AM	0	0	0	0	33	0	19	0	14	147	0	0	0	234	24	0	471
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	222	0	154	0	106	1315	0	0	0	2075	200	0	4072
APPROACH %'s :					59.04%	0.00%	40.96%	0.00%	7.46%	92.54%	0.00%	0.00%	0.00%	91.21%	8.79%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	108	0	82	0	61	706	0	0	0	1056	116	0	2129
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.818	0.000	0.891	0.000	0.847	0.896	0.000	0.000	0.000	0.936	0.725	0.000	0.919
					0.848				0.892				0.951				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	1	0	1	2	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	40	0	14	0	20	303	0	0	0	181	33	0	591
4:15 PM	0	0	0	0	52	0	14	0	26	335	0	0	0	203	37	0	667
4:30 PM	0	0	0	0	55	0	32	0	26	368	0	0	0	198	26	0	705
4:45 PM	0	0	0	0	57	0	17	0	25	387	0	0	0	186	25	0	697
5:00 PM	0	0	0	0	45	0	18	0	35	334	0	0	0	178	30	0	640
5:15 PM	0	0	0	0	52	0	24	0	31	342	0	0	0	218	25	0	692
5:30 PM	0	0	0	0	60	0	23	0	18	319	0	0	0	198	36	0	654
5:45 PM	0	0	0	0	44	0	23	0	31	333	0	0	0	156	32	0	619
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	405	0	165	0	212	2721	0	0	0	1518	244	0	5265
APPROACH %'s :					71.05%	0.00%	28.95%	0.00%	7.23%	92.77%	0.00%	0.00%	0.00%	86.15%	13.85%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	209	0	91	0	117	1431	0	0	0	780	106	0	2734
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.917	0.000	0.711	0.000	0.836	0.924	0.000	0.000	0.000	0.894	0.883	0.000	0.970
					0.862				0.939				0.912				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Del Amo Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-063
Date: 5/10/2018

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Del Amo Blvd				Del Amo Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	3	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	20	76	16	0	20	192	32	5	17	176	52	1	33	224	22	0	886
7:15 AM	32	115	24	0	30	214	23	3	39	230	56	0	46	256	33	0	1101
7:30 AM	39	128	13	0	49	247	35	11	27	265	48	2	35	217	47	0	1163
7:45 AM	52	147	20	0	41	263	35	4	29	230	60	1	44	268	52	0	1246
8:00 AM	45	134	29	0	44	208	32	9	29	170	48	1	48	265	57	0	1119
8:15 AM	39	146	24	0	36	213	29	2	26	199	58	3	49	270	52	0	1146
8:30 AM	32	92	25	0	45	213	34	5	29	221	60	4	44	229	44	0	1077
8:45 AM	37	161	31	0	41	192	24	2	45	236	47	1	46	203	48	0	1114
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	296	999	182	0	306	1742	244	41	241	1727	429	13	345	1932	355	0	8852
APPROACH %'s :	20.04%	67.64%	12.32%	0.00%	13.12%	74.67%	10.46%	1.76%	10.00%	71.66%	17.80%	0.54%	13.11%	73.40%	13.49%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	175	555	86	0	170	931	131	26	111	864	214	7	176	1020	208	0	4674
PEAK HR FACTOR :	0.841	0.944	0.741	0.000	0.867	0.885	0.936	0.591	0.957	0.815	0.892	0.583	0.898	0.944	0.912	0.000	0.938
	0.932				0.917				0.874				0.946				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	2	1	0	1	3	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	65	263	64	0	58	157	54	7	55	287	36	3	56	244	75	0	1424
4:15 PM	80	276	53	0	57	156	43	5	50	274	34	3	54	234	77	0	1396
4:30 PM	56	241	62	0	63	168	40	3	58	288	31	3	59	215	76	0	1363
4:45 PM	65	271	60	0	71	136	41	7	59	286	45	2	31	243	67	0	1384
5:00 PM	58	257	78	0	50	189	41	4	60	283	40	5	55	205	67	0	1392
5:15 PM	81	275	60	0	61	180	44	11	39	272	43	1	57	248	82	0	1454
5:30 PM	67	274	69	0	47	178	53	8	56	261	41	1	70	248	71	0	1444
5:45 PM	77	282	57	0	61	150	42	6	56	287	23	3	49	237	80	0	1410
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	549	2139	503	0	468	1314	358	51	433	2238	293	21	431	1874	595	0	11267
APPROACH %'s :	17.20%	67.03%	15.76%	0.00%	21.36%	59.97%	16.34%	2.33%	14.51%	74.97%	9.82%	0.70%	14.86%	64.62%	20.52%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	283	1088	264	0	219	697	180	29	211	1103	147	10	231	938	300	0	5700
PEAK HR FACTOR :	0.873	0.965	0.846	0.000	0.898	0.922	0.849	0.659	0.879	0.961	0.855	0.500	0.825	0.946	0.915	0.000	0.980
	0.983				0.950				0.948				0.944				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05307-064
Date: 5/10/2018

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Carson St				Carson St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	1	0	1	4	0	0	2	3	1	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	31	87	29	0	27	264	18	0	8	127	48	0	50	109	2	0	800
7:15 AM	48	136	28	0	27	276	23	0	12	167	75	0	62	196	7	0	1057
7:30 AM	47	160	33	0	27	364	34	0	17	208	68	0	55	210	3	0	1226
7:45 AM	81	159	34	0	24	300	35	0	22	150	82	0	55	228	5	0	1175
8:00 AM	71	143	43	0	27	254	34	0	21	159	48	0	65	237	10	0	1112
8:15 AM	95	179	99	0	30	255	50	0	26	170	49	0	52	211	12	0	1228
8:30 AM	69	123	51	0	42	303	36	0	17	214	56	0	51	192	14	0	1168
8:45 AM	48	176	35	0	25	224	33	0	29	176	63	0	73	214	13	0	1109
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	490	1163	352	0	229	2240	263	0	152	1371	489	0	463	1597	66	0	8875
APPROACH %'s :	24.44%	58.00%	17.56%	0.00%	8.38%	81.99%	9.63%	0.00%	7.55%	68.14%	24.30%	0.00%	21.78%	75.12%	3.10%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	294	641	209	0	108	1173	153	0	86	687	247	0	227	886	30	0	4741
PEAK HR FACTOR :	0.774	0.895	0.528	0.000	0.900	0.806	0.765	0.000	0.827	0.826	0.753	0.000	0.873	0.935	0.625	0.000	0.965
		0.767				0.844				0.870				0.916			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	1	0	1	4	0	0	2	3	1	0	2	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	76	301	69	0	22	215	21	0	70	272	65	0	37	184	16	0	1348
4:15 PM	77	307	76	0	26	186	37	0	48	225	67	0	47	179	18	0	1293
4:30 PM	61	307	58	0	20	217	29	0	81	289	70	0	41	163	15	0	1351
4:45 PM	76	344	92	0	30	172	29	0	66	283	68	0	51	187	15	0	1413
5:00 PM	70	297	92	0	32	222	28	0	77	320	77	0	49	181	22	0	1467
5:15 PM	93	386	94	0	20	225	25	0	75	313	64	0	58	184	13	0	1550
5:30 PM	66	310	97	0	24	217	30	0	72	295	82	0	43	157	17	0	1410
5:45 PM	98	359	91	0	26	174	24	0	54	263	64	0	71	184	19	0	1427
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	617	2611	669	0	200	1628	223	0	543	2260	557	0	397	1419	135	0	11259
APPROACH %'s :	15.83%	67.00%	17.17%	0.00%	9.75%	79.38%	10.87%	0.00%	16.16%	67.26%	16.58%	0.00%	20.35%	72.73%	6.92%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	327	1352	374	0	102	838	107	0	278	1191	287	0	221	706	71	0	5854
PEAK HR FACTOR :	0.834	0.876	0.964	0.000	0.797	0.931	0.892	0.000	0.903	0.930	0.875	0.000	0.778	0.959	0.807	0.000	0.944
		0.896				0.928				0.926				0.911			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Spring St
City: Long Beach
Control: Signalized

Project ID: 18-05307-065
Date: 5/9/2018

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Spring St				Spring St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	4	1	0	2	3	2	0	2	3	0	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	27	279	48	1	49	287	77	1	42	63	6	0	67	222	31	1	1201
7:15 AM	27	285	58	0	60	299	116	2	67	107	7	0	50	328	43	0	1449
7:30 AM	22	337	75	4	80	319	158	2	76	120	8	0	56	325	40	0	1622
7:45 AM	54	366	87	0	54	324	152	4	98	125	2	0	51	354	69	0	1740
8:00 AM	41	289	55	0	45	362	145	2	71	64	5	0	51	370	48	0	1548
8:15 AM	55	288	67	0	42	283	107	0	80	111	10	0	50	268	33	0	1394
8:30 AM	47	312	53	6	52	315	119	5	63	113	13	0	34	272	37	0	1441
8:45 AM	49	275	46	0	48	247	94	1	74	84	11	0	50	330	42	1	1352
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	322	2431	489	11	430	2436	968	17	571	787	62	0	409	2469	343	2	11747
APPROACH %'s :	9.90%	74.73%	15.03%	0.34%	11.17%	63.26%	25.14%	0.44%	40.21%	55.42%	4.37%	0.00%	12.69%	76.61%	10.64%	0.06%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	144	1277	275	4	239	1304	571	10	312	416	22	0	208	1377	200	0	6359
PEAK HR FACTOR :	0.667	0.872	0.790	0.250	0.747	0.901	0.903	0.625	0.796	0.832	0.688	0.000	0.929	0.930	0.725	0.000	0.914
		0.838				0.950				0.833				0.941			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	4	1	0	2	3	2	0	2	3	0	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	344	56	1	50	367	86	5	122	275	31	0	65	158	45	0	1609
4:15 PM	10	322	43	4	48	359	73	3	124	288	39	0	58	100	48	0	1519
4:30 PM	8	311	31	3	54	436	90	7	144	299	56	0	43	131	50	0	1663
4:45 PM	7	348	54	6	42	341	79	6	164	314	39	0	60	125	62	0	1647
5:00 PM	11	354	46	7	56	412	112	13	159	316	53	0	70	120	82	0	1811
5:15 PM	8	379	58	1	57	372	100	8	173	356	50	0	62	128	58	0	1810
5:30 PM	5	399	46	2	66	461	115	10	176	291	40	0	54	156	69	0	1890
5:45 PM	9	422	54	5	37	322	91	5	130	246	48	0	43	98	48	0	1558
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	62	2879	388	29	410	3070	746	57	1192	2385	356	0	455	1016	462	0	13507
APPROACH %'s :	1.85%	85.74%	11.55%	0.86%	9.57%	71.68%	17.42%	1.33%	30.31%	60.64%	9.05%	0.00%	23.54%	52.56%	23.90%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	31	1480	204	16	221	1586	406	37	672	1277	182	0	246	529	271	0	7158
PEAK HR FACTOR :	0.705	0.927	0.879	0.571	0.837	0.860	0.883	0.712	0.955	0.897	0.858	0.000	0.879	0.848	0.826	0.000	0.947
		0.957				0.863				0.920				0.937			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & I-405 WB Ramps
City: Long Beach
Control: No Control

Project ID: 18-05723-005
Date: 11/1/2018

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				I-405 WB Ramps				I-405 WB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	1.5	0	0	2.5	1.5	0	0	0	1	0	0	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	227	227	0	0	190	115	0	0	0	45	0	0	0	125	0	929
7:15 AM	0	306	268	0	0	219	105	0	0	0	42	0	0	0	118	0	1058
7:30 AM	0	317	219	0	0	270	133	0	0	0	75	0	0	0	121	0	1135
7:45 AM	0	354	226	0	0	278	97	0	0	0	48	0	0	0	124	0	1127
8:00 AM	0	259	236	0	0	242	133	0	0	0	56	0	0	0	112	0	1038
8:15 AM	0	347	196	0	0	229	97	0	0	0	62	0	0	0	124	0	1055
8:30 AM	0	349	197	0	0	272	98	0	0	0	69	0	0	0	111	0	1096
8:45 AM	0	330	202	0	0	265	97	0	0	0	80	0	0	0	110	0	1084
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2489	1771	0	0	1965	875	0	0	0	477	0	0	0	945	0	8522
APPROACH %'s :	0.00%	58.43%	41.57%	0.00%	0.00%	69.19%	30.81%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**07:15 AM - 08:15 AM**																TOTAL
PEAK HR VOL :	0	1236	949	0	0	1009	468	0	0	0	221	0	0	0	475	0	4358
PEAK HR FACTOR :	0.000	0.873	0.885	0.000	0.000	0.907	0.880	0.000	0.000	0.000	0.737	0.000	0.000	0.000	0.958	0.000	0.960
		0.942				0.916				0.737				0.958			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2.5	1.5	0	0	2.5	1.5	0	0	0	1	0	0	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	278	179	0	0	361	146	0	0	0	60	0	0	0	96	0	1120
4:15 PM	0	280	147	0	0	332	160	0	0	0	71	0	0	0	103	0	1093
4:30 PM	0	256	174	0	0	363	149	0	0	0	83	0	0	0	107	0	1132
4:45 PM	0	308	140	0	0	324	130	0	0	0	86	0	0	0	123	0	1111
5:00 PM	0	306	170	0	0	363	170	0	0	0	75	0	0	0	117	0	1201
5:15 PM	0	365	161	0	0	373	110	0	0	0	65	0	0	0	118	0	1192
5:30 PM	0	336	166	0	0	354	124	0	0	0	64	0	0	0	99	0	1143
5:45 PM	0	383	147	0	0	331	124	0	0	0	73	0	0	0	107	0	1165
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2512	1284	0	0	2801	1113	0	0	0	577	0	0	0	870	0	9157
APPROACH %'s :	0.00%	66.17%	33.83%	0.00%	0.00%	71.56%	28.44%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	**05:00 PM - 06:00 PM**																TOTAL
PEAK HR VOL :	0	1390	644	0	0	1421	528	0	0	0	277	0	0	0	441	0	4701
PEAK HR FACTOR :	0.000	0.907	0.947	0.000	0.000	0.952	0.776	0.000	0.000	0.000	0.923	0.000	0.000	0.000	0.934	0.000	0.979
		0.959				0.914				0.923				0.934			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & I-405 EB Ramps
City: Long Beach
Control: No Control

Project ID: 18-05723-006
Date: 11/1/2018

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				I-405 EB Ramps				I-405 EB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	4	0	0	0	2.5	1.5	0	0	0	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	438	4	0	0	156	67	0	0	0	127	0	0	0	1	0	793
7:15 AM	0	558	3	0	0	209	69	0	0	0	160	0	0	0	1	0	1000
7:30 AM	0	539	1	0	0	247	76	0	0	0	191	0	0	0	2	0	1056
7:45 AM	0	594	5	0	0	263	83	0	0	0	225	0	0	0	3	0	1173
8:00 AM	0	488	3	0	0	213	63	0	0	0	198	0	0	0	3	0	968
8:15 AM	0	540	1	0	0	228	78	0	0	0	172	0	0	0	2	0	1021
8:30 AM	0	547	3	0	0	233	93	0	0	0	186	0	0	0	1	0	1063
8:45 AM	0	526	2	0	0	278	73	0	0	0	195	0	0	0	2	0	1076
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	4230	22	0	0	1827	602	0	0	0	1454	0	0	0	15	0	8150
APPROACH %'s :	0.00%	99.48%	0.52%	0.00%	0.00%	75.22%	24.78%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	2169	12	0	0	937	317	0	0	0	781	0	0	0	9	0	4225
PEAK HR FACTOR :	0.000	0.913	0.600	0.000	0.000	0.891	0.852	0.000	0.000	0.000	0.868	0.000	0.000	0.000	0.750	0.000	0.900
	0.910				0.906				0.868				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	4	0	0	0	2.5	1.5	0	0	0	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	449	8	0	0	312	114	0	0	0	130	0	0	0	6	0	1019
4:15 PM	0	441	4	0	0	282	137	0	0	0	147	0	0	0	1	0	1012
4:30 PM	0	433	8	0	0	328	102	0	0	0	135	0	0	0	2	0	1008
4:45 PM	0	435	3	0	0	304	125	0	0	0	190	0	0	0	3	0	1060
5:00 PM	0	466	5	0	0	303	116	0	0	0	141	0	0	0	4	0	1035
5:15 PM	0	505	7	0	0	323	134	0	0	0	144	0	0	0	2	0	1115
5:30 PM	0	493	5	0	0	282	120	0	0	0	180	0	0	0	3	0	1083
5:45 PM	0	546	3	0	0	289	121	0	0	0	155	0	0	0	2	0	1116
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	3768	43	0	0	2423	969	0	0	0	1222	0	0	0	23	0	8448
APPROACH %'s :	0.00%	98.87%	1.13%	0.00%	0.00%	71.43%	28.57%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	2010	20	0	0	1197	491	0	0	0	620	0	0	0	11	0	4349
PEAK HR FACTOR :	0.000	0.920	0.714	0.000	0.000	0.926	0.916	0.000	0.000	0.000	0.861	0.000	0.000	0.000	0.688	0.000	0.974
	0.924				0.923				0.861				0.688				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Lakewood Blvd & Willow St
City: Long Beach
Control: Signalized

Project ID: 18-05723-106
Date: 11/1/2018

Total

NS/EW Streets:	Lakewood Blvd				Lakewood Blvd				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2 NL	4 NT	0 NR	0 NU	2 SL	3 ST	0 SR	0 SU	2 EL	3 ET	1 ER	0 EU	2 WL	3 WT	1 WR	0 WU	TOTAL
7:00 AM	38	288	43	0	16	207	72	5	30	194	12	1	10	239	155	1	1311
7:15 AM	45	333	53	0	18	254	68	6	35	307	24	1	15	295	187	3	1644
7:30 AM	52	365	51	0	31	317	111	1	32	285	44	2	17	354	144	1	1807
7:45 AM	51	326	44	0	30	306	121	9	51	290	39	3	23	393	182	1	1869
8:00 AM	73	311	59	0	22	268	118	8	24	223	22	2	17	346	147	5	1645
8:15 AM	63	276	29	0	28	259	90	4	33	252	41	3	23	374	209	2	1686
8:30 AM	60	322	37	0	14	306	114	2	41	272	36	5	27	206	193	2	1637
8:45 AM	67	307	49	0	19	317	128	4	27	239	45	6	23	330	171	3	1735
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	449	2528	365	0	178	2234	822	39	273	2062	263	23	155	2537	1388	18	13334
APPROACH %'s :	13.44%	75.64%	10.92%	0.00%	5.44%	68.26%	25.11%	1.19%	10.42%	78.67%	10.03%	0.88%	3.78%	61.91%	33.87%	0.44%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	239	1278	183	0	111	1150	440	22	140	1050	146	10	80	1467	682	9	7007
PEAK HR FACTOR :	0.818	0.875	0.775	0.000	0.895	0.907	0.909	0.611	0.686	0.905	0.830	0.833	0.870	0.933	0.816	0.450	0.937
	0.908				0.924				0.879				0.920				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2 NL	4 NT	0 NR	0 NU	2 SL	3 ST	0 SR	0 SU	2 EL	3 ET	1 ER	0 EU	2 WL	3 WT	1 WR	0 WU	TOTAL
4:00 PM	56	299	44	0	37	345	64	13	56	365	67	5	22	191	100	10	1674
4:15 PM	46	241	38	0	37	309	60	4	59	375	87	6	33	229	116	3	1643
4:30 PM	59	267	45	0	38	373	60	10	52	413	59	8	30	172	107	6	1699
4:45 PM	43	251	39	0	28	345	91	11	70	407	68	13	44	216	110	5	1741
5:00 PM	49	277	36	0	31	364	61	6	82	418	90	7	33	209	111	7	1781
5:15 PM	38	323	37	0	25	379	74	9	59	483	62	5	41	243	137	7	1922
5:30 PM	64	299	47	0	28	346	54	14	68	420	78	7	49	286	122	5	1887
5:45 PM	52	258	24	0	24	306	80	8	71	377	69	11	42	241	155	5	1723
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	407	2215	310	0	248	2767	544	75	517	3258	580	62	294	1787	958	48	14070
APPROACH %'s :	13.88%	75.55%	10.57%	0.00%	6.82%	76.14%	14.97%	2.06%	11.70%	73.76%	13.13%	1.40%	9.52%	57.89%	31.03%	1.55%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	194	1150	159	0	112	1434	280	40	279	1728	298	32	167	954	480	24	7331
PEAK HR FACTOR :	0.758	0.890	0.846	0.000	0.903	0.946	0.769	0.714	0.851	0.894	0.828	0.615	0.852	0.834	0.876	0.857	0.954
	0.916				0.958				0.959				0.879				

National Data & Surveying Services Intersection Turning Movement Count

Location: Ximeno Ave & Pacific Coast Hwy
City: Long Beach
Control: Signalized

Project ID: 18-05307-072
Date: 5/23/2018

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave				Pacific Coast Hwy				Pacific Coast Hwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	84	67	1	0	7	58	4	0	18	127	39	1	7	179	9	0	601
7:15 AM	94	82	6	0	13	64	5	0	11	131	84	1	10	162	17	1	681
7:30 AM	114	109	13	0	19	98	7	0	15	183	125	1	12	230	24	0	950
7:45 AM	97	107	9	0	15	96	5	0	22	155	87	0	16	247	18	2	876
8:00 AM	92	91	6	0	8	102	4	0	21	140	75	1	28	260	16	1	845
8:15 AM	75	93	9	0	27	81	8	0	18	162	65	2	20	222	24	0	806
8:30 AM	73	94	7	0	22	79	10	0	26	164	73	3	15	242	35	1	844
8:45 AM	94	111	7	0	22	108	13	0	17	146	85	0	18	169	29	3	822
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	723	754	58	0	133	686	56	0	148	1208	633	9	126	1711	172	8	6425
APPROACH %'s :	47.10%	49.12%	3.78%	0.00%	15.20%	78.40%	6.40%	0.00%	7.41%	60.46%	31.68%	0.45%	6.25%	84.83%	8.53%	0.40%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	378	400	37	0	69	377	24	0	76	640	352	4	76	959	82	3	3477
PEAK HR FACTOR :	0.829	0.917	0.712	0.000	0.639	0.924	0.750	0.000	0.864	0.874	0.704	0.500	0.679	0.922	0.854	0.375	0.915
	0.863				0.948				0.827				0.918				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	2	0	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	96	136	9	0	25	124	12	1	21	206	81	2	12	169	24	3	921
4:15 PM	100	127	18	0	27	139	12	1	19	283	87	1	18	183	39	3	1057
4:30 PM	100	125	19	0	24	158	7	0	19	301	101	1	22	166	31	2	1076
4:45 PM	80	117	15	0	21	132	12	0	33	247	87	1	14	169	32	1	961
5:00 PM	86	141	14	0	33	135	13	0	30	240	101	4	22	163	38	1	1021
5:15 PM	93	135	17	0	26	153	10	0	27	233	91	1	20	148	31	0	985
5:30 PM	102	115	16	0	34	185	12	0	26	242	95	0	22	158	31	0	1038
5:45 PM	80	113	15	0	44	139	4	0	25	214	98	2	16	129	23	1	903
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	737	1009	123	0	234	1165	82	2	200	1966	741	12	146	1285	249	11	7962
APPROACH %'s :	39.43%	53.99%	6.58%	0.00%	15.78%	78.56%	5.53%	0.13%	6.85%	67.35%	25.39%	0.41%	8.63%	75.99%	14.73%	0.65%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	366	510	66	0	105	564	44	1	101	1071	376	7	76	681	140	7	4115
PEAK HR FACTOR :	0.915	0.904	0.868	0.000	0.795	0.892	0.846	0.250	0.765	0.890	0.931	0.438	0.864	0.930	0.897	0.583	0.956
	0.961				0.944				0.921				0.930				

National Data & Surveying Services Intersection Turning Movement Count

Location: Ximeno Ave & 7th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-068
Date: 5/23/2018

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	51	33	0	10	30	22	0	9	369	3	0	12	248	4	0	798
7:15 AM	9	79	26	0	16	38	27	0	24	408	6	0	4	301	10	0	948
7:30 AM	20	89	21	0	18	41	41	0	45	372	10	0	11	308	16	0	992
7:45 AM	15	71	21	0	34	60	61	0	36	360	10	0	19	319	7	0	1013
8:00 AM	9	81	29	0	9	47	23	0	23	359	5	0	11	341	6	0	943
8:15 AM	4	66	28	0	11	50	14	0	21	359	4	0	21	346	5	0	929
8:30 AM	4	94	37	0	9	52	18	0	20	331	5	0	14	336	6	0	926
8:45 AM	10	74	24	0	10	62	18	0	28	296	7	0	20	298	13	0	860
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	78	605	219	0	117	380	224	0	206	2854	50	0	112	2497	67	0	7409
APPROACH %'s :	8.65%	67.07%	24.28%	0.00%	16.23%	52.70%	31.07%	0.00%	6.62%	91.77%	1.61%	0.00%	4.19%	93.31%	2.50%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	53	320	97	0	77	186	152	0	128	1499	31	0	45	1269	39	0	3896
PEAK HR FACTOR :	0.663	0.899	0.836	0.000	0.566	0.775	0.623	0.000	0.711	0.919	0.775	0.000	0.592	0.930	0.609	0.000	0.962
	0.904				0.669				0.946				0.945				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	6	91	18	0	12	90	21	0	25	287	2	0	16	306	9	0	883
4:15 PM	11	75	11	0	16	74	31	0	23	270	6	0	18	284	14	0	833
4:30 PM	4	79	17	0	11	107	24	0	32	260	6	0	11	306	11	0	868
4:45 PM	6	59	16	0	11	81	31	0	25	271	5	0	22	302	5	0	834
5:00 PM	6	87	27	0	13	97	19	0	32	272	5	0	21	328	11	0	918
5:15 PM	10	77	18	0	9	93	20	0	19	326	8	0	18	326	8	0	932
5:30 PM	12	81	20	0	13	103	31	0	14	331	8	0	13	315	5	0	946
5:45 PM	5	62	25	0	11	91	33	0	30	313	7	0	22	320	4	0	923
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	60	611	152	0	96	736	210	0	200	2330	47	0	141	2487	67	0	7137
APPROACH %'s :	7.29%	74.24%	18.47%	0.00%	9.21%	70.63%	20.15%	0.00%	7.76%	90.42%	1.82%	0.00%	5.23%	92.28%	2.49%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	33	307	90	0	46	384	103	0	95	1242	28	0	74	1289	28	0	3719
PEAK HR FACTOR :	0.688	0.882	0.833	0.000	0.885	0.932	0.780	0.000	0.742	0.938	0.875	0.000	0.841	0.982	0.636	0.000	0.983
	0.896				0.906				0.967				0.966				

National Data & Surveying Services Intersection Turning Movement Count

Location: Ximeno Ave & 4th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-067
Date: 5/23/2018

Total

NS/EW Streets:	Ximeno Ave				Ximeno Ave				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	52	3	0	12	24	12	0	8	90	1	0	0	45	8	0	257
7:15 AM	2	66	6	0	11	26	10	0	19	129	5	0	2	45	11	0	332
7:30 AM	4	69	5	0	12	35	14	0	20	123	3	0	0	66	18	0	369
7:45 AM	6	66	3	0	19	59	17	0	14	125	12	0	6	59	16	0	402
8:00 AM	6	75	6	0	15	45	13	0	20	107	7	1	3	65	6	0	369
8:15 AM	4	59	6	0	10	42	17	0	22	97	7	0	2	55	13	0	334
8:30 AM	4	82	4	0	14	46	6	0	14	105	6	0	5	52	18	0	356
8:45 AM	5	70	6	0	20	51	14	0	11	109	7	0	4	62	18	0	377
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	539	39	0	113	328	103	0	128	885	48	1	22	449	108	0	2796
APPROACH %'s :	5.40%	88.22%	6.38%	0.00%	20.77%	60.29%	18.93%	0.00%	12.05%	83.33%	4.52%	0.09%	3.80%	77.55%	18.65%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	20	269	20	0	56	181	61	0	76	452	29	1	11	245	53	0	1474
PEAK HR FACTOR :	0.833	0.897	0.833	0.000	0.737	0.767	0.897	0.000	0.864	0.904	0.604	0.250	0.458	0.928	0.736	0.000	0.917
	0.888				0.784				0.924				0.920				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	4	83	3	0	14	70	14	0	22	85	5	0	3	100	10	0	413
4:15 PM	5	57	2	0	7	67	17	0	19	95	3	0	2	85	8	0	367
4:30 PM	10	73	4	0	17	66	25	0	18	102	2	0	1	95	6	0	419
4:45 PM	6	46	8	0	14	74	17	0	13	129	9	0	1	89	14	0	420
5:00 PM	2	75	4	0	18	64	21	0	19	131	3	0	7	111	16	0	471
5:15 PM	4	58	3	0	12	71	20	0	23	117	4	0	9	125	13	0	459
5:30 PM	6	63	3	0	13	82	20	0	21	116	5	0	2	107	16	0	454
5:45 PM	4	63	4	0	11	84	14	0	17	82	12	0	2	110	8	0	411
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	41	518	31	0	106	578	148	0	152	857	43	0	27	822	91	0	3414
APPROACH %'s :	6.95%	87.80%	5.25%	0.00%	12.74%	69.47%	17.79%	0.00%	14.45%	81.46%	4.09%	0.00%	2.87%	87.45%	9.68%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	18	242	18	0	57	291	78	0	76	493	21	0	19	432	59	0	1804
PEAK HR FACTOR :	0.750	0.807	0.563	0.000	0.792	0.887	0.929	0.000	0.826	0.941	0.583	0.000	0.528	0.864	0.922	0.000	0.958
	0.858				0.926				0.964				0.867				

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Park	LOCATION #:	5
	EAST & WEST:	7th	CONTROL:	SIGNAL

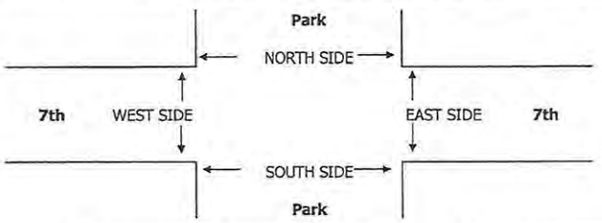
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND (Park)			SOUTHBOUND (Park)			EASTBOUND (7th)			WESTBOUND (7th)			
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	7	44	105	16	15	9	4	348	6	24	265	23	866
	7:15 AM	6	73	81	29	23	16	11	383	5	21	301	22	971
	7:30 AM	2	112	80	28	71	38	25	363	7	32	290	23	1,071
	7:45 AM	6	64	88	27	39	15	11	413	11	28	251	9	962
	8:00 AM	5	55	94	12	38	3	5	370	12	31	298	10	933
	8:15 AM	6	72	102	24	48	0	5	333	16	35	249	16	906
	8:30 AM	8	95	95	16	67	5	9	345	11	26	319	14	1,010
	8:45 AM	12	93	74	24	71	5	5	347	16	21	293	11	972
	VOLUMES	52	608	719	176	372	91	75	2,902	84	218	2,266	128	7,691
	APPROACH %	4%	44%	52%	28%	58%	14%	2%	95%	3%	8%	87%	5%	
	APP/DEPART	1,379	/	811	639	/	674	3,061	/	3,797	2,612	/	2,409	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	19	304	343	96	171	72	52	1,529	35	112	1,140	64	3,937
	APPROACH %	3%	46%	52%	28%	50%	21%	3%	95%	2%	9%	87%	5%	
	PEAK HR FACTOR		0.858			0.619			0.929			0.954		0.919
	APP/DEPART	666	/	420	339	/	318	1,616	/	1,968	1,316	/	1,231	0
PM	4:00 PM	9	63	67	26	84	9	5	323	17	28	315	25	971
	4:15 PM	10	88	55	19	69	9	8	356	12	40	345	23	1,034
	4:30 PM	8	62	70	23	79	9	12	350	11	36	346	14	1,020
	4:45 PM	8	57	69	19	62	6	6	328	15	43	355	27	995
	5:00 PM	6	68	48	15	82	5	10	320	20	45	364	19	1,002
	5:15 PM	7	63	64	22	83	4	6	290	28	45	353	29	994
	5:30 PM	5	72	50	21	69	12	7	327	27	49	353	24	1,016
	5:45 PM	4	70	46	21	54	8	10	281	14	46	352	17	923
	VOLUMES	57	543	469	166	582	62	64	2,575	144	332	2,783	178	7,955
	APPROACH %	5%	51%	44%	20%	72%	8%	2%	93%	5%	10%	85%	5%	
	APP/DEPART	1,069	/	785	810	/	1,057	2,783	/	3,211	3,293	/	2,902	0
	BEGIN PEAK HR		4:15 PM											
	VOLUMES	32	275	242	76	292	29	36	1,354	58	164	1,410	83	4,051
	APPROACH %	6%	50%	44%	19%	74%	7%	2%	94%	4%	10%	85%	5%	
	PEAK HR FACTOR		0.897			0.894			0.963			0.968		0.979
	APP/DEPART	549	/	394	397	/	514	1,448	/	1,672	1,657	/	1,471	0

U-TURNS					
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	9	1	5	29	44
	7:15 AM	1	4	5	28	38
	7:30 AM	3	4	5	24	36
	7:45 AM	2	1	3	0	6
	8:00 AM	2	3	4	0	9
	8:15 AM	2	3	7	4	16
	8:30 AM	1	0	7	7	15
	8:45 AM	0	2	2	8	12
	TOTAL	20	18	38	100	176
PM	4:00 PM	5	3	11	16	35
	4:15 PM	7	6	5	15	33
	4:30 PM	8	5	6	16	35
	4:45 PM	5	2	9	4	20
	5:00 PM	11	0	4	13	28
	5:15 PM	2	0	10	5	17
	5:30 PM	0	0	5	5	10
	5:45 PM	2	1	3	4	10
	TOTAL	40	17	53	78	188

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
9	1	5	29	44
0	4	3	25	32
3	4	4	18	29
2	0	3	0	5
1	3	3	0	7
2	3	6	4	15
1	0	5	5	11
0	1	2	6	9
18	16	31	87	152
5	2	9	14	30
7	6	4	15	32
7	4	2	15	28
4	2	7	4	17
11	0	2	8	21
1	0	8	5	14
0	0	5	4	9
1	0	3	1	5
36	14	40	66	156

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
1	0	2	3	6
0	0	1	6	7
0	1	0	0	1
1	0	1	0	2
0	0	1	0	1
0	0	2	2	4
0	1	0	2	3
2	2	7	13	24
0	1	2	2	5
0	0	1	0	1
1	1	4	1	7
1	0	2	0	3
0	0	2	5	7
1	0	2	0	3
0	0	0	1	1
1	1	0	3	5
4	3	13	12	32

National Data & Surveying Services Intersection Turning Movement Count

Location: Park Ave & 4th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-070
Date: 5/23/2018

Total

NS/EW Streets:	Park Ave				Park Ave				4th St				4th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	65	2	0	11	12	10	0	40	58	4	0	1	39	21	0	264
7:15 AM	3	81	2	0	15	19	9	0	68	69	4	0	0	36	29	0	335
7:30 AM	6	104	4	0	22	29	19	0	55	89	2	0	0	56	52	0	438
7:45 AM	6	94	1	0	41	52	21	0	65	98	4	0	0	43	30	0	455
8:00 AM	4	79	1	0	28	35	17	0	44	91	3	0	0	49	32	0	383
8:15 AM	5	87	0	0	24	38	11	0	47	62	4	0	2	50	26	0	356
8:30 AM	5	90	1	0	27	46	19	0	48	75	16	0	0	44	33	0	404
8:45 AM	6	76	2	0	45	61	19	0	50	92	4	0	0	59	45	0	459
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	36	676	13	0	213	292	125	0	417	634	41	0	3	376	268	0	3094
APPROACH %'s :	4.97%	93.24%	1.79%	0.00%	33.81%	46.35%	19.84%	0.00%	38.19%	58.06%	3.75%	0.00%	0.46%	58.11%	41.42%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	21	364	6	0	115	154	68	0	211	340	13	0	2	198	140	0	1632
PEAK HR FACTOR :	0.875	0.875	0.375	0.000	0.701	0.740	0.810	0.000	0.812	0.867	0.813	0.000	0.250	0.884	0.673	0.000	0.897
		0.857				0.739				0.844				0.787			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	63	1	0	31	65	22	0	24	66	8	0	2	88	48	0	421
4:15 PM	2	80	1	0	25	76	30	0	40	63	3	0	1	70	28	0	419
4:30 PM	4	58	0	0	37	68	30	0	31	84	1	0	2	76	34	0	425
4:45 PM	7	47	2	0	36	57	26	0	35	95	10	0	3	90	27	0	435
5:00 PM	5	65	1	0	38	66	36	0	24	121	10	0	2	103	25	0	496
5:15 PM	2	62	2	0	28	67	29	0	46	99	10	0	0	108	22	0	475
5:30 PM	3	65	0	0	39	79	24	0	37	88	6	0	3	108	27	1	480
5:45 PM	3	40	2	0	38	78	24	0	28	62	9	0	1	91	23	0	399
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	29	480	9	0	272	556	221	0	265	678	57	0	14	734	234	1	3550
APPROACH %'s :	5.60%	92.66%	1.74%	0.00%	25.93%	53.00%	21.07%	0.00%	26.50%	67.80%	5.70%	0.00%	1.42%	74.67%	23.80%	0.10%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	17	239	5	0	141	269	115	0	142	403	36	0	8	409	101	1	1886
PEAK HR FACTOR :	0.607	0.919	0.625	0.000	0.904	0.851	0.799	0.000	0.772	0.833	0.900	0.000	0.667	0.947	0.935	0.250	0.951
		0.919				0.924				0.937				0.933			

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

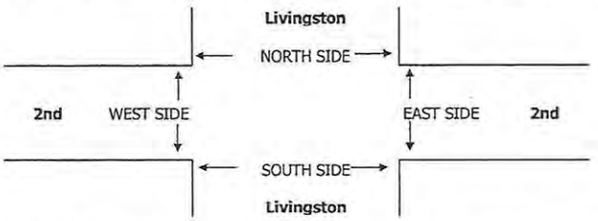
DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Livingston	LOCATION #:	13
	EAST & WEST:	2nd	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Livingston			SOUTHBOUND Livingston			EASTBOUND 2nd			WESTBOUND 2nd				U-TURNS				
	LANES:	NL 0.5	NT 0.5	NR 2	SL X	ST 1	SR 0	EL 0	ET 1	ER X	WL 1.5	WT 0.5	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	12	163	0	17	0	2	36	0	241	22	0	493	0	0	0	0	0
	7:15 AM	0	25	181	0	15	2	5	38	0	255	32	1	554	0	0	0	0	0
	7:30 AM	0	19	162	0	14	0	4	39	0	250	36	1	525	0	0	1	0	1
	7:45 AM	0	23	155	0	22	3	5	41	0	259	38	0	546	0	0	0	0	0
	8:00 AM	0	25	146	0	13	3	1	37	0	239	55	0	519	0	0	0	0	0
	8:15 AM	0	24	153	0	21	3	9	33	0	190	41	1	475	0	0	0	0	0
	8:30 AM	0	18	116	0	19	3	3	37	0	202	31	0	429	0	0	0	0	0
	8:45 AM	0	23	132	0	16	6	8	37	0	197	41	1	461	0	0	1	0	1
	VOLUMES	0	169	1,208	0	137	20	37	298	0	1,833	296	4	4,002	0	0	2	0	2
	APPROACH %	0%	12%	88%	0%	87%	13%	11%	89%	0%	86%	14%	0%						
	APP/DEPART	1,377	/	208	157	/	1,970	335	/	1,506	2,133	/	318	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	92	644	0	64	8	15	155	0	1,003	161	2	2,144					
	APPROACH %	0%	13%	88%	0%	89%	11%	9%	91%	0%	86%	14%	0%						
	PEAK HR FACTOR		0.893			0.720			0.924			0.981		0.968					
	APP/DEPART	736	/	108	72	/	1,067	170	/	799	1,166	/	170	0					
PM	4:00 PM	0	35	226	0	30	6	10	40	0	166	48	3	564	0	0	0	0	0
	4:15 PM	0	35	277	0	28	12	6	49	0	181	50	4	642	0	0	0	0	0
	4:30 PM	0	39	242	0	28	7	4	36	0	161	39	3	559	0	0	0	0	0
	4:45 PM	0	44	265	0	18	10	14	47	0	176	51	4	629	0	0	0	0	0
	5:00 PM	0	46	252	0	25	5	14	32	0	141	42	6	563	0	0	0	0	0
	5:15 PM	0	36	250	0	36	7	12	36	0	206	44	2	629	0	0	0	0	0
	5:30 PM	1	46	225	0	31	1	7	35	0	163	47	0	556	0	0	0	0	0
	5:45 PM	3	45	237	0	22	5	8	39	0	169	44	2	574	0	0	0	0	0
	VOLUMES	4	326	1,974	0	218	53	75	314	0	1,363	365	24	4,716	0	0	0	0	0
	APPROACH %	0%	14%	86%	0%	80%	20%	19%	81%	0%	78%	21%	1%						
	APP/DEPART	2,304	/	425	271	/	1,581	389	/	2,288	1,752	/	422	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	153	1,010	0	104	35	34	172	0	684	188	14	2,394					
	APPROACH %	0%	13%	87%	0%	75%	25%	17%	83%	0%	77%	21%	2%						
	PEAK HR FACTOR		0.932			0.869			0.844			0.943		0.932					
	APP/DEPART	1,163	/	201	139	/	788	206	/	1,182	886	/	223	0					



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	5	4	0	5	14
	7:15 AM	3	3	2	6	14
	7:30 AM	3	3	1	6	13
	7:45 AM	4	2	1	9	16
	8:00 AM	9	1	1	6	17
	8:15 AM	5	3	1	8	17
	8:30 AM	7	2	5	9	23
	8:45 AM	3	1	2	9	15
	TOTAL	39	19	13	58	129
PM	4:00 PM	11	4	2	9	26
	4:15 PM	6	2	0	14	22
	4:30 PM	10	3	0	12	25
	4:45 PM	10	3	2	11	26
	5:00 PM	8	0	0	6	14
	5:15 PM	18	4	2	5	29
	5:30 PM	8	3	1	11	23
	5:45 PM	20	2	1	9	32
	TOTAL	91	21	8	77	197

PEDESTRIAN CROSSINGS					
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
5	4	0	5	14
3	1	2	6	12
3	2	1	5	11
4	1	0	7	12
8	0	1	6	15
5	1	1	6	13
5	0	4	6	15
2	1	2	8	13
35	10	11	49	105
11	0	2	6	19
5	1	0	12	18
10	1	0	8	19
10	0	1	8	19
6	0	0	6	12
18	1	2	5	26
8	0	0	10	18
20	0	1	8	29
88	3	6	63	160

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	2	0	0	2
0	1	0	1	2
0	1	1	2	4
1	1	0	0	2
0	2	0	2	4
2	2	1	3	8
1	0	0	1	2
4	9	2	9	24
0	4	0	3	7
1	1	0	2	4
0	2	0	4	6
0	3	1	3	7
2	0	0	0	2
0	3	0	0	3
0	3	1	1	5
0	2	0	1	3
3	18	2	14	37

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Pacific Coast	LOCATION #:	3
	EAST & WEST:	Anaheim	CONTROL:	SIGNAL

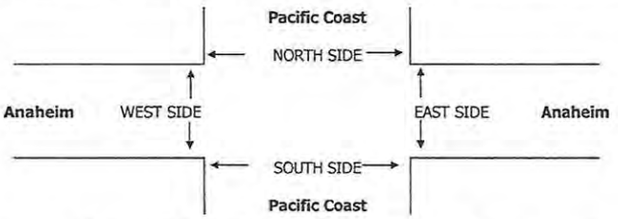
NOTES:

AM/PM NB queue

AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Anaheim			WESTBOUND Anaheim				U-TURNS				
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 0.5	ET 1.5	ER 1	WL 0.5	WT 1.5	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	78	268	9	6	208	6	5	36	158	5	19	14	812	0	0	0	0	0
	7:15 AM	104	326	9	15	191	5	4	35	171	7	21	10	898	0	0	0	0	0
	7:30 AM	91	298	7	25	203	2	5	44	123	16	29	11	854	0	0	0	0	0
	7:45 AM	97	303	15	31	215	8	10	79	141	7	31	12	949	0	0	0	0	0
	8:00 AM	99	398	18	15	147	5	4	47	119	8	28	23	911	0	0	1	0	1
	8:15 AM	92	366	23	15	146	8	4	32	97	6	18	11	818	0	0	0	0	0
	8:30 AM	87	270	12	15	141	1	3	46	112	10	33	15	745	0	0	0	0	0
	8:45 AM	89	281	12	17	139	5	10	55	108	8	23	13	760	0	1	0	0	1
	VOLUMES	737	2,510	105	139	1,390	40	45	374	1,029	67	202	109	6,747	0	1	1	0	2
	APPROACH %	22%	75%	3%	9%	89%	3%	3%	26%	71%	18%	53%	29%						
	APP/DEPART	3,352	/	2,664	1,569	/	2,486	1,448	/	617	378	/	980	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	391	1,325	49	86	756	20	23	205	554	38	109	56	3,612					
	APPROACH %	22%	75%	3%	10%	88%	2%	3%	26%	71%	19%	54%	28%						
	PEAK HR FACTOR		0.857			0.848			0.850			0.860		0.952					
	APP/DEPART	1,765	/	1,403	862	/	1,348	782	/	340	203	/	521	0					
PM	4:00 PM	111	190	15	27	222	4	11	30	126	8	49	25	818	0	0	0	0	0
	4:15 PM	101	226	14	11	237	7	13	35	145	14	43	21	867	0	0	0	0	0
	4:30 PM	95	197	14	17	271	9	9	38	121	11	27	20	829	0	3	0	0	3
	4:45 PM	96	195	21	11	259	2	10	40	137	14	53	25	863	0	1	0	0	1
	5:00 PM	104	207	15	16	260	7	11	46	122	15	64	23	890	0	1	0	0	1
	5:15 PM	95	189	8	14	275	8	19	44	120	9	56	19	856	0	2	0	0	2
	5:30 PM	88	220	23	8	245	4	14	48	136	9	51	24	870	0	1	0	0	1
	5:45 PM	101	243	18	15	262	7	12	46	126	16	47	18	911	0	1	0	0	1
	VOLUMES	791	1,667	128	119	2,031	48	99	327	1,033	96	390	175	6,904	0	9	0	0	9
	APPROACH %	31%	64%	5%	5%	92%	2%	7%	22%	71%	15%	59%	26%						
	APP/DEPART	2,586	/	1,950	2,198	/	3,160	1,459	/	565	661	/	1,229	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	388	859	64	53	1,042	26	56	184	504	49	218	84	3,527					
	APPROACH %	30%	66%	5%	5%	93%	2%	8%	25%	68%	14%	62%	24%						
	PEAK HR FACTOR		0.905			0.944			0.939			0.860		0.968					
	APP/DEPART	1,311	/	1,004	1,121	/	1,595	744	/	296	351	/	632	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	3	0	1	3	7	2	0	1	1	4	1	0	0	2	3
	7:15 AM	0	4	0	3	7	0	2	0	1	3	0	2	0	2	4
	7:30 AM	1	1	1	1	4	1	1	1	1	4	0	0	0	0	0
	7:45 AM	7	5	1	4	17	5	1	0	0	6	2	4	1	4	11
	8:00 AM	1	4	1	1	7	1	1	0	1	3	0	3	1	0	4
	8:15 AM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
	8:30 AM	3	3	2	2	10	3	2	1	1	7	0	1	1	1	3
	8:45 AM	5	0	0	2	7	1	0	0	0	1	4	0	0	2	6
	TOTAL	21	17	6	17	61	14	7	3	6	30	7	10	3	11	31
PM	4:00 PM	5	1	0	0	6	5	1	0	0	6	0	0	0	0	0
	4:15 PM	4	0	2	0	6	3	0	0	0	3	1	0	2	0	3
	4:30 PM	4	2	0	1	7	3	2	0	0	5	1	0	0	1	2
	4:45 PM	1	3	0	1	5	1	1	0	0	2	0	2	0	1	3
	5:00 PM	9	2	1	0	12	5	1	1	0	7	4	1	0	0	5
	5:15 PM	0	3	0	2	5	0	1	0	1	2	0	2	0	1	3
	5:30 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	5:45 PM	1	1	0	5	7	1	0	0	2	3	0	1	0	3	4
	TOTAL	25	12	3	9	49	19	6	1	3	29	6	6	2	6	20

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Pacific Coast	LOCATION #:	6
	EAST & WEST:	7th	CONTROL:	SIGNAL

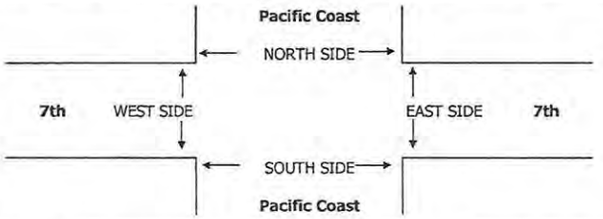
NOTES:

AM/PM EB queue

AM PM MD OTHER OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND 7th			WESTBOUND 7th				U-TURNS				
	LANES:	NL 1	NT 3	NR 0	SL 2	ST 3	SR 0	EL X	ET 3	ER 0	WL X	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	32	281	1	137	229	0	0	437	36	0	294	99	1,546	0	0	0	0	0
	7:15 AM	32	254	0	132	218	1	0	473	54	0	313	138	1,615	0	0	0	0	0
	7:30 AM	38	295	0	128	198	2	0	432	46	0	321	105	1,565	0	0	0	0	0
	7:45 AM	23	300	2	125	211	1	0	459	41	0	282	120	1,564	0	0	0	0	0
	8:00 AM	27	315	1	113	162	1	0	424	57	0	291	117	1,508	0	0	0	0	0
	8:15 AM	30	332	2	111	134	0	0	432	43	0	297	111	1,492	0	0	0	0	0
	8:30 AM	29	256	5	107	133	2	0	480	54	0	319	100	1,485	0	0	0	0	0
	8:45 AM	21	236	2	108	136	3	0	439	48	0	302	111	1,406	0	2	0	0	2
	VOLUMES	232	2,269	13	961	1,421	10	0	3,576	379	0	2,419	901	12,181	0	2	0	0	2
	APPROACH %	9%	90%	1%	40%	59%	0%	0%	90%	10%	0%	73%	27%						
	APP/DEPART	2,514	/	3,172	2,392	/	1,800	3,955	/	4,548	3,320	/	2,661	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	125	1,130	3	522	856	4	0	1,801	177	0	1,210	462	6,290					
	APPROACH %	10%	90%	0%	38%	62%	0%	0%	91%	9%	0%	72%	28%						
	PEAK HR FACTOR		0.944			0.944			0.938			0.927		0.974					
	APP/DEPART	1,258	/	1,592	1,382	/	1,033	1,978	/	2,326	1,672	/	1,339	0					
PM	4:00 PM	51	195	3	131	166	1	0	363	28	0	360	130	1,428	1	0	0	0	1
	4:15 PM	61	173	2	148	246	2	0	331	33	0	321	94	1,411	0	0	0	0	0
	4:30 PM	48	204	1	131	228	1	0	341	43	0	357	113	1,467	0	0	0	0	0
	4:45 PM	55	187	1	134	225	1	0	318	27	0	351	124	1,423	1	0	0	0	1
	5:00 PM	50	242	2	128	249	3	0	305	23	0	354	91	1,447	0	0	0	0	0
	5:15 PM	43	204	5	128	230	2	0	323	24	0	394	98	1,451	0	0	0	0	0
	5:30 PM	60	232	2	151	229	2	0	348	36	0	340	103	1,503	0	0	0	0	0
	5:45 PM	51	220	0	126	205	2	0	412	35	0	371	117	1,539	0	0	0	0	0
	VOLUMES	419	1,657	16	1,077	1,778	14	0	2,741	249	0	2,848	870	11,669	2	0	0	0	2
	APPROACH %	20%	79%	1%	38%	62%	0%	0%	92%	8%	0%	77%	23%						
	APP/DEPART	2,092	/	2,527	2,869	/	2,029	2,990	/	3,834	3,718	/	3,279	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	204	898	9	533	913	9	0	1,388	118	0	1,459	409	5,940					
	APPROACH %	18%	81%	1%	37%	63%	1%	0%	92%	8%	0%	78%	22%						
	PEAK HR FACTOR		0.945			0.952			0.842			0.949		0.965					
	APP/DEPART	1,111	/	1,307	1,455	/	1,031	1,506	/	1,930	1,868	/	1,672	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	3	3	0	6	0	2	2	0	4	0	1	1	0	2
	7:15 AM	2	1	1	1	5	2	0	1	1	4	0	1	0	0	1
	7:30 AM	2	4	3	0	9	2	3	3	0	8	0	1	0	0	1
	7:45 AM	5	3	1	4	13	4	1	1	4	10	1	2	0	0	3
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	3	2	3	1	9	3	0	0	1	4	0	2	3	0	5
	8:30 AM	6	1	2	2	11	6	0	2	2	10	0	1	0	0	1
	8:45 AM	1	7	3	1	12	0	6	3	1	10	1	1	0	0	2
	TOTAL	19	21	16	9	65	17	12	12	9	50	2	9	4	0	15
PM	4:00 PM	4	7	2	3	16	4	5	2	3	14	0	2	0	0	2
	4:15 PM	4	3	4	2	13	4	1	4	1	10	0	2	0	1	3
	4:30 PM	4	1	4	1	10	4	0	4	1	9	0	1	0	0	1
	4:45 PM	2	4	5	0	11	2	3	5	0	10	0	1	0	0	1
	5:00 PM	2	2	2	0	6	2	2	2	0	6	0	0	0	0	0
	5:15 PM	3	2	1	0	6	3	1	1	0	5	0	1	0	0	1
	5:30 PM	1	0	1	1	3	1	0	1	1	3	0	0	0	0	0
	5:45 PM	0	2	2	1	5	0	2	1	1	4	0	0	1	0	1
	TOTAL	20	21	21	8	70	20	14	20	7	61	0	7	1	1	9

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bellflower Blvd & Del Amo Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-096
Date: 5/23/2018

Total

NS/EW Streets:	Bellflower Blvd				Bellflower Blvd				Del Amo Blvd				Del Amo Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	21	58	16	0	37	94	17	0	9	149	30	0	29	222	18	0	700
7:15 AM	37	84	34	0	42	142	21	0	8	173	57	1	25	258	16	0	898
7:30 AM	50	139	47	0	47	213	19	0	12	195	107	0	40	262	19	0	1150
7:45 AM	65	132	24	0	27	131	23	0	16	213	66	1	42	345	28	0	1113
8:00 AM	40	119	23	1	33	143	17	1	22	215	42	0	43	281	30	0	1010
8:15 AM	29	108	28	0	45	159	18	0	13	204	42	0	39	267	31	1	984
8:30 AM	41	109	35	0	39	175	19	1	23	152	63	1	66	255	18	0	997
8:45 AM	56	138	27	0	42	158	20	0	21	213	90	0	45	279	23	0	1112
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	339	887	234	1	312	1215	154	2	124	1514	497	3	329	2169	183	1	7964
APPROACH %'s :	23.20%	60.71%	16.02%	0.07%	18.54%	72.19%	9.15%	0.12%	5.80%	70.81%	23.25%	0.14%	12.27%	80.87%	6.82%	0.04%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	184	498	122	1	152	646	77	1	63	827	257	1	164	1155	108	1	4257
PEAK HR FACTOR :	0.708	0.896	0.649	0.250	0.809	0.758	0.837	0.250	0.716	0.962	0.600	0.250	0.953	0.837	0.871	0.250	0.925
	0.853				0.785				0.914				0.860				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	162	43	0	43	103	20	0	21	272	36	0	34	231	32	1	1034
4:15 PM	54	167	42	0	37	100	19	0	20	323	38	1	43	233	27	0	1104
4:30 PM	42	204	42	0	37	122	11	0	33	274	31	0	51	234	37	0	1118
4:45 PM	52	178	48	0	49	127	29	0	20	314	44	0	48	264	31	0	1204
5:00 PM	57	227	69	0	40	116	19	0	24	278	36	0	47	226	28	3	1170
5:15 PM	50	182	56	0	58	110	18	0	24	344	37	0	38	267	49	0	1233
5:30 PM	56	190	54	0	54	147	23	1	25	294	39	0	44	251	41	0	1219
5:45 PM	75	218	57	0	42	112	30	1	23	303	53	0	36	261	38	0	1249
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	422	1528	411	0	360	937	169	2	190	2402	314	1	341	1967	283	4	9331
APPROACH %'s :	17.87%	64.72%	17.41%	0.00%	24.52%	63.83%	11.51%	0.14%	6.54%	82.63%	10.80%	0.03%	13.14%	75.80%	10.91%	0.15%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	238	817	236	0	194	485	90	2	96	1219	165	0	165	1005	156	3	4871
PEAK HR FACTOR :	0.793	0.900	0.855	0.000	0.836	0.825	0.750	0.500	0.960	0.886	0.778	0.000	0.878	0.941	0.796	0.250	0.975
	0.914				0.857				0.914				0.939				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bellflower Blvd & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05307-075
Date: 5/10/2018

Total

NS/EW Streets:	Bellflower Blvd				Bellflower Blvd				Carson St				Carson St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	66	17	0	25	156	8	0	8	104	14	0	31	235	13	1	693
7:15 AM	30	109	26	0	28	170	11	0	25	141	22	0	41	269	11	1	884
7:30 AM	31	145	30	0	33	237	25	0	41	142	34	0	54	298	23	0	1093
7:45 AM	36	141	31	0	17	229	24	0	22	157	35	0	54	337	40	0	1123
8:00 AM	32	159	19	0	35	176	15	0	13	130	30	0	42	241	48	3	943
8:15 AM	30	116	32	0	37	129	23	0	16	162	43	1	32	309	29	0	959
8:30 AM	35	106	27	0	43	181	22	0	17	170	31	0	39	282	34	4	991
8:45 AM	31	143	31	0	36	177	24	0	26	190	20	2	45	261	41	1	1028
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	240	985	213	0	254	1455	152	0	168	1196	229	3	338	2232	239	10	7714
APPROACH %'s :	16.69%	68.50%	14.81%	0.00%	13.65%	78.18%	8.17%	0.00%	10.53%	74.94%	14.35%	0.19%	11.99%	79.18%	8.48%	0.35%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	129	561	112	0	122	771	87	0	92	591	142	1	182	1185	140	3	4118
PEAK HR FACTOR :	0.896	0.882	0.875	0.000	0.824	0.813	0.870	0.000	0.561	0.912	0.826	0.250	0.843	0.879	0.729	0.250	0.917
	0.955				0.831				0.930				0.876				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	39	230	55	1	41	143	17	0	31	319	28	5	33	190	41	3	1176
4:15 PM	36	193	51	0	51	135	14	0	44	324	42	0	41	223	58	7	1219
4:30 PM	41	200	38	0	45	163	15	0	40	315	27	2	32	186	38	12	1154
4:45 PM	34	209	49	0	46	150	28	0	41	380	40	0	36	191	40	5	1249
5:00 PM	39	227	52	0	44	163	22	0	35	364	24	2	33	190	40	5	1240
5:15 PM	37	219	39	0	44	123	23	0	43	382	46	1	38	218	53	7	1273
5:30 PM	40	248	42	1	44	139	21	0	42	343	45	0	29	211	58	9	1272
5:45 PM	38	241	46	0	44	118	18	0	44	330	31	1	43	225	70	3	1252
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	304	1767	372	2	359	1134	158	0	320	2757	283	11	285	1634	398	51	9835
APPROACH %'s :	12.43%	72.27%	15.21%	0.08%	21.74%	68.69%	9.57%	0.00%	9.49%	81.79%	8.40%	0.33%	12.04%	69.00%	16.81%	2.15%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	154	935	179	1	176	543	84	0	164	1419	146	4	143	844	221	24	5037
PEAK HR FACTOR :	0.963	0.943	0.861	0.250	1.000	0.833	0.913	0.000	0.932	0.929	0.793	0.500	0.831	0.938	0.789	0.667	0.989
	0.958				0.877				0.918				0.903				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Bellflower Blvd & Spring St
City: Long Beach
Control: Signalized

Project ID: 18-05307-076
Date: 5/10/2018

Total

NS/EW Streets:	Bellflower Blvd				Bellflower Blvd				Spring St				Spring St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	4	0	0	1	3	0	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	18	110	18	0	16	175	21	0	8	74	15	0	41	279	8	0	783
7:15 AM	29	130	16	2	32	251	34	0	14	112	15	0	37	305	22	0	999
7:30 AM	53	175	26	2	17	243	37	0	22	161	41	3	47	376	34	0	1237
7:45 AM	52	250	22	2	19	325	58	0	21	72	23	1	48	394	26	0	1313
8:00 AM	40	171	30	3	18	268	46	1	18	83	25	1	36	381	21	0	1142
8:15 AM	42	189	25	1	28	223	33	1	11	70	21	0	28	310	19	0	1001
8:30 AM	51	169	17	3	14	205	36	0	26	96	26	0	38	304	22	0	1007
8:45 AM	37	231	31	2	12	263	27	3	31	83	23	1	38	264	17	1	1064
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	322	1425	185	15	156	1953	292	5	151	751	189	6	313	2613	169	1	8546
APPROACH %'s :	16.54%	73.19%	9.50%	0.77%	6.48%	81.17%	12.14%	0.21%	13.76%	68.46%	17.23%	0.55%	10.11%	84.40%	5.46%	0.03%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	187	785	103	8	82	1059	174	2	72	386	110	5	159	1461	100	0	4693
PEAK HR FACTOR :	0.882	0.785	0.858	0.667	0.732	0.815	0.750	0.500	0.818	0.599	0.671	0.417	0.828	0.927	0.735	0.000	0.894
	0.831				0.819				0.631				0.919				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	4	0	0	1	3	0	0	1	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	51	267	39	5	24	176	16	0	42	227	31	0	35	174	35	5	1127
4:15 PM	34	256	32	4	29	168	28	2	29	297	44	0	41	168	37	4	1173
4:30 PM	30	286	31	2	28	178	10	1	37	262	34	2	41	131	33	0	1106
4:45 PM	37	273	27	1	29	156	18	1	34	309	38	1	42	152	39	2	1159
5:00 PM	37	287	30	2	15	186	21	1	40	315	36	1	40	133	35	1	1180
5:15 PM	24	267	34	1	28	144	10	1	38	335	36	1	39	179	46	2	1185
5:30 PM	39	310	38	1	25	164	22	1	43	303	38	1	31	151	27	2	1196
5:45 PM	33	250	28	2	24	171	15	0	40	284	36	0	36	164	39	4	1126
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	285	2196	259	18	202	1343	140	7	303	2332	293	6	305	1252	291	20	9252
APPROACH %'s :	10.33%	79.62%	9.39%	0.65%	11.94%	79.37%	8.27%	0.41%	10.33%	79.48%	9.99%	0.20%	16.33%	67.02%	15.58%	1.07%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	137	1137	129	5	97	650	71	4	155	1262	148	4	152	615	147	7	4720
PEAK HR FACTOR :	0.878	0.917	0.849	0.625	0.836	0.874	0.807	1.000	0.901	0.942	0.974	1.000	0.905	0.859	0.799	0.875	0.987
	0.907				0.922				0.957				0.866				

National Data & Surveying Services Intersection Turning Movement Count

Location: Bellflower Blvd & Los Coyotes Diagonal
City: Long Beach
Control: Signalized

Project ID: 18-05307-077
Date: 5/23/2018

Total

NS/EW Streets:	Bellflower Blvd				Bellflower Blvd				Los Coyotes Diagonal				Los Coyotes Diagonal				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	0	3	0	0	1	2.5	1.5	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	174	55	0	0	135	75	0	46	142	100	2	25	116	2	0	876
7:15 AM	2	178	107	0	0	129	104	0	53	209	111	1	27	147	0	1	1069
7:30 AM	2	241	131	0	0	165	91	0	86	260	110	0	34	193	1	0	1314
7:45 AM	3	270	99	2	0	185	117	0	65	239	148	0	49	184	0	0	1361
8:00 AM	6	253	82	1	0	163	95	0	64	167	125	1	35	185	1	0	1178
8:15 AM	3	234	80	1	0	167	107	0	35	153	132	0	39	167	0	0	1118
8:30 AM	2	242	99	1	0	187	89	0	54	236	140	0	51	170	2	0	1273
8:45 AM	4	274	121	0	0	199	87	0	50	209	106	0	52	185	0	0	1287
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	26	1866	774	5	0	1330	765	0	453	1615	972	4	312	1347	6	1	9476
APPROACH %'s :	0.97%	69.86%	28.98%	0.19%	0.00%	63.48%	36.52%	0.00%	14.88%	53.06%	31.93%	0.13%	18.73%	80.85%	0.36%	0.06%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	14	998	392	4	0	680	410	0	250	819	515	1	157	729	2	0	4971
PEAK HR FACTOR :	0.583	0.924	0.748	0.500	0.000	0.919	0.876	0.000	0.727	0.788	0.870	0.250	0.801	0.944	0.500	0.000	0.913
		0.941				0.902				0.869				0.953			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	0	3	0	0	1	2.5	1.5	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	386	144	1	0	201	88	0	68	266	99	0	54	139	0	0	1454
4:15 PM	7	444	159	4	0	249	107	0	56	279	104	1	43	137	1	0	1591
4:30 PM	13	311	127	3	0	193	93	0	79	285	99	0	62	134	2	0	1401
4:45 PM	8	393	146	2	0	232	117	0	54	259	92	0	43	131	0	0	1477
5:00 PM	5	383	150	0	0	184	91	0	61	276	103	0	47	133	3	2	1438
5:15 PM	7	469	148	3	0	238	99	0	53	275	76	0	42	182	1	0	1593
5:30 PM	7	339	131	2	0	211	102	0	69	274	101	0	52	166	2	0	1456
5:45 PM	7	318	136	2	0	233	102	0	53	240	102	0	53	132	1	0	1379
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	62	3043	1141	17	0	1741	799	0	493	2154	776	1	396	1154	10	2	11789
APPROACH %'s :	1.45%	71.38%	26.77%	0.40%	0.00%	68.54%	31.46%	0.00%	14.40%	62.91%	22.66%	0.03%	25.35%	73.88%	0.64%	0.13%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	27	1584	575	7	0	865	409	0	237	1084	372	0	184	612	6	2	5964
PEAK HR FACTOR :	0.844	0.844	0.958	0.583	0.000	0.909	0.874	0.000	0.859	0.982	0.903	0.000	0.885	0.841	0.500	0.250	0.936
		0.874				0.913				0.953				0.893			

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
Tue, Nov 15, 16	LOCATION:	Long Beach	PROJECT #:	SC1123
	NORTH & SOUTH:	Bellflower	LOCATION #:	1
	EAST & WEST:	Atherton	CONTROL:	SIGNAL

NOTES:

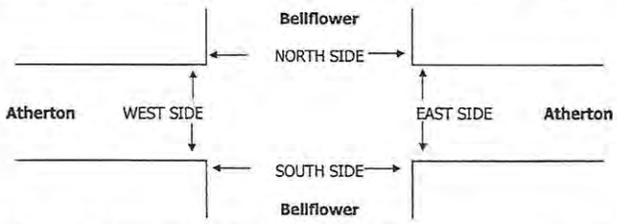
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Bellflower			SOUTHBOUND Bellflower			EASTBOUND Atherton			WESTBOUND Atherton			
	LANES:	NL 1	NT 3	NR 1	SL 2	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:00 AM	3	112	18	44	227	6	13	56	26	31	48	11	595
	7:15 AM	8	94	33	90	303	20	14	128	36	33	90	10	859
	7:30 AM	22	133	43	136	275	22	24	177	41	37	76	24	1,010
	7:45 AM	19	159	98	128	350	28	8	190	52	51	87	18	1,188
	8:00 AM	16	187	49	113	233	33	32	155	44	56	88	40	1,046
	8:15 AM	18	194	43	65	202	27	31	106	31	31	70	21	839
	8:30 AM	13	158	40	82	219	30	32	144	23	38	71	18	868
	8:45 AM	21	181	55	107	228	36	31	150	29	41	75	13	967
	VOLUMES	120	1,218	379	765	2,037	202	185	1,106	282	318	605	155	7,372
	APPROACH %	7%	71%	22%	25%	68%	7%	12%	70%	18%	29%	56%	14%	
	APP/DEPART	1,717	/	1,559	3,004	/	2,633	1,573	/	2,253	1,078	/	927	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	65	573	223	467	1,161	103	78	650	173	177	341	92	4,103
	APPROACH %	8%	67%	26%	27%	67%	6%	9%	72%	19%	29%	56%	15%	
	PEAK HR FACTOR		0.780			0.855			0.901			0.829		0.863
	APP/DEPART	861	/	744	1,731	/	1,507	901	/	1,343	610	/	509	0
PM	4:00 PM	39	291	54	24	200	53	37	105	31	57	134	63	1,088
	4:15 PM	41	258	51	33	210	51	36	86	35	45	106	42	994
	4:30 PM	39	243	53	48	180	33	44	128	28	46	134	48	1,024
	4:45 PM	35	285	47	48	227	47	33	129	35	50	138	67	1,141
	5:00 PM	46	270	50	33	199	36	45	103	32	60	186	69	1,129
	5:15 PM	36	219	57	40	236	48	42	117	54	49	133	62	1,093
	5:30 PM	40	207	66	37	188	44	44	116	37	50	141	52	1,022
	5:45 PM	26	204	41	29	234	55	29	108	27	46	118	28	945
	VOLUMES	302	1,977	419	292	1,674	367	310	892	279	403	1,090	431	8,436
	APPROACH %	11%	73%	16%	13%	72%	16%	21%	60%	19%	21%	57%	22%	
	APP/DEPART	2,698	/	2,719	2,333	/	2,349	1,481	/	1,609	1,924	/	1,759	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	156	1,017	207	169	842	164	164	477	149	205	591	246	4,387
	APPROACH %	11%	74%	15%	14%	72%	14%	21%	60%	19%	20%	57%	24%	
	PEAK HR FACTOR		0.940			0.907			0.927			0.827		0.961
	APP/DEPART	1,380	/	1,428	1,175	/	1,193	790	/	855	1,042	/	911	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	1	0	0	1
0	0	0	2	2
0	0	0	0	0
0	0	0	2	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	4	5
0	0	0	2	2
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	0	0	2	2
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	1	0	7	8



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	3	1	0	4
	7:15 AM	2	4	1	1	8
	7:30 AM	1	12	2	4	19
	7:45 AM	2	11	2	3	18
	8:00 AM	2	5	5	6	18
	8:15 AM	0	5	2	2	9
	8:30 AM	5	12	7	3	27
	8:45 AM	5	2	3	7	17
	TOTAL	17	54	23	26	120
PM	4:00 PM	5	8	3	9	25
	4:15 PM	2	13	8	3	26
	4:30 PM	7	10	4	3	24
	4:45 PM	2	8	4	1	15
	5:00 PM	10	4	4	0	18
	5:15 PM	0	7	5	2	14
	5:30 PM	1	7	5	0	13
	5:45 PM	0	9	5	1	15
	TOTAL	27	66	38	19	150

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	3	1	0	4
1	4	1	0	6
1	4	2	4	11
1	4	1	3	9
0	1	2	6	9
0	2	1	1	4
3	7	3	2	15
4	1	3	7	15
10	26	14	23	73
4	5	1	7	17
1	12	6	2	21
5	8	4	3	20
1	4	3	1	9
8	2	3	0	13
0	5	4	2	11
0	5	3	0	8
0	9	3	1	13
19	50	27	16	112

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
1	0	0	1	2
0	8	0	0	8
1	7	1	0	9
2	4	3	0	9
0	3	1	1	5
2	5	4	1	12
1	1	0	0	2
7	28	9	3	47
1	3	2	2	8
1	1	2	1	5
2	2	0	0	4
1	4	1	0	6
2	2	1	0	5
0	2	1	0	3
1	2	2	0	5
0	0	2	0	2
8	16	11	3	38

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:			
Tue, Nov 15, 16	LOCATION:	Long Beach	PROJECT #: SC1123
	NORTH & SOUTH:	Bellflower	LOCATION #: 7
	EAST & WEST:	7th	CONTROL: SIGNAL

NOTES:

AM/PM WB queue

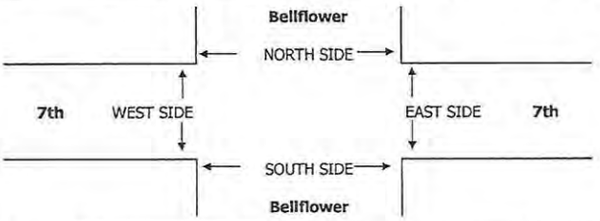
AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Bellflower			SOUTHBOUND Bellflower			EASTBOUND 7th			WESTBOUND 7th			
	LANES:	NL X	NT 3	NR 1	SL 2	ST 2	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
AM	7:00 AM	0	103	24	41	56	41	45	587	1	4	402	52	1,356
	7:15 AM	0	126	18	59	78	39	50	491	5	5	373	77	1,321
	7:30 AM	0	131	23	37	63	40	73	499	2	4	416	76	1,364
	7:45 AM	0	163	53	79	86	41	86	506	0	13	349	68	1,444
	8:00 AM	0	150	41	45	83	43	46	457	6	7	406	61	1,345
	8:15 AM	0	123	26	47	69	37	65	526	1	5	389	49	1,337
	8:30 AM	0	141	29	38	78	52	64	439	4	11	339	36	1,231
	8:45 AM	0	153	33	38	90	55	72	460	4	8	353	58	1,324
	VOLUMES	0	1,090	247	384	603	348	501	3,965	23	57	3,027	477	10,722
	APPROACH %	0%	82%	18%	29%	45%	26%	11%	88%	1%	2%	85%	13%	
	APP/DEPART	1,337	/	2,069	1,335	/	679	4,489	/	4,599	3,561	/	3,375	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	0	567	143	208	301	161	270	1,988	9	29	1,560	254	5,490
	APPROACH %	0%	80%	20%	31%	45%	24%	12%	88%	0%	2%	85%	14%	
	PEAK HR FACTOR		0.822			0.813			0.957			0.929		0.950
	APP/DEPART	710	/	1,092	670	/	337	2,267	/	2,340	1,843	/	1,721	0
PM	4:00 PM	0	112	20	79	151	114	44	399	2	8	343	24	1,296
	4:15 PM	0	130	36	71	110	86	28	456	0	8	377	45	1,347
	4:30 PM	0	116	47	93	143	96	46	425	5	11	348	33	1,363
	4:45 PM	0	129	37	83	170	85	35	398	3	13	383	34	1,370
	5:00 PM	0	119	31	100	145	106	33	460	4	8	390	39	1,435
	5:15 PM	0	140	19	79	173	94	30	401	6	10	368	32	1,352
	5:30 PM	0	128	41	60	121	91	51	483	4	10	409	46	1,444
	5:45 PM	0	122	29	79	131	82	27	458	4	11	371	32	1,346
	VOLUMES	0	996	260	644	1,144	754	294	3,480	28	79	2,989	285	10,953
	APPROACH %	0%	79%	21%	25%	45%	30%	8%	92%	1%	2%	89%	8%	
	APP/DEPART	1,256	/	1,578	2,542	/	1,248	3,802	/	4,384	3,353	/	3,743	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	516	128	322	609	376	149	1,742	17	41	1,550	151	5,601
	APPROACH %	0%	80%	20%	25%	47%	29%	8%	91%	1%	2%	89%	9%	
	PEAK HR FACTOR		0.953			0.931			0.887			0.937		0.970
	APP/DEPART	644	/	818	1,307	/	666	1,908	/	2,191	1,742	/	1,926	0

U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
0	1	0	4	5
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	3	0	3	6



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	3	5	3	5	16
	7:15 AM	5	2	0	4	11
	7:30 AM	3	6	0	4	13
	7:45 AM	18	3	1	7	29
	8:00 AM	4	2	3	0	9
	8:15 AM	10	1	0	2	13
	8:30 AM	6	3	1	3	13
	8:45 AM	7	6	2	5	20
	TOTAL	56	28	10	30	124
PM	4:00 PM	15	8	1	7	31
	4:15 PM	7	5	1	7	20
	4:30 PM	7	3	0	4	14
	4:45 PM	11	2	0	4	17
	5:00 PM	8	5	0	7	20
	5:15 PM	11	3	1	1	16
	5:30 PM	2	1	0	6	9
	5:45 PM	2	2	1	3	8
	TOTAL	63	29	4	39	135

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	4	1	4	12
4	2	0	2	8
2	6	0	2	10
15	1	1	7	24
3	2	0	0	5
9	1	0	1	11
5	2	0	2	9
6	5	1	4	16
47	23	3	22	95
14	8	1	6	29
6	4	1	5	16
7	3	0	4	14
10	2	0	3	15
5	4	0	5	14
10	3	0	1	14
1	1	0	4	6
2	2	1	3	8
55	27	3	31	116

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	1	2	1	4
1	0	0	2	3
1	0	0	2	3
3	2	0	0	5
1	0	3	0	4
1	0	0	1	2
1	1	1	1	4
1	1	1	1	4
9	5	7	8	29
1	0	0	1	2
1	1	0	2	4
0	0	0	0	0
1	0	0	1	2
3	1	0	2	6
1	0	1	0	2
1	0	0	2	3
0	0	0	0	0
8	2	1	8	19

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Pacific Coast	LOCATION #:	9
	EAST & WEST:	Bellflower	CONTROL:	SIGNAL

NOTES:

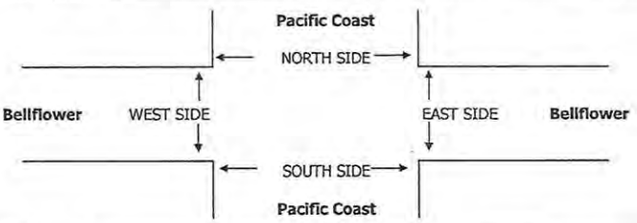
AM/PM NB/SB queue

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND Bellflower			WESTBOUND Bellflower			
	LANES:	NL 1	NT 3	NR 1	SL 1	ST 3	SR 0	EL 1	ET 2	ER 0	WL 1.5	WT 2.5	WR 1	TOTAL
AM	7:00 AM	5	302	60	14	259	2	15	59	18	44	15	4	797
	7:15 AM	4	298	75	26	280	6	19	70	19	61	27	0	885
	7:30 AM	5	298	76	12	208	9	22	108	13	44	23	0	818
	7:45 AM	11	295	82	24	256	10	20	116	17	63	29	0	923
	8:00 AM	4	344	71	13	186	9	26	115	21	63	38	0	890
	8:15 AM	12	306	80	13	173	7	18	75	14	36	35	0	769
	8:30 AM	14	244	83	12	165	11	14	72	12	52	43	0	722
	8:45 AM	11	277	93	12	182	5	17	91	13	61	35	2	799
	VOLUMES	66	2,364	620	126	1,709	59	151	706	127	424	245	6	6,603
	APPROACH %	2%	78%	20%	7%	90%	3%	15%	72%	13%	63%	36%	1%	
	APP/DEPART	3,050	/	2,527	1,894	/	2,253	984	/	1,455	675	/	368	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	24	1,235	304	75	930	34	87	409	70	231	117	0	3,516
	APPROACH %	2%	79%	19%	7%	90%	3%	15%	72%	12%	66%	34%	0%	
	PEAK HR FACTOR		0.933			0.833			0.873			0.861		0.952
	APP/DEPART	1,563	/	1,326	1,039	/	1,226	566	/	789	348	/	175	0
PM	4:00 PM	22	270	75	19	197	18	11	62	13	85	68	1	841
	4:15 PM	10	215	82	23	207	10	6	84	12	87	60	0	796
	4:30 PM	28	242	79	22	271	17	10	75	19	69	62	0	894
	4:45 PM	24	246	72	14	230	10	16	103	22	112	92	1	942
	5:00 PM	22	229	58	23	231	14	19	98	23	96	60	4	877
	5:15 PM	25	265	78	23	243	13	11	65	40	111	89	0	963
	5:30 PM	20	259	87	31	210	13	12	76	30	74	72	0	884
	5:45 PM	38	254	64	25	222	12	9	71	19	67	49	2	832
	VOLUMES	189	1,980	595	180	1,811	107	94	634	178	701	552	8	7,029
	APPROACH %	7%	72%	22%	9%	86%	5%	10%	70%	20%	56%	44%	1%	
	APP/DEPART	2,764	/	2,087	2,098	/	2,679	906	/	1,417	1,261	/	846	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	99	982	287	82	975	54	56	341	104	388	303	5	3,676
	APPROACH %	7%	72%	21%	7%	88%	5%	11%	68%	21%	56%	44%	1%	
	PEAK HR FACTOR		0.929			0.896			0.888			0.849		0.954
	APP/DEPART	1,368	/	1,044	1,111	/	1,462	501	/	717	696	/	453	0

U-TURNS					
NB 0	SB 0	EB 0	WB 0	TTL	
0	0	0	0	0	
0	2	0	1	3	
0	1	0	1	2	
0	1	0	0	1	
0	0	0	3	3	
0	0	0	0	0	
1	1	0	1	3	
1	1	0	3	5	
2	6	0	9	17	
0	1	1	1	3	
0	2	0	3	5	
2	0	0	1	3	
0	1	0	2	3	
0	0	0	4	4	
1	0	0	1	2	
0	0	0	1	1	
0	2	0	1	3	
3	6	1	14	24	



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	5	0	3	3	11	2	0	0	1	3	3	0	3	2	8
	7:15 AM	3	1	1	2	7	1	0	1	0	2	2	1	0	2	5
	7:30 AM	3	0	0	2	5	1	0	0	1	2	2	0	0	1	3
	7:45 AM	1	1	2	1	5	1	0	2	0	3	0	1	0	1	2
	8:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	8:15 AM	2	0	2	1	5	2	0	1	1	4	0	0	1	0	1
	8:30 AM	3	0	1	2	6	2	0	1	1	4	1	0	0	1	2
	8:45 AM	2	0	1	2	5	1	0	1	2	4	1	0	0	0	1
	TOTAL	19	2	11	13	45	10	0	6	6	22	9	2	5	7	23
PM	4:00 PM	2	1	1	1	5	1	0	0	0	1	1	1	1	1	4
	4:15 PM	2	0	0	4	6	0	0	0	1	1	2	0	0	3	5
	4:30 PM	1	0	2	0	3	0	0	1	0	1	1	0	1	0	2
	4:45 PM	4	0	3	2	9	1	0	3	2	6	3	0	0	0	3
	5:00 PM	3	0	1	0	4	3	0	1	0	4	0	0	0	0	0
	5:15 PM	1	0	2	1	4	0	0	2	1	3	1	0	0	0	1
	5:30 PM	0	0	1	2	3	0	0	1	2	3	0	0	0	0	0
	5:45 PM	0	1	1	1	3	0	0	0	0	0	0	1	1	1	3
	TOTAL	13	2	11	11	37	5	0	8	6	19	8	2	3	5	18

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
Tue, Nov 15, 16	LOCATION:	Long Beach	PROJECT #:	SC1123	
	NORTH & SOUTH:	Pacific Coast	LOCATION #:	17	
	EAST & WEST:	2nd	CONTROL:	SIGNAL	

NOTES:

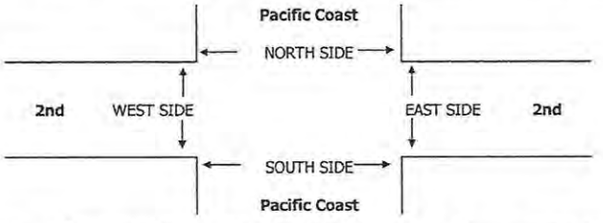
AM / PM / MD / OTHER / OTHER — ▲ N / ◄ W / E ► / S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Pacific Coast			SOUTHBOUND Pacific Coast			EASTBOUND 2nd			WESTBOUND 2nd			
	LANES:	NL 2	NT 3	NR 0	SL 2	ST 3	SR 1	EL 2	ET 2.5	ER 1.5	WL 2	WT 3	WR 1	TOTAL
AM	7:00 AM	79	300	71	39	265	28	53	261	119	84	197	48	1,544
	7:15 AM	95	249	67	64	268	23	52	333	119	78	213	54	1,615
	7:30 AM	109	312	78	58	248	32	52	333	113	71	198	68	1,672
	7:45 AM	87	292	94	56	191	67	55	298	71	87	287	73	1,658
	8:00 AM	101	278	74	64	210	44	68	267	111	84	229	111	1,641
	8:15 AM	105	303	79	50	170	38	67	244	82	68	164	46	1,416
	8:30 AM	114	255	61	32	192	59	50	272	92	43	200	75	1,445
	8:45 AM	124	251	47	31	182	52	78	212	75	85	205	83	1,425
	VOLUMES	814	2,240	571	394	1,726	343	475	2,220	782	600	1,693	558	12,416
	APPROACH %	22%	62%	16%	16%	70%	14%	14%	64%	22%	21%	59%	20%	
	APP/DEPART	3,625	/	3,271	2,463	/	3,101	3,477	/	3,192	2,851	/	2,852	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	392	1,131	313	242	917	166	227	1,231	414	320	927	306	6,586
	APPROACH %	21%	62%	17%	18%	69%	13%	12%	66%	22%	21%	60%	20%	
	PEAK HR FACTOR		0.920			0.933			0.929			0.869		0.985
	APP/DEPART	1,836	/	1,664	1,325	/	1,649	1,872	/	1,788	1,553	/	1,485	0
PM	4:00 PM	105	246	75	61	202	98	75	267	59	69	248	66	1,571
	4:15 PM	91	232	71	56	251	96	66	303	69	65	285	69	1,654
	4:30 PM	119	218	59	58	231	106	82	302	89	79	293	75	1,711
	4:45 PM	96	216	85	71	256	97	93	244	64	92	292	75	1,681
	5:00 PM	86	261	94	76	258	102	45	287	64	71	303	95	1,742
	5:15 PM	119	234	68	62	246	110	78	262	80	90	307	91	1,747
	5:30 PM	73	239	82	59	274	85	93	221	36	70	266	79	1,577
	5:45 PM	110	199	75	68	221	100	64	323	70	70	345	67	1,712
	VOLUMES	799	1,845	609	511	1,939	794	596	2,209	531	606	2,339	617	13,395
	APPROACH %	25%	57%	19%	16%	60%	24%	18%	66%	16%	17%	66%	17%	
	APP/DEPART	3,253	/	3,057	3,244	/	3,061	3,336	/	3,343	3,562	/	3,934	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	420	929	306	267	991	415	298	1,095	297	332	1,195	336	6,881
	APPROACH %	25%	56%	18%	16%	59%	25%	18%	65%	18%	18%	64%	18%	
	PEAK HR FACTOR		0.938			0.959			0.893			0.954		0.985
	APP/DEPART	1,655	/	1,562	1,673	/	1,613	1,690	/	1,675	1,863	/	2,031	0

U-TURNS

NB 0	SB 0	EB 0	WB 0	TTL
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	1	1	2
0	0	0	1	1
0	0	1	2	3
0	0	2	7	9
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2
0	0	1	2	3
0	0	0	1	1
0	0	0	2	2
0	1	1	3	5
0	0	0	4	4
0	1	2	15	18



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	4	1	5	4	14
	7:15 AM	2	1	2	0	5
	7:30 AM	3	1	2	4	10
	7:45 AM	2	1	8	1	12
	8:00 AM	3	1	5	5	14
	8:15 AM	2	0	4	0	6
	8:30 AM	4	3	2	2	11
	8:45 AM	2	3	3	5	13
	TOTAL	22	11	31	21	85
PM	4:00 PM	8	5	9	7	29
	4:15 PM	6	6	8	5	25
	4:30 PM	4	4	6	5	19
	4:45 PM	9	2	9	6	26
	5:00 PM	2	2	3	1	8
	5:15 PM	5	0	4	7	16
	5:30 PM	3	1	3	8	15
	5:45 PM	10	2	4	6	22
	TOTAL	47	22	46	45	160

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
3	0	0	1	4
0	0	0	0	0
2	0	1	2	5
1	1	2	1	5
2	1	2	3	8
2	0	3	0	5
3	2	2	1	8
1	0	1	1	3
14	4	11	9	38
8	1	8	3	20
2	1	4	2	9
3	3	4	4	14
9	1	8	4	22
1	2	1	1	5
5	0	4	5	14
2	1	3	5	11
6	2	3	5	16
36	11	35	29	111

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
1	1	5	3	10
2	1	2	0	5
1	1	1	2	5
1	0	6	0	7
1	0	3	2	6
0	0	1	0	1
1	1	0	1	3
1	3	2	4	10
8	7	20	12	47
0	4	1	4	9
4	5	4	3	16
1	1	2	1	5
0	1	1	2	4
1	0	2	0	3
0	0	0	2	2
1	0	0	3	4
4	0	1	1	6
11	11	11	16	49

National Data & Surveying Services

Intersection Turning Movement Count

Location: 1st St & Marina Dr
City: Long Beach
Control: Signalized

Project ID: 18-05307-104
Date: 5/23/2018

Total

NS/EW Streets:	1st St				1st St				Marina Dr				Marina Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	7	1	0	3	2	2	1	2	13	3	0	1	24	15	0	83
7:15 AM	9	5	3	0	5	5	2	0	1	13	1	0	1	20	11	0	76
7:30 AM	12	9	0	0	3	0	3	2	1	16	11	0	1	11	16	0	85
7:45 AM	11	7	4	0	11	3	5	1	1	16	9	0	1	28	14	0	111
8:00 AM	14	9	0	0	7	2	1	1	0	17	10	0	3	27	23	0	114
8:15 AM	7	4	6	0	4	4	2	0	0	16	10	0	1	23	7	0	84
8:30 AM	7	4	1	0	6	1	4	1	1	17	2	0	0	18	8	0	70
8:45 AM	13	13	3	0	3	4	0	0	3	23	4	0	2	25	11	1	105
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	82	58	18	0	42	21	19	6	9	131	50	0	10	176	105	1	728
APPROACH %'s :	51.90%	36.71%	11.39%	0.00%	47.73%	23.86%	21.59%	6.82%	4.74%	68.95%	26.32%	0.00%	3.42%	60.27%	35.96%	0.34%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	44	29	10	0	25	9	11	4	2	65	40	0	6	89	60	0	394
PEAK HR FACTOR :	0.786	0.806	0.417	0.000	0.568	0.563	0.550	0.500	0.500	0.956	0.909	0.000	0.500	0.795	0.652	0.000	0.864
	0.902				0.613				0.955				0.731				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	10	11	3	0	11	3	5	1	0	25	14	0	3	22	18	0	126
4:15 PM	8	8	1	0	4	4	1	0	6	28	15	0	2	26	8	0	111
4:30 PM	10	8	2	0	6	4	2	0	4	26	14	0	1	45	16	0	138
4:45 PM	10	9	2	0	4	4	9	1	1	35	14	0	2	25	14	0	130
5:00 PM	13	6	0	0	2	0	5	0	6	30	19	0	4	50	16	0	151
5:15 PM	11	13	0	0	7	5	7	1	5	31	13	0	2	26	15	0	136
5:30 PM	9	12	2	0	6	3	3	0	6	21	15	0	3	29	14	1	124
5:45 PM	9	7	5	0	8	6	2	1	6	29	22	0	3	29	11	0	138
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	80	74	15	0	48	29	34	4	34	225	126	0	20	252	112	1	1054
APPROACH %'s :	47.34%	43.79%	8.88%	0.00%	41.74%	25.22%	29.57%	3.48%	8.83%	58.44%	32.73%	0.00%	5.19%	65.45%	29.09%	0.26%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	44	36	4	0	19	13	23	2	16	122	60	0	9	146	61	0	555
PEAK HR FACTOR :	0.846	0.692	0.500	0.000	0.679	0.650	0.639	0.500	0.667	0.871	0.789	0.000	0.563	0.730	0.953	0.000	0.919
	0.875				0.713				0.900				0.771				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Los Coyotes Diagonal & Spring St
City: Long Beach
Control: Signalized

Project ID: 18-05307-080
Date: 5/10/2018

Total

NS/EW Streets:	Los Coyotes Diagonal				Los Coyotes Diagonal				Spring St				Spring St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	73	32	0	0	155	68	0	20	85	2	0	37	234	0	1	708
7:15 AM	7	121	69	0	1	209	92	0	21	146	2	0	35	287	1	1	992
7:30 AM	8	119	69	0	2	204	86	0	16	180	2	0	50	379	5	0	1120
7:45 AM	5	126	39	0	2	179	110	0	26	84	1	1	51	410	4	1	1039
8:00 AM	7	134	35	0	4	184	71	0	23	89	4	1	38	270	4	1	865
8:15 AM	6	124	33	0	1	201	71	0	26	99	3	1	36	264	4	1	870
8:30 AM	2	148	37	0	4	171	85	1	28	92	5	1	44	279	7	1	905
8:45 AM	8	149	42	0	2	168	101	1	19	99	2	0	38	208	3	4	844
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	44	994	356	0	16	1471	684	2	179	874	21	4	329	2331	28	10	7343
APPROACH %'s :	3.16%	71.31%	25.54%	0.00%	0.74%	67.69%	31.48%	0.09%	16.60%	81.08%	1.95%	0.37%	12.19%	86.40%	1.04%	0.37%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	27	500	212	0	9	776	359	0	86	499	9	2	174	1346	14	3	4016
PEAK HR FACTOR :	0.844	0.933	0.768	0.000	0.563	0.928	0.816	0.000	0.827	0.693	0.563	0.500	0.853	0.821	0.700	0.750	0.896
	0.938				0.947				0.753				0.825				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	191	38	0	0	148	45	0	53	271	4	0	32	193	2	1	980
4:15 PM	6	219	39	0	4	159	43	0	51	286	8	1	38	178	11	7	1050
4:30 PM	2	209	33	0	7	158	36	0	47	326	9	1	33	205	5	1	1072
4:45 PM	5	201	45	0	8	131	42	0	50	256	4	1	33	178	8	5	967
5:00 PM	3	192	33	0	6	136	36	0	50	333	5	0	40	207	10	0	1051
5:15 PM	12	231	39	0	2	170	41	0	55	319	10	0	43	182	6	4	1114
5:30 PM	2	217	35	0	7	161	36	0	49	329	8	1	32	207	5	1	1090
5:45 PM	7	228	48	0	8	147	47	0	57	257	4	1	41	177	8	5	1035
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	39	1688	310	0	42	1210	326	0	412	2377	52	5	292	1527	55	24	8359
APPROACH %'s :	1.91%	82.87%	15.22%	0.00%	2.66%	76.68%	20.66%	0.00%	14.48%	83.52%	1.83%	0.18%	15.38%	80.45%	2.90%	1.26%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	24	868	155	0	23	614	160	0	211	1238	27	2	156	773	29	10	4290
PEAK HR FACTOR :	0.500	0.939	0.807	0.000	0.719	0.903	0.851	0.000	0.925	0.929	0.675	0.500	0.907	0.934	0.725	0.500	0.963
	0.925				0.935				0.952				0.942				

National Data & Surveying Services

Intersection Turning Movement Count

Location: West Campus Dr & 7th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-106
Date: 5/23/2018

Total

NS/EW Streets:	West Campus Dr				West Campus Dr				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1.5	0	0.5	0	1	3	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	4	0	4	0	7	601	0	1	0	543	26	0	1186
7:15 AM	0	0	0	0	5	0	5	0	16	637	0	0	0	577	54	0	1294
7:30 AM	0	0	0	0	6	0	5	0	26	654	0	2	0	615	60	0	1368
7:45 AM	0	0	0	0	4	0	11	0	28	603	0	0	0	626	62	0	1334
8:00 AM	0	0	0	0	5	0	14	0	31	661	0	0	0	570	69	0	1350
8:15 AM	0	0	0	0	7	0	16	0	41	574	0	1	0	566	62	0	1267
8:30 AM	0	0	0	0	14	0	8	0	25	598	0	0	0	543	61	0	1249
8:45 AM	0	0	0	0	9	0	23	0	35	535	0	1	0	511	66	0	1180
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	54	0	86	0	209	4863	0	5	0	4551	460	0	10228
APPROACH %'s :					38.57%	0.00%	61.43%	0.00%	4.12%	95.78%	0.00%	0.10%	0.00%	90.82%	9.18%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	20	0	35	0	101	2555	0	2	0	2388	245	0	5346
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.833	0.000	0.625	0.000	0.815	0.966	0.000	0.250	0.000	0.954	0.888	0.000	0.977
					0.724				0.960				0.957				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1.5	0	0.5	0	1	3	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	48	0	34	0	30	379	0	6	0	409	20	0	926
4:15 PM	0	0	0	0	32	0	24	0	17	338	0	4	0	413	30	0	858
4:30 PM	0	0	0	0	39	0	27	0	31	540	0	3	0	391	21	0	1052
4:45 PM	0	0	0	0	74	0	23	0	32	645	0	0	0	449	46	0	1269
5:00 PM	0	0	0	0	99	0	35	0	34	590	0	0	0	406	36	0	1200
5:15 PM	0	0	0	0	72	0	23	0	31	626	0	1	0	403	39	0	1195
5:30 PM	0	0	0	0	46	0	21	0	31	543	0	1	0	389	30	0	1061
5:45 PM	0	0	0	0	38	0	17	0	33	535	0	3	0	439	51	0	1116
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	448	0	204	0	239	4196	0	18	0	3299	273	0	8677
APPROACH %'s :					68.71%	0.00%	31.29%	0.00%	5.37%	94.23%	0.00%	0.40%	0.00%	92.36%	7.64%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	291	0	102	0	128	2404	0	2	0	1647	151	0	4725
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.735	0.000	0.729	0.000	0.941	0.932	0.000	0.500	0.000	0.917	0.821	0.000	0.931
					0.733				0.936				0.908				

National Data & Surveying Services

Intersection Turning Movement Count

Location: East Campus Rd & 7th St
City: Long Beach
Control: Signalized

Project ID: 18-05307-107
Date: 5/23/2018

Total

NS/EW Streets:	East Campus Rd				East Campus Rd				7th St				7th St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	0.5	0.5	0	1	3	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	5	2	0	3	2	2	0	3	608	2	0	4	537	6	0	1176
7:15 AM	4	4	6	0	2	0	7	0	10	625	5	0	6	653	17	4	1343
7:30 AM	10	7	2	0	6	2	13	0	19	620	18	0	8	641	20	7	1373
7:45 AM	25	15	4	0	8	8	15	0	22	565	18	0	8	613	28	6	1335
8:00 AM	16	10	3	0	6	4	8	0	19	639	5	0	6	649	31	0	1396
8:15 AM	13	9	2	0	5	2	9	0	20	553	3	1	6	574	23	3	1223
8:30 AM	10	4	4	0	9	3	10	0	26	585	5	0	8	606	28	6	1304
8:45 AM	7	8	2	0	18	3	13	0	28	513	5	0	2	554	50	3	1206
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	87	62	25	0	57	24	77	0	147	4708	61	1	48	4827	203	29	10356
APPROACH %'s :	50.00%	35.63%	14.37%	0.00%	36.08%	15.19%	48.73%	0.00%	2.99%	95.75%	1.24%	0.02%	0.94%	94.52%	3.97%	0.57%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	55	36	15	0	22	14	43	0	70	2449	46	0	28	2556	96	17	5447
PEAK HR FACTOR :	0.550	0.600	0.625	0.000	0.688	0.438	0.717	0.000	0.795	0.958	0.639	0.000	0.875	0.979	0.774	0.607	0.975
	0.602				0.637				0.967				0.983				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	0.5	0.5	0	1	3	1	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	8	10	0	24	7	17	0	15	367	8	0	19	424	16	3	923
4:15 PM	4	5	3	0	20	12	17	0	11	370	6	0	20	404	18	5	895
4:30 PM	4	9	11	0	38	8	15	0	16	587	12	0	6	417	26	6	1155
4:45 PM	8	13	5	0	32	7	28	0	27	688	4	0	15	436	20	4	1287
5:00 PM	2	4	4	0	59	24	33	0	18	629	9	0	11	412	17	0	1222
5:15 PM	1	8	2	0	21	13	23	0	16	693	8	0	7	392	25	0	1209
5:30 PM	4	7	1	0	25	7	26	0	18	557	12	0	15	412	32	2	1118
5:45 PM	1	4	2	0	23	9	19	0	21	538	7	1	18	488	36	1	1168
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	29	58	38	0	242	87	178	0	142	4429	66	1	111	3385	190	21	8977
APPROACH %'s :	23.20%	46.40%	30.40%	0.00%	47.73%	17.16%	35.11%	0.00%	3.06%	95.49%	1.42%	0.02%	2.99%	91.31%	5.13%	0.57%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	15	34	22	0	150	52	99	0	77	2597	33	0	39	1657	88	10	4873
PEAK HR FACTOR :	0.469	0.654	0.500	0.000	0.636	0.542	0.750	0.000	0.713	0.937	0.688	0.000	0.650	0.950	0.846	0.417	0.947
	0.683				0.649				0.941				0.944				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Palo Verde Ave & Wardlow Rd
City: Long Beach
Control: Signalized

Project ID: 18-05307-081
Date: 5/10/2018

Total

NS/EW Streets:	Palo Verde Ave				Palo Verde Ave				Wardlow Rd				Wardlow Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	10	23	15	0	13	39	0	0	0	96	13	0	25	193	10	0	437
7:15 AM	21	50	11	0	26	91	1	0	0	128	37	0	41	214	14	0	634
7:30 AM	28	75	24	0	44	107	0	0	2	199	46	0	33	233	16	0	807
7:45 AM	25	80	9	0	21	81	2	0	0	135	15	0	35	248	15	0	666
8:00 AM	14	34	10	0	19	62	0	0	4	96	13	1	34	229	20	0	536
8:15 AM	17	50	6	0	19	58	2	0	3	113	22	0	22	229	13	0	554
8:30 AM	20	69	13	0	27	91	1	0	2	101	30	1	24	189	17	0	585
8:45 AM	22	84	14	0	31	88	0	0	3	113	30	0	33	177	22	0	617
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	157	465	102	0	200	617	6	0	14	981	206	2	247	1712	127	0	4836
APPROACH %'s :	21.69%	64.23%	14.09%	0.00%	24.30%	74.97%	0.73%	0.00%	1.16%	81.55%	17.12%	0.17%	11.84%	82.07%	6.09%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	88	239	54	0	110	341	3	0	6	558	111	1	143	924	65	0	2643
PEAK HR FACTOR :	0.786	0.747	0.563	0.000	0.625	0.797	0.375	0.000	0.375	0.701	0.603	0.250	0.872	0.931	0.813	0.000	0.819
	0.750				0.752				0.684				0.950				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	25	106	29	0	19	81	1	0	6	199	23	1	24	140	29	0	683
4:15 PM	30	107	43	0	27	77	2	0	6	191	29	1	19	162	17	0	711
4:30 PM	20	103	34	0	21	66	4	0	6	203	11	0	21	139	17	0	645
4:45 PM	26	118	33	0	13	58	0	0	5	221	25	0	20	177	18	0	714
5:00 PM	17	119	38	0	20	63	2	0	5	245	16	0	23	147	25	0	720
5:15 PM	26	152	43	0	15	81	6	0	1	263	19	0	21	186	22	0	835
5:30 PM	21	121	40	0	33	82	5	0	3	232	23	0	38	184	21	0	803
5:45 PM	22	135	44	0	21	59	1	0	3	206	25	1	20	186	25	0	748
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	187	961	304	0	169	567	21	0	35	1760	171	3	186	1321	174	0	5859
APPROACH %'s :	12.88%	66.18%	20.94%	0.00%	22.32%	74.90%	2.77%	0.00%	1.78%	89.39%	8.68%	0.15%	11.06%	78.58%	10.35%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	86	527	165	0	89	285	14	0	12	946	83	1	102	703	93	0	3106
PEAK HR FACTOR :	0.827	0.867	0.938	0.000	0.674	0.869	0.583	0.000	0.600	0.899	0.830	0.250	0.671	0.945	0.930	0.000	0.930
	0.880				0.808				0.920				0.924				

National Data & Surveying Services Intersection Turning Movement Count

Location: Palo Verde Ave & Atherton St
City: Long Beach
Control: Signalized

Project ID: 18-05307-082
Date: 5/23/2018

Total

NS/EW Streets:	Palo Verde Ave				Palo Verde Ave				Atherton St				Atherton St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1.5	1.5	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	41	2	0	13	59	41	0	20	15	14	0	4	45	11	0	282
7:15 AM	25	55	3	0	13	77	53	0	28	20	22	0	7	67	31	0	401
7:30 AM	32	61	3	0	13	100	90	0	36	29	25	0	13	90	22	0	514
7:45 AM	37	59	5	0	15	135	91	0	25	26	33	0	13	98	21	0	558
8:00 AM	24	41	4	0	15	126	65	0	24	37	44	0	17	81	10	0	488
8:15 AM	33	53	3	0	20	114	74	0	22	31	30	0	16	73	25	0	494
8:30 AM	31	73	4	0	31	163	89	0	31	34	42	0	20	94	26	1	639
8:45 AM	23	61	7	0	33	166	94	0	33	49	36	0	30	102	20	0	654
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	222	444	31	0	153	940	597	0	219	241	246	0	120	650	166	1	4030
APPROACH %'s :	31.85%	63.70%	4.45%	0.00%	9.05%	55.62%	35.33%	0.00%	31.02%	34.14%	34.84%	0.00%	12.81%	69.37%	17.72%	0.11%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	111	228	18	0	99	569	322	0	110	151	152	0	83	350	81	1	2275
PEAK HR FACTOR :	0.841	0.781	0.643	0.000	0.750	0.857	0.856	0.000	0.833	0.770	0.864	0.000	0.692	0.858	0.779	0.250	0.870
	0.826				0.845				0.875				0.847				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1.5	1.5	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	67	172	18	0	28	103	50	0	155	115	40	0	4	37	21	1	811
4:15 PM	53	132	14	1	40	148	91	0	99	72	45	0	19	69	25	2	810
4:30 PM	57	167	13	0	25	108	70	0	148	90	51	0	10	60	20	0	819
4:45 PM	53	196	12	0	31	134	65	0	157	109	48	0	9	77	21	1	913
5:00 PM	88	220	27	0	31	102	62	0	182	142	56	0	8	54	11	3	986
5:15 PM	62	148	30	2	31	130	69	1	118	92	67	0	21	71	23	1	866
5:30 PM	70	140	17	0	21	106	58	0	133	88	53	0	14	47	21	0	768
5:45 PM	60	150	12	1	25	129	64	0	97	82	51	0	19	70	16	4	780
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	510	1325	143	4	232	960	529	1	1089	790	411	0	104	485	158	12	6753
APPROACH %'s :	25.73%	66.85%	7.21%	0.20%	13.47%	55.75%	30.72%	0.06%	47.55%	34.50%	17.95%	0.00%	13.70%	63.90%	20.82%	1.58%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	260	731	82	2	118	474	266	1	605	433	222	0	48	262	75	5	3584
PEAK HR FACTOR :	0.739	0.831	0.683	0.250	0.952	0.884	0.950	0.250	0.831	0.762	0.828	0.000	0.571	0.851	0.815	0.417	0.909
	0.802				0.930				0.829				0.841				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Los Coyotes Diagonal & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05307-083
Date: 5/10/2018

Total

NS/EW Streets:	Los Coyotes Diagonal				Los Coyotes Diagonal				Carson St				Carson St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	2	1	0	1	3	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	37	4	73	0	23	46	5	0	2	101	40	1	84	217	8	0	641
7:15 AM	48	15	82	0	27	75	5	0	2	108	67	2	109	243	9	1	793
7:30 AM	60	18	123	0	32	64	4	0	0	117	81	1	151	254	8	0	913
7:45 AM	71	24	95	0	21	57	4	0	0	116	56	1	143	313	11	0	912
8:00 AM	50	14	93	0	18	41	3	0	5	125	60	1	102	286	12	0	810
8:15 AM	72	17	80	0	30	50	9	0	1	142	79	3	102	277	11	0	873
8:30 AM	82	16	85	0	15	56	5	0	1	100	85	2	137	258	15	0	857
8:45 AM	77	32	117	0	18	46	7	0	3	156	70	2	99	205	9	2	843
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	497	140	748	0	184	435	42	0	14	965	538	13	927	2053	83	3	6642
APPROACH %'s :	35.88%	10.11%	54.01%	0.00%	27.84%	65.81%	6.35%	0.00%	0.92%	63.07%	35.16%	0.85%	30.23%	66.96%	2.71%	0.10%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	253	73	391	0	101	212	20	0	6	500	276	6	498	1130	42	0	3508
PEAK HR FACTOR :	0.878	0.760	0.795	0.000	0.789	0.828	0.556	0.000	0.300	0.880	0.852	0.500	0.825	0.903	0.875	0.000	0.961
			0.892				0.833				0.876				0.894		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	1	1	0	1	2	1	0	1	3	0	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	90	99	145	0	26	43	12	0	6	205	53	1	126	214	18	2	1040
4:15 PM	67	49	151	1	26	43	4	0	3	260	49	3	118	261	16	3	1054
4:30 PM	58	38	145	1	20	50	8	0	6	216	43	3	116	175	20	0	899
4:45 PM	60	47	148	0	17	34	6	0	5	242	48	4	114	258	18	2	1003
5:00 PM	78	39	141	0	30	41	4	0	4	244	38	4	107	260	20	0	1010
5:15 PM	94	58	140	2	28	52	15	0	11	260	50	0	106	220	23	3	1062
5:30 PM	87	56	154	0	16	33	5	0	5	253	42	2	119	258	22	0	1052
5:45 PM	88	61	183	2	27	31	11	0	4	266	48	3	110	268	26	2	1130
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	622	447	1207	6	190	327	65	0	44	1946	371	20	916	1914	163	12	8250
APPROACH %'s :	27.26%	19.59%	52.89%	0.26%	32.65%	56.19%	11.17%	0.00%	1.85%	81.73%	15.58%	0.84%	30.48%	63.69%	5.42%	0.40%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	347	214	618	4	101	157	35	0	24	1023	178	9	442	1006	91	5	4254
PEAK HR FACTOR :	0.923	0.877	0.844	0.500	0.842	0.755	0.583	0.000	0.545	0.961	0.890	0.563	0.929	0.938	0.875	0.417	0.941
			0.885				0.771				0.961				0.951		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Studebaker Rd & Spring St
City: Long Beach
Control: Signalized

Project ID: 18-05307-084
Date: 5/10/2018

Total

NS/EW Streets:	Studebaker Rd				Studebaker Rd				Spring St				Spring St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	11	27	21	0	3	76	18	1	10	66	14	0	23	162	2	7	441
7:15 AM	19	46	33	0	8	113	17	0	8	75	16	0	34	203	6	4	582
7:30 AM	20	41	22	1	18	96	14	0	15	87	19	0	44	222	8	3	610
7:45 AM	26	64	37	0	25	112	18	1	16	104	26	0	34	203	11	5	682
8:00 AM	27	44	29	0	17	97	19	0	11	71	32	0	58	196	3	3	607
8:15 AM	19	53	31	0	19	114	10	1	9	69	28	0	43	157	4	7	564
8:30 AM	29	56	42	0	23	110	25	1	11	83	23	0	45	158	9	2	617
8:45 AM	29	70	46	3	25	87	10	0	17	106	32	1	64	185	7	8	690
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	180	401	261	4	138	805	131	4	97	661	190	1	345	1486	50	39	4793
APPROACH %'s :	21.28%	47.40%	30.85%	0.47%	12.80%	74.68%	12.15%	0.37%	10.22%	69.65%	20.02%	0.11%	17.97%	77.40%	2.60%	2.03%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	92	195	121	1	68	418	68	1	50	337	93	0	170	824	28	15	2481
PEAK HR FACTOR :	0.852	0.762	0.818	0.250	0.680	0.925	0.895	0.250	0.781	0.810	0.727	0.000	0.733	0.928	0.636	0.750	0.909
	0.805				0.889				0.822				0.936				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	48	154	57	0	17	85	33	0	41	189	42	0	60	173	33	5	937
4:15 PM	48	173	45	1	10	121	22	0	37	211	45	0	59	165	16	5	958
4:30 PM	40	148	57	1	4	113	29	0	30	191	44	0	62	186	26	2	933
4:45 PM	46	167	51	0	14	107	24	0	65	202	57	1	68	160	38	4	1004
5:00 PM	44	174	52	1	14	96	27	1	37	231	48	0	62	213	22	4	1026
5:15 PM	46	227	58	0	14	135	27	0	48	195	55	1	65	179	16	5	1071
5:30 PM	45	228	51	1	12	112	26	0	57	193	55	0	67	196	32	3	1078
5:45 PM	56	208	62	0	19	119	23	1	55	210	55	0	62	165	37	3	1075
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	373	1479	433	4	104	888	211	2	370	1622	401	2	505	1437	220	31	8082
APPROACH %'s :	16.30%	64.61%	18.92%	0.17%	8.63%	73.69%	17.51%	0.17%	15.45%	67.72%	16.74%	0.08%	23.03%	65.53%	10.03%	1.41%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	191	837	223	2	59	462	103	2	197	829	213	1	256	753	107	15	4250
PEAK HR FACTOR :	0.853	0.918	0.899	0.500	0.776	0.856	0.954	0.500	0.864	0.897	0.968	0.250	0.955	0.884	0.723	0.750	0.986
	0.946				0.889				0.969				0.939				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Studebaker Rd & Willow St
City: Long Beach
Control: Signalized

Project ID: 18-05307-085
Date: 5/10/2018

Total

NS/EW Streets:	Studebaker Rd				Studebaker Rd				Willow St				Willow St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	93	43	0	29	134	19	0	9	68	13	0	27	334	16	0	797
7:15 AM	26	154	56	0	39	161	31	0	20	121	7	2	55	370	20	0	1062
7:30 AM	21	140	72	0	45	265	34	0	22	111	12	0	65	376	25	0	1188
7:45 AM	21	95	55	0	40	248	40	0	21	90	23	1	60	417	30	0	1141
8:00 AM	12	131	50	0	20	178	28	1	23	88	15	0	60	412	35	0	1053
8:15 AM	25	115	59	0	40	145	19	1	23	88	12	0	62	382	31	1	1003
8:30 AM	20	116	44	0	27	166	20	0	22	91	23	0	57	290	26	0	902
8:45 AM	16	129	56	0	42	164	32	0	20	91	14	1	62	316	23	1	967
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	153	973	435	0	282	1461	223	2	160	748	119	4	448	2897	206	2	8113
APPROACH %'s :	9.80%	62.33%	27.87%	0.00%	14.33%	74.24%	11.33%	0.10%	15.52%	72.55%	11.54%	0.39%	12.61%	81.54%	5.80%	0.06%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	80	520	233	0	144	852	133	1	86	410	57	3	240	1575	110	0	4444
PEAK HR FACTOR :	0.769	0.844	0.809	0.000	0.800	0.804	0.831	0.250	0.935	0.847	0.620	0.375	0.923	0.944	0.786	0.000	0.935
		0.882				0.821				0.927				0.949			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	1	3	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	31	210	75	1	34	128	20	0	38	183	17	0	63	223	41	4	1068
4:15 PM	20	161	60	0	31	165	25	0	37	214	27	0	64	297	56	2	1159
4:30 PM	20	179	73	0	31	164	19	0	36	166	17	0	59	232	48	3	1047
4:45 PM	15	169	79	0	39	143	19	2	48	242	24	0	61	295	47	0	1183
5:00 PM	26	220	103	0	34	151	23	1	45	225	24	0	68	285	66	4	1275
5:15 PM	34	218	64	0	34	168	28	2	51	243	26	1	64	311	64	0	1308
5:30 PM	17	226	74	1	39	170	18	1	48	228	26	0	81	311	92	1	1333
5:45 PM	39	203	65	1	36	162	22	0	45	206	26	1	72	341	82	0	1301
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	202	1586	593	3	278	1251	174	6	348	1707	187	2	532	2295	496	14	9674
APPROACH %'s :	8.47%	66.53%	24.87%	0.13%	16.27%	73.20%	10.18%	0.35%	15.51%	76.07%	8.33%	0.09%	15.94%	68.77%	14.86%	0.42%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	116	867	306	2	143	651	91	4	189	902	102	2	285	1248	304	5	5217
PEAK HR FACTOR :	0.744	0.959	0.743	0.500	0.917	0.957	0.813	0.500	0.926	0.928	0.981	0.500	0.880	0.915	0.826	0.313	0.978
		0.925				0.958				0.931				0.930			

National Data & Surveying Services

Intersection Turning Movement Count

Location: 7th St & College Park Dr
City: Long Beach
Control: 1-Way Stop(WB)

Project ID: 18-05307-103
Date: 5/23/2018

Total

NS/EW Streets:	7th St				7th St				College Park Dr				College Park Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	145	5	0	5	4	0	0	0	0	0	0	1	0	32	0	192
7:15 AM	0	183	6	0	3	9	0	0	0	0	0	0	3	0	44	0	248
7:30 AM	0	173	4	0	3	11	0	0	0	0	0	0	5	0	46	0	242
7:45 AM	0	202	10	0	11	11	0	0	0	0	0	0	0	0	26	0	260
8:00 AM	0	232	15	0	5	9	0	0	0	0	0	0	2	0	26	0	289
8:15 AM	0	219	13	0	5	13	0	0	0	0	0	0	3	0	31	0	284
8:30 AM	0	233	5	0	5	4	0	0	0	0	0	0	2	0	22	0	271
8:45 AM	0	295	9	0	9	12	0	0	0	0	0	0	2	0	17	0	344
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1682	67	0	46	73	0	0	0	0	0	0	18	0	244	0	2130
APPROACH %'s :	0.00%	96.17%	3.83%	0.00%	38.66%	61.34%	0.00%	0.00%					6.87%	0.00%	93.13%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	0	979	42	0	24	38	0	0	0	0	0	0	9	0	96	0	1188
PEAK HR FACTOR :	0.000	0.830	0.700	0.000	0.667	0.731	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.774	0.000	0.863
		0.840				0.738								0.772			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	343	12	0	13	7	0	0	0	0	0	0	1	0	32	0	408
4:15 PM	0	342	15	0	11	8	0	0	0	0	0	0	0	0	20	0	396
4:30 PM	0	360	15	1	7	15	0	0	0	0	0	0	1	0	19	0	418
4:45 PM	0	306	16	0	17	13	0	0	0	0	0	0	1	0	26	0	379
5:00 PM	0	283	17	0	18	12	0	0	0	0	0	0	2	0	22	0	354
5:15 PM	0	262	14	0	21	7	0	0	0	0	0	0	1	0	25	0	330
5:30 PM	0	308	19	0	15	7	0	0	0	0	0	0	0	0	25	0	374
5:45 PM	0	321	11	0	16	6	0	0	0	0	0	0	0	0	28	0	382
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	2525	119	1	118	75	0	0	0	0	0	0	6	0	197	0	3041
APPROACH %'s :	0.00%	95.46%	4.50%	0.04%	61.14%	38.86%	0.00%	0.00%					2.96%	0.00%	97.04%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	1351	58	1	48	43	0	0	0	0	0	0	3	0	97	0	1601
PEAK HR FACTOR :	0.000	0.938	0.906	0.250	0.706	0.717	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.758	0.000	0.958
		0.938				0.758								0.758			

INTERSECTION TURNING MOVEMENT COUNTS

T816

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Long Beach	PROJECT #:	SC1123
Tue, Nov 15, 16	NORTH & SOUTH:	Studebaker	LOCATION #:	19
	EAST & WEST:	2nd	CONTROL:	SIGNAL

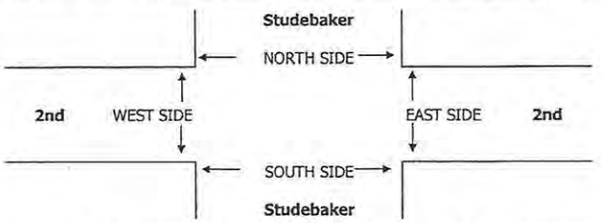
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Studebaker			SOUTHBOUND Studebaker			EASTBOUND 2nd			WESTBOUND 2nd			
	LANES:	NL X	NT X	NR X	SL 2	ST X	SR 2	EL 2	ET 2	ER X	WL X	WT 3	WR 1	TOTAL
AM	7:00 AM	0	0	0	165	0	145	244	159	0	0	185	91	989
	7:15 AM	0	0	0	154	0	135	233	246	0	0	214	127	1,109
	7:30 AM	0	0	0	142	0	169	251	237	0	0	250	133	1,182
	7:45 AM	0	0	0	120	0	160	232	222	0	0	238	114	1,086
	8:00 AM	0	0	0	116	0	203	218	174	0	0	248	113	1,072
	8:15 AM	0	0	0	86	0	157	200	171	0	0	131	73	818
	8:30 AM	0	0	0	71	0	142	222	133	0	0	209	106	883
	8:45 AM	0	0	0	63	0	196	166	119	0	0	213	120	877
	VOLUMES	0	0	0	917	0	1,307	1,766	1,461	0	0	1,688	877	8,016
	APPROACH %	0%	0%	0%	41%	0%	59%	55%	45%	0%	0%	66%	34%	
	APP/DEPART	0	/	2,643	2,224	/	0	3,227	/	2,378	2,565	/	2,995	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	532	0	667	934	879	0	0	950	487	4,449
	APPROACH %	0%	0%	0%	44%	0%	56%	52%	48%	0%	0%	66%	34%	
	PEAK HR FACTOR		0.000			0.940			0.929			0.938		0.941
	APP/DEPART	0	/	1,421	1,199	/	0	1,813	/	1,411	1,437	/	1,617	0
PM	4:00 PM	0	0	0	80	0	267	286	174	0	0	187	136	1,130
	4:15 PM	0	0	0	89	0	246	276	185	0	0	200	138	1,134
	4:30 PM	0	0	0	82	0	216	198	126	0	0	169	141	932
	4:45 PM	0	0	0	90	0	225	315	217	0	0	243	177	1,267
	5:00 PM	0	0	0	103	0	272	313	170	0	0	254	182	1,294
	5:15 PM	0	0	0	132	0	231	288	177	0	0	277	174	1,279
	5:30 PM	0	0	0	99	0	204	221	229	0	0	252	111	1,116
	5:45 PM	0	0	0	101	0	192	233	241	0	0	237	76	1,080
	VOLUMES	0	0	0	776	0	1,853	2,130	1,519	0	0	1,819	1,135	9,232
	APPROACH %	0%	0%	0%	30%	0%	70%	58%	42%	0%	0%	62%	38%	
	APP/DEPART	0	/	3,265	2,629	/	0	3,649	/	2,295	2,954	/	3,672	0
	BEGIN PEAK HR		4:45 PM											
	VOLUMES	0	0	0	424	0	932	1,137	793	0	0	1,026	644	4,956
	APPROACH %	0%	0%	0%	31%	0%	69%	59%	41%	0%	0%	61%	39%	
	PEAK HR FACTOR		0.000			0.904			0.907			0.926		0.957
	APP/DEPART	0	/	1,781	1,356	/	0	1,930	/	1,217	1,670	/	1,958	0

U-TURNS					
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	2	1	1	4
	7:15 AM	0	0	0	0	0
	7:30 AM	1	0	0	0	1
	7:45 AM	2	1	0	0	3
	8:00 AM	0	1	0	1	2
	8:15 AM	0	1	0	1	2
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	1	0	1
	TOTAL	3	5	2	3	13
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	1	0	0	1
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	1	0	0	0	1
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL	1	1	0	0	2

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	2	0	1	3
0	0	0	0	0
1	0	0	0	1
1	1	0	0	2
0	1	0	1	2
0	1	0	1	2
0	0	0	0	0
0	0	1	0	1
2	5	1	3	11
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	1	0	0	2

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-605 SB Ramps & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05723-007
Date: 11/1/2018

Total

NS/EW Streets:	I-605 SB Ramps					I-605 SB Ramps					Carson St					Carson St				
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND				
	0	0	1	0	0	2	1.5	1.5	0	0	0	4	0	0	0	0	2.5	0.5	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	9	0	8	81	20	138	0	2	0	174	18	0	44	0	215	108	0	817
7:15 AM	0	0	8	0	17	95	13	160	0	1	0	180	15	0	60	0	199	119	0	867
7:30 AM	0	0	9	0	8	115	17	183	0	0	0	183	17	0	52	0	274	96	0	954
7:45 AM	0	0	14	0	6	146	17	173	0	0	0	175	25	0	51	0	281	95	0	983
8:00 AM	0	0	15	0	6	128	31	166	0	1	0	181	20	0	52	0	254	99	0	953
8:15 AM	0	0	14	0	7	82	27	174	0	0	0	176	18	0	69	0	268	76	0	911
8:30 AM	0	0	11	0	13	113	32	185	0	0	0	183	15	0	54	0	230	91	0	927
8:45 AM	0	0	23	0	10	112	45	153	0	0	0	211	34	0	51	0	243	88	0	970
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	103	0	75	872	202	1332	0	4	0	1463	162	0	433	0	1964	772	0	7382
APPROACH %'s :	0.00%	0.00%	57.87%	0.00%	42.13%	36.18%	8.38%	55.27%	0.00%	0.17%	0.00%	71.09%	7.87%	0.00%	21.04%	0.00%	71.78%	28.22%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																			TOTAL
PEAK HR VOL :	0	0	52	0	27	471	92	696	0	1	0	715	80	0	224	0	1077	366	0	3801
PEAK HR FACTOR :	0.000	0.000	0.867	0.000	0.844	0.807	0.742	0.951	0.000	0.250	0.000	0.977	0.800	0.000	0.812	0.000	0.958	0.924	0.000	0.967
			0.940					0.938					0.969					0.959		

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND				
	0	0	1	0	0	2	1.5	1.5	0	0	0	4	0	0	0	0	2.5	0.5	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	53	0	29	165	40	119	0	0	0	318	45	0	44	0	252	81	0	1146
4:15 PM	0	0	53	0	29	160	48	146	0	0	0	322	37	0	57	0	253	85	0	1190
4:30 PM	0	0	49	0	38	180	60	146	0	1	0	346	35	0	51	0	255	81	0	1242
4:45 PM	0	0	56	0	40	192	60	147	0	0	0	316	41	0	49	0	245	95	0	1241
5:00 PM	0	0	47	0	43	180	62	153	0	0	0	356	39	0	63	0	273	74	0	1290
5:15 PM	0	0	75	0	39	221	61	176	0	0	0	358	53	0	47	0	256	79	0	1365
5:30 PM	0	0	87	0	39	228	52	142	0	0	0	366	36	0	29	0	237	69	0	1285
5:45 PM	0	0	85	0	46	240	60	136	0	0	0	333	32	0	53	0	249	77	0	1311
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	505	0	303	1566	443	1165	0	1	0	2715	318	0	393	0	2020	641	0	10070
APPROACH %'s :	0.00%	0.00%	62.50%	0.00%	37.50%	49.32%	13.95%	36.69%	0.00%	0.03%	0.00%	79.25%	9.28%	0.00%	11.47%	0.00%	75.91%	24.09%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																			TOTAL
PEAK HR VOL :	0	0	294	0	167	869	235	607	0	0	0	1413	160	0	192	0	1015	299	0	5251
PEAK HR FACTOR :	0.000	0.000	0.845	0.000	0.908	0.905	0.948	0.862	0.000	0.000	0.000	0.965	0.755	0.000	0.762	0.000	0.929	0.946	0.000	0.962
			0.880					0.934					0.963					0.947		

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-605 NB Ramps & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05723-008
Date: 11/1/2018

Total

NS/EW Streets:	I-605 NB Ramps					I-605 NB Ramps				Carson St					Carson St				
AM	NORTHBOUND					SOUTHBOUND				EASTBOUND					WESTBOUND				
	2	0	2	0	0	0	0	0	0	0	4	0	0	0	0	2	1	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
7:00 AM	49	0	55	0	0	0	0	0	0	0	166	0	0	102	0	274	183	0	829
7:15 AM	61	0	71	0	0	0	0	0	0	0	172	0	0	112	0	279	214	0	909
7:30 AM	73	0	80	0	0	0	0	0	0	0	215	0	0	101	0	320	220	0	1009
7:45 AM	72	0	92	0	0	0	0	0	0	0	261	0	0	83	0	294	206	0	1008
8:00 AM	63	0	72	0	0	0	0	0	0	0	208	0	0	106	0	282	173	0	904
8:15 AM	95	0	82	0	0	0	0	0	0	0	176	0	0	101	0	246	155	0	855
8:30 AM	67	0	91	0	0	0	0	0	0	0	196	0	0	104	0	266	119	0	843
8:45 AM	69	0	88	0	0	0	0	0	0	0	230	0	0	119	0	242	150	0	898
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	549	0	631	0	0	0	0	0	0	0	1624	0	0	828	0	2203	1420	0	7255
APPROACH %'s :	46.53%	0.00%	53.47%	0.00%	0.00%					0.00%	66.23%	0.00%	0.00%	33.77%	0.00%	60.81%	39.19%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																		TOTAL
PEAK HR VOL :	269	0	315	0	0	0	0	0	0	0	856	0	0	402	0	1175	813	0	3830
PEAK HR FACTOR :	0.921	0.000	0.856	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.820	0.000	0.000	0.897	0.000	0.918	0.924	0.000	0.949
			0.890									0.914				0.920			

PM	NORTHBOUND					SOUTHBOUND				EASTBOUND					WESTBOUND				
	2	0	2	0	0	0	0	0	0	0	4	0	0	0	0	2	1	0	
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
4:00 PM	91	0	129	0	1	0	0	0	0	0	382	0	0	164	0	259	124	0	1150
4:15 PM	82	0	127	0	0	0	0	0	0	0	406	0	0	138	0	252	104	0	1109
4:30 PM	88	0	141	0	0	0	0	0	0	0	427	0	0	159	0	266	146	0	1227
4:45 PM	84	0	124	0	0	0	0	0	0	0	431	0	0	145	0	238	159	0	1181
5:00 PM	80	0	123	0	0	0	0	0	0	0	447	0	0	159	0	253	143	0	1205
5:15 PM	76	0	105	0	0	0	0	0	0	0	473	0	0	174	0	263	171	0	1262
5:30 PM	68	0	112	0	0	0	0	0	0	0	490	0	0	184	0	254	177	0	1285
5:45 PM	75	0	138	0	0	0	0	0	0	0	478	0	0	161	0	250	173	0	1275
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	EL	ET	ER	EU	ET2	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	644	0	999	0	1	0	0	0	0	0	3534	0	0	1284	0	2035	1197	0	9694
APPROACH %'s :	39.17%	0.00%	60.77%	0.00%	0.06%					0.00%	73.35%	0.00%	0.00%	26.65%	0.00%	62.96%	37.04%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																		TOTAL
PEAK HR VOL :	299	0	478	0	0	0	0	0	0	0	1888	0	0	678	0	1020	664	0	5027
PEAK HR FACTOR :	0.934	0.000	0.866	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.963	0.000	0.000	0.921	0.000	0.970	0.938	0.000	0.978
			0.912									0.952				0.970			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Norwalk Blvd & Carson St
City: Long Beach
Control: Signalized

Project ID: 18-05307-093
Date: 5/23/2018

Total

NS/EW Streets:	Norwalk Blvd				Norwalk Blvd				Carson St				Carson St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	35	66	21	0	19	59	20	0	7	127	25	0	13	216	6	4	618
7:15 AM	55	134	25	0	20	107	28	0	10	115	33	0	23	228	16	1	795
7:30 AM	48	130	32	0	33	142	32	0	12	170	46	1	40	270	19	1	976
7:45 AM	65	103	37	0	31	138	33	0	19	151	35	0	21	238	14	3	888
8:00 AM	41	100	26	0	23	85	27	0	23	166	40	2	38	260	15	2	848
8:15 AM	44	88	32	0	34	77	22	0	28	122	20	0	24	187	29	5	712
8:30 AM	40	84	21	0	37	82	31	0	20	128	30	2	36	203	16	2	732
8:45 AM	28	114	33	0	42	116	25	0	29	144	24	0	36	147	21	6	765
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	356	819	227	0	239	806	218	0	148	1123	253	5	231	1749	136	24	6334
APPROACH %'s :	25.39%	58.42%	16.19%	0.00%	18.92%	63.82%	17.26%	0.00%	9.68%	73.45%	16.55%	0.33%	10.79%	81.73%	6.36%	1.12%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	209	467	120	0	107	472	120	0	64	602	154	3	122	996	64	7	3507
PEAK HR FACTOR :	0.804	0.871	0.811	0.000	0.811	0.831	0.909	0.000	0.696	0.885	0.837	0.375	0.763	0.922	0.842	0.583	0.898
	0.930				0.844				0.891				0.901				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	51	104	34	0	30	87	23	0	30	188	43	6	42	163	34	3	838
4:15 PM	61	143	34	0	40	102	29	0	39	193	37	2	45	148	38	5	916
4:30 PM	53	132	28	0	29	100	25	0	40	220	33	1	45	186	26	4	922
4:45 PM	56	127	29	0	41	126	26	0	34	223	46	1	39	198	31	5	982
5:00 PM	46	161	36	0	42	93	26	0	46	228	40	4	36	178	25	4	965
5:15 PM	57	148	51	0	32	122	23	0	41	242	49	2	47	166	27	6	1013
5:30 PM	61	171	41	0	30	106	28	0	47	240	51	1	56	193	23	5	1053
5:45 PM	53	183	36	0	39	116	32	0	39	205	52	4	46	160	37	5	1007
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	438	1169	289	0	283	852	212	0	316	1739	351	21	356	1392	241	37	7696
APPROACH %'s :	23.10%	61.66%	15.24%	0.00%	21.01%	63.25%	15.74%	0.00%	13.02%	71.65%	14.46%	0.87%	17.57%	68.71%	11.90%	1.83%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	217	663	164	0	143	437	109	0	173	915	192	11	185	697	112	20	4038
PEAK HR FACTOR :	0.889	0.906	0.804	0.000	0.851	0.895	0.852	0.000	0.920	0.945	0.923	0.688	0.826	0.903	0.757	0.833	0.959
	0.956				0.921				0.952				0.915				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Norwalk Blvd & Cerritos Ave
City: Long Beach
Control: Signalized

Project ID: 18-05307-097
Date: 5/23/2018

Total

NS/EW Streets:	Norwalk Blvd				Norwalk Blvd				Cerritos Ave				Cerritos Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	1	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	23	77	76	2	15	124	25	0	19	191	36	0	52	205	11	0	856
7:15 AM	34	150	96	5	29	165	18	1	19	215	25	0	50	174	26	1	1008
7:30 AM	46	174	79	1	45	233	16	0	56	211	35	0	54	212	51	4	1217
7:45 AM	40	201	93	6	21	265	24	0	35	207	39	0	57	231	53	9	1281
8:00 AM	22	104	56	1	13	157	28	0	10	220	42	0	56	203	14	0	926
8:15 AM	43	105	77	7	16	131	20	1	22	247	49	0	47	162	8	0	935
8:30 AM	44	94	81	3	11	94	31	0	14	179	50	0	65	205	16	4	891
8:45 AM	49	91	86	5	10	125	22	0	17	169	69	0	57	143	15	0	858
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	301	996	644	30	160	1294	184	2	192	1639	345	0	438	1535	194	18	7972
APPROACH %'s :	15.27%	50.53%	32.67%	1.52%	9.76%	78.90%	11.22%	0.12%	8.82%	75.32%	15.85%	0.00%	20.05%	70.25%	8.88%	0.82%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	142	629	324	13	108	820	86	1	120	853	141	0	217	820	144	14	4432
PEAK HR FACTOR :	0.772	0.782	0.844	0.542	0.600	0.774	0.768	0.250	0.536	0.969	0.839	0.000	0.952	0.887	0.679	0.389	0.865
	0.815				0.819				0.922				0.854				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	0	0	1	2	1	0	1	2	1	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	72	220	100	7	30	157	17	0	45	220	53	0	61	194	35	1	1212
4:15 PM	54	181	79	3	23	148	29	0	44	201	50	0	65	239	41	3	1160
4:30 PM	50	217	92	2	14	128	15	0	46	223	58	1	60	191	25	1	1123
4:45 PM	60	196	76	7	25	168	20	1	39	220	66	1	71	246	29	3	1228
5:00 PM	72	249	113	6	24	166	16	1	44	213	55	0	54	208	35	2	1258
5:15 PM	62	235	87	3	25	160	23	0	45	232	53	1	80	275	47	1	1329
5:30 PM	49	232	95	4	29	169	20	0	47	231	45	0	77	215	44	0	1257
5:45 PM	55	199	99	7	36	179	21	0	32	218	48	0	58	223	29	3	1207
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	474	1729	741	39	206	1275	161	2	342	1758	428	3	526	1791	285	14	9774
APPROACH %'s :	15.89%	57.96%	24.84%	1.31%	12.53%	77.55%	9.79%	0.12%	13.51%	69.46%	16.91%	0.12%	20.11%	68.46%	10.89%	0.54%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	243	912	371	20	103	663	79	2	175	896	219	2	282	944	155	6	5072
PEAK HR FACTOR :	0.844	0.916	0.821	0.714	0.888	0.981	0.859	0.500	0.931	0.966	0.830	0.500	0.881	0.858	0.824	0.500	0.954
	0.878				0.971				0.976				0.860				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Los Alamitos Blvd & Katella Ave
City: Long Beach
Control: Signalized

Project ID: 18-05307-098
Date: 5/23/2018

Total

NS/EW Streets:	Los Alamitos Blvd				Los Alamitos Blvd				Katella Ave				Katella Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	1	0	2	3	1	0	2	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	85	185	66	0	17	108	39	0	23	381	64	0	48	292	20	0	1328
7:15 AM	102	240	87	0	24	176	37	0	56	397	56	0	64	303	24	0	1566
7:30 AM	109	296	85	0	48	248	54	0	56	374	42	0	74	321	28	0	1735
7:45 AM	101	243	116	0	54	267	47	0	39	416	62	0	85	336	18	0	1784
8:00 AM	140	224	128	0	42	188	42	0	34	420	64	0	79	320	26	0	1707
8:15 AM	111	224	119	0	46	149	35	0	55	434	80	0	60	281	19	0	1613
8:30 AM	97	162	102	0	43	161	39	0	54	388	75	0	94	307	20	0	1542
8:45 AM	96	161	96	0	28	131	35	0	60	369	91	0	63	251	18	0	1399
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	841	1735	799	0	302	1428	328	0	377	3179	534	0	567	2411	173	0	12674
APPROACH %'s :	24.92%	51.41%	23.67%	0.00%	14.67%	69.39%	15.94%	0.00%	9.22%	77.73%	13.06%	0.00%	17.99%	76.52%	5.49%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	461	987	448	0	190	852	178	0	184	1644	248	0	298	1258	91	0	6839
PEAK HR FACTOR :	0.823	0.834	0.875	0.000	0.880	0.798	0.824	0.000	0.821	0.947	0.775	0.000	0.876	0.936	0.813	0.000	0.958
	0.963				0.829				0.912				0.938				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	1	0	2	3	1	0	2	3	1	0	2	3	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	110	209	107	0	37	244	50	0	61	366	112	0	85	376	25	0	1782
4:15 PM	99	209	82	0	30	204	36	0	66	394	116	0	95	384	23	0	1738
4:30 PM	116	187	115	0	28	217	51	0	63	375	115	0	96	393	27	0	1783
4:45 PM	115	221	89	0	27	230	43	0	61	365	132	0	99	382	25	0	1789
5:00 PM	104	209	83	0	45	267	47	0	80	339	129	0	81	391	34	0	1809
5:15 PM	95	290	100	0	42	251	41	0	59	345	116	0	78	407	28	0	1852
5:30 PM	114	211	96	0	29	273	46	0	75	348	128	0	79	370	28	0	1797
5:45 PM	89	222	63	0	39	236	33	0	78	370	145	0	87	377	21	0	1760
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	842	1758	735	0	277	1922	347	0	543	2902	993	0	700	3080	211	0	14310
APPROACH %'s :	25.25%	52.71%	22.04%	0.00%	10.88%	75.49%	13.63%	0.00%	12.24%	65.39%	22.37%	0.00%	17.54%	77.17%	5.29%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	428	931	368	0	143	1021	177	0	275	1397	505	0	337	1550	115	0	7247
PEAK HR FACTOR :	0.930	0.803	0.920	0.000	0.794	0.935	0.941	0.000	0.859	0.957	0.956	0.000	0.851	0.952	0.846	0.000	0.978
	0.890				0.934				0.975				0.976				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Seal Beach Blvd & Westminster Blvd
City: Long Beach
Control: Signalized

Project ID: 18-05307-102
Date: 5/23/2018

Total

NS/EW Streets:	Seal Beach Blvd				Seal Beach Blvd				Westminster Blvd				Westminster Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	2	3	1	0	2	2.5	0.5	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	6	165	32	0	47	208	74	1	33	134	5	0	57	161	32	0	955
7:15 AM	14	210	30	0	50	250	83	0	33	147	6	0	78	227	53	0	1181
7:30 AM	7	143	27	0	47	274	91	0	39	155	7	1	73	297	42	0	1203
7:45 AM	21	198	42	0	56	286	103	0	63	156	7	0	61	272	45	0	1310
8:00 AM	20	196	47	0	53	219	103	1	49	121	6	0	76	243	38	0	1172
8:15 AM	17	172	37	0	45	260	103	1	53	141	3	0	77	226	43	0	1178
8:30 AM	18	149	37	0	41	163	77	1	38	92	7	1	76	250	49	0	999
8:45 AM	15	147	40	0	34	205	96	4	46	96	7	0	70	228	56	0	1044
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	118	1380	292	0	373	1865	730	8	354	1042	48	2	568	1904	358	0	9042
APPROACH %'s :	6.59%	77.09%	16.31%	0.00%	12.53%	62.67%	24.53%	0.27%	24.48%	72.06%	3.32%	0.14%	20.07%	67.28%	12.65%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	62	747	146	0	206	1029	380	1	184	579	26	1	288	1039	178	0	4866
PEAK HR FACTOR :	0.738	0.889	0.777	0.000	0.920	0.899	0.922	0.250	0.730	0.928	0.929	0.250	0.923	0.875	0.840	0.000	0.929
		0.908				0.908				0.874				0.913			

NS/EW Streets:	Seal Beach Blvd				Seal Beach Blvd				Westminster Blvd				Westminster Blvd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	0	0	2	3	1	0	2	2.5	0.5	0	2	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	34	264	36	0	35	176	50	1	95	180	8	0	73	204	86	0	1242
4:15 PM	21	255	54	0	49	164	56	0	137	196	10	0	62	200	55	0	1259
4:30 PM	28	244	56	0	65	215	52	3	113	204	5	1	58	193	69	0	1306
4:45 PM	20	209	43	1	44	174	59	2	98	219	8	0	77	230	72	0	1256
5:00 PM	34	238	57	1	58	208	69	3	128	236	9	0	77	209	71	0	1398
5:15 PM	33	250	63	0	64	172	64	2	98	242	9	1	82	246	73	0	1399
5:30 PM	24	203	57	0	57	180	71	0	119	228	8	0	65	242	53	0	1307
5:45 PM	14	154	52	1	65	184	64	2	84	170	14	0	62	218	50	0	1134
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	208	1817	418	3	437	1473	485	13	872	1675	71	2	556	1742	529	0	10301
APPROACH %'s :	8.50%	74.28%	17.09%	0.12%	18.15%	61.17%	20.14%	0.54%	33.28%	63.93%	2.71%	0.08%	19.67%	61.62%	18.71%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	111	900	220	2	223	734	263	7	443	925	34	1	301	927	269	0	5360
PEAK HR FACTOR :	0.816	0.900	0.873	0.500	0.871	0.882	0.926	0.583	0.865	0.956	0.944	0.250	0.918	0.942	0.921	0.000	0.958
		0.891				0.908				0.940				0.933			

APPENDIX B

INTERSECTION CAPACITY UTILIZATION LEVEL OF SERVICE WORKSHEETS

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Intersection Capacity Utilization Analysis

Intersection Number: 1
North/South Roadway: Avalon Boulevard
East/West Roadway: PCH
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	202	228	0.13	0.14
NBT	3	4,800	461	480	0.13 *	0.13 *
NBR	0	0	160	140	0.00	0.00
SBL	1	1,600	262	256	0.16 *	0.16 *
SBT	3	4,800	479	537	0.13	0.14
SBR	0	0	163	145	0.00	0.00
EBL	1	1,600	142	93	0.09 *	0.06
EBT	3	4,800	847	1,144	0.20	0.27 *
EBR	0	0	105	153	0.00	0.00
WBL	1	1,600	65	103	0.04	0.06 *
WBT	3	4,800	1,168	1,059	0.27 *	0.26
WBR	0	0	131	171	0.00	0.00
N/S Critical Movements					0.29	0.29
E/W Critical Movements					0.36	0.33
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.75	0.72
Level of Service (LOS)					C	C

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	233	240	0.15	0.15
3	4,800	533	555	0.15 *	0.15 *
0	0	185	162	0.00	0.00
1	1,600	303	296	0.19 *	0.18 *
3	4,800	494	621	0.14	0.16
0	0	168	168	0.00	0.00
1	1,600	164	107	0.10 *	0.07
3	4,800	979	1,322	0.23	0.31 *
0	0	121	173	0.00	0.00
1	1,600	75	104	0.05	0.07 *
3	4,800	1,350	1,224	0.31 *	0.30
0	0	151	198	0.00	0.00
				0.34	0.33
				0.41	0.38
				0.00	0.00
				0.10	0.10
				0.85	0.81
				D	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	233	238	0.15	0.15
NBT	3	4,800	533	555	0.15 *	0.15 *
NBR	0	0	185	162	0.00	0.00
SBL	1	1,600	303	296	0.19 *	0.18 *
SBT	3	4,800	492	621	0.14	0.16
SBR	0	0	163	168	0.00	0.00
EBL	1	1,600	164	107	0.10 *	0.07
EBT	3	4,800	979	1,322	0.23	0.31 *
EBR	0	0	121	169	0.00	0.00
WBL	1	1,600	75	105	0.05	0.07 *
WBT	3	4,800	1,350	1,224	0.31 *	0.30
WBR	0	0	151	198	0.00	0.00
N/S Critical Movements					0.34	0.33
E/W Critical Movements					0.41	0.38
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.85	0.81
Level of Service (LOS)					D	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	233	238	0.15	0.15
3	4,800	533	555	0.15 *	0.15 *
0	0	185	162	0.00	0.00
1	1,600	303	296	0.19 *	0.18 *
3	4,800	492	621	0.14	0.16
0	0	163	168	0.00	0.00
1	1,600	164	107	0.10 *	0.07
3	4,800	979	1,322	0.23	0.31 *
0	0	121	169	0.00	0.00
1	1,600	75	105	0.05	0.07 *
3	4,800	1,350	1,224	0.31 *	0.30
0	0	151	198	0.00	0.00
				0.34	0.33
				0.41	0.38
				0.00	0.00
				0.10	0.10
				0.85	0.81
				D	D

Right Turn Conditions:

P - Protected right turn movement

U - Unprotected right turn movement

N - No right turn on red

F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 2
North/South Roadway: Avalon Boulevard
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	47	94	0.03	*	0.06	
NBT	2	3,200	257	347	0.09		0.14	*
NBR	0	0	42	86	0.00		0.00	
SBL	1	1,600	69	97	0.04		0.06	*
SBT	2	3,200	325	295	0.14	*	0.13	
SBR	0	0	119	129	0.00		0.00	
EBL	1	1,600	162	151	0.10	*	0.09	*
EBT	2	3,200	442	558	0.15		0.19	
EBR	0	0	29	38	0.00		0.00	
WBL	1	1,600	112	110	0.07		0.07	
WBT	2	3,200	566	617	0.19	*	0.23	*
WBR	0	0	54	105	0.00		0.00	
N/S Critical Movements					0.17		0.20	
E/W Critical Movements					0.29		0.32	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.56		0.62	
Level of Service (LOS)					A		B	

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	50	96	0.03	*	0.06	
2	3,200	297	349	0.11		0.14	*
0	0	49	99	0.00		0.00	
1	1,600	80	112	0.05		0.07	*
2	3,200	329	301	0.14	*	0.14	
0	0	122	149	0.00		0.00	
1	1,600	163	170	0.10	*	0.11	*
2	3,200	511	645	0.17		0.22	
0	0	31	45	0.00		0.00	
1	1,600	129	110	0.08		0.07	
2	3,200	654	713	0.22	*	0.26	*
0	0	62	121	0.00		0.00	
				0.17		0.21	
				0.32		0.37	
				0.00		0.00	
				0.10		0.10	
ICU				0.59		0.68	
Level of Service (LOS)				A		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	49	95	0.03	*	0.06	
NBT	2	3,200	297	351	0.11		0.14	*
NBR	0	0	49	99	0.00		0.00	
SBL	1	1,600	80	112	0.05		0.07	*
SBT	2	3,200	331	296	0.14	*	0.14	
SBR	0	0	121	149	0.00		0.00	
EBL	1	1,600	164	166	0.10	*	0.10	*
EBT	2	3,200	511	645	0.17		0.22	
EBR	0	0	31	44	0.00		0.00	
WBL	1	1,600	129	115	0.08		0.07	
WBT	2	3,200	654	713	0.22	*	0.26	*
WBR	0	0	62	121	0.00		0.00	
N/S Critical Movements					0.17		0.21	
E/W Critical Movements					0.32		0.36	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.59		0.67	
Level of Service (LOS)					A		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	49	95	0.03	*	0.06	
2	3,200	297	351	0.11		0.14	*
0	0	49	99	0.00		0.00	
1	1,600	80	112	0.05		0.07	*
2	3,200	331	296	0.14	*	0.14	
0	0	121	149	0.00		0.00	
1	1,600	164	166	0.10	*	0.10	*
2	3,200	511	645	0.17		0.22	
0	0	31	44	0.00		0.00	
1	1,600	129	115	0.08		0.07	
2	3,200	654	713	0.22	*	0.26	*
0	0	62	121	0.00		0.00	
				0.17		0.21	
				0.32		0.36	
				0.00		0.00	
				0.10		0.10	
ICU				0.59		0.67	
Level of Service (LOS)				A		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 3
North/South Roadway: Wilmington Avenue
East/West Roadway: Sepulveda Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	20	29	0.01	0.02 *
NBT	2	3,200	486	379	0.21 *	0.20
NBR	0	0	180	256	0.00	0.00
SBL	1	1,600	113	131	0.07 *	0.08
SBT	2	3,200	407	547	0.19	0.27 *
SBR	0	0	198	306	0.00	0.00
EBL	1	1,600	199	152	0.12 *	0.10 *
EBT	2	3,200	378	642	0.13	0.21
EBR	0	0	47	43	0.00	0.00
WBL	1	1,600	126	107	0.08	0.07
WBT	2	3,200	530	474	0.20 *	0.18 *
WBR	0	0	120	98	0.00	0.00
N/S Critical Movements					0.28	0.29
E/W Critical Movements					0.32	0.28
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.70	0.67
Level of Service (LOS)					B	B

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	23	34	0.01	0.02 *
2	3,200	562	438	0.24 *	0.23
0	0	195	292	0.00	0.00
1	1,600	122	142	0.08 *	0.09
2	3,200	470	632	0.22	0.31 *
0	0	229	354	0.00	0.00
1	1,600	207	176	0.13 *	0.11 *
2	3,200	433	724	0.15	0.24
0	0	49	43	0.00	0.00
1	1,600	153	157	0.10	0.10
2	3,200	613	629	0.24 *	0.24 *
0	0	145	128	0.00	0.00
				0.32	0.33
				0.37	0.35
				0.00	0.00
				0.10	0.10
				0.79	0.78
				C	C

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	23	34	0.01	0.02 *
NBT	2	3,200	562	438	0.24 *	0.23
NBR	0	0	205	290	0.00	0.00
SBL	1	1,600	129	142	0.08 *	0.09
SBT	2	3,200	470	632	0.22	0.31 *
SBR	0	0	229	354	0.00	0.00
EBL	1	1,600	208	176	0.13 *	0.11 *
EBT	2	3,200	463	693	0.16	0.23
EBR	0	0	50	50	0.00	0.00
WBL	1	1,600	149	162	0.09	0.10
WBT	2	3,200	613	635	0.24 *	0.24 *
WBR	0	0	141	136	0.00	0.00
N/S Critical Movements					0.32	0.33
E/W Critical Movements					0.37	0.35
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.79	0.78
Level of Service (LOS)					C	C

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	23	34	0.01	0.02 *
2	3,200	562	438	0.24 *	0.23
0	0	205	290	0.00	0.00
1	1,600	129	142	0.08 *	0.09
2	3,200	470	632	0.22	0.31 *
0	0	229	354	0.00	0.00
1	1,600	208	176	0.13 *	0.11 *
2	3,200	463	693	0.16	0.23
0	0	50	50	0.00	0.00
1	1,600	149	162	0.09	0.10
2	3,200	613	635	0.24 *	0.24 *
0	0	141	136	0.00	0.00
				0.32	0.33
				0.37	0.35
				0.00	0.00
				0.10	0.10
				0.79	0.78
				C	C

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 4
North/South Roadway: Wilmington Avenue
East/West Roadway: 223nd Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	7	5	0.00 *	0.00 *
NBT	2		3,200	604	623	0.19	0.19
NBR	1	0	1,600	137	180	0.00	0.00
SBL	1		1,600	75	95	0.05	0.06
SBT	2		3,200	899	812	0.40 *	0.38 *
SBR	0		0	393	414	0.00	0.00
EBL	1		1,600	363	534	0.23 *	0.33 *
EBT	2		3,200	399	868	0.13	0.28
EBR	0		0	15	19	0.00	0.00
WBL	1		1,600	155	128	0.10	0.08
WBT	1		1,600	466	296	0.29 *	0.19 *
WBR	1	0	1,600	60	164	0.00	0.00
N/S Critical Movements						0.40	0.38
E/W Critical Movements						0.52	0.52
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.02	1.00
Level of Service (LOS)						F	E

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	8	6	0.01 *	0.00 *
2		3,200	643	720	0.20	0.23
1	0	1,600	158	208	0.00	0.00
1		1,600	120	120	0.08	0.08
2		3,200	1,039	938	0.47 *	0.44 *
0		0	454	478	0.00	0.00
1		1,600	379	617	0.24 *	0.39 *
2		3,200	461	1,003	0.15	0.32
0		0	17	22	0.00	0.00
1		1,600	179	148	0.11	0.09
1		1,600	539	342	0.34 *	0.21 *
1	0	1,600	64	209	0.00	0.00
					0.48	0.44
					0.58	0.60
					0.00	0.00
					0.10	0.10
					1.16	1.14
					F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	8	6	0.01 *	0.00 *
NBT	2		3,200	630	720	0.20	0.23
NBR	1	0	1,600	158	208	0.00	0.00
SBL	1		1,600	114	114	0.07	0.07
SBT	2		3,200	1,039	938	0.47 *	0.42 *
SBR	0		0	454	414	0.00	0.00
EBL	1		1,600	383	617	0.24 *	0.39 *
EBT	2		3,200	461	1,003	0.15	0.32
EBR	0		0	17	22	0.00	0.00
WBL	1		1,600	179	148	0.11	0.09
WBT	1		1,600	539	342	0.34 *	0.21 *
WBR	1	0	1,600	69	206	0.00	0.00
N/S Critical Movements						0.48	0.42
E/W Critical Movements						0.58	0.60
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.16	1.12
Level of Service (LOS)						F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	8	6	0.01 *	0.00
2		3,200	630	720	0.20	0.23 *
1	0	1,600	158	208	0.00	0.00
1		1,600	114	114	0.07	0.07 *
2		3,200	1,039	938	0.32 *	0.29
1	0	1,600	454	414	0.00	0.00
2		2,880	383	617	0.13 *	0.21 *
2		3,200	461	1,003	0.15	0.32
0		0	17	22	0.00	0.00
1		1,600	179	148	0.11	0.09
1		1,600	539	342	0.34 *	0.21 *
1	0	1,600	69	206	0.00	0.00
					0.33	0.30
					0.47	0.42
					0.00	0.00
					0.10	0.10
					0.90	0.82
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 5
North/South Roadway: Terminal Island Freeway
East/West Roadway: Willow Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	261	416	0.09	*	0.14	*
NBT	0		0	0	0	0.00		0.00	
NBR	2	0	3,200	164	404	0.00		0.00	
SBL	0		0	0	2	0.00		0.00	
SBT	1		1,600	0	0	0.00	*	0.00	*
SBR	0		0	0	1	0.00		0.00	
EBL	1		1,600	0	0	0.00		0.00	
EBT	3		4,800	447	933	0.14	*	0.25	*
EBR	0		0	245	254	0.00		0.00	
WBL	2		2,880	190	188	0.07	*	0.07	*
WBT	2		3,200	639	421	0.20		0.13	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.09		0.14	
E/W Critical Movements						0.21		0.32	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.40		0.56	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	326	504	0.11	*	0.18	*
0		0	0	0	0.00		0.00	
2	0	3,200	190	467	0.00		0.00	
0		0	0	2	0.00		0.00	
1		1,600	0	0	0.00	*	0.00	*
0		0	0	2	0.00		0.00	
1		1,600	0	0	0.00		0.00	
3		4,800	621	1,253	0.19	*	0.32	*
0		0	283	294	0.00		0.00	
2		2,880	220	217	0.08	*	0.08	*
2		3,200	751	649	0.23		0.20	
0		0	0	0	0.00		0.00	
					0.11		0.18	
					0.27		0.40	
					0.00		0.00	
					0.10		0.10	
ICU					0.48		0.68	
Level of Service (LOS)					A		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	320	518	0.11	*	0.18	*
NBT	0		0	0	0	0.00		0.00	
NBR	2	0	3,200	190	467	0.00		0.00	
SBL	0		0	0	2	0.00		0.00	
SBT	1		1,600	0	0	0.00	*	0.00	*
SBR	0		0	0	2	0.00		0.00	
EBL	1		1,600	0	0	0.00		0.00	
EBT	3		4,800	681	1,190	0.20	*	0.31	*
EBR	0		0	283	294	0.00		0.00	
WBL	2		2,880	220	217	0.08	*	0.08	*
WBT	2		3,200	696	658	0.22		0.21	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.11		0.18	
E/W Critical Movements						0.28		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.49		0.67	
Level of Service (LOS)						A		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	320	518	0.11	*	0.18	*
0		0	0	0	0.00		0.00	
2	0	3,200	190	467	0.00		0.00	
0		0	0	2	0.00		0.00	
1		1,600	0	0	0.00	*	0.00	*
0		0	0	2	0.00		0.00	
1		1,600	0	0	0.00		0.00	
3		4,800	681	1,190	0.20	*	0.31	*
0		0	283	294	0.00		0.00	
2		2,880	220	217	0.08	*	0.08	*
2		3,200	696	658	0.22		0.21	
0		0	0	0	0.00		0.00	
					0.11		0.18	
					0.28		0.39	
					0.00		0.00	
					0.10		0.10	
ICU					0.49		0.67	
Level of Service (LOS)					A		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 6
North/South Roadway: Santa Fe Avenue
East/West Roadway: Wardlow Road
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	429	292	0.15 *	0.10 *
NBT	2		3,200	569	497	0.18	0.16
NBR	1	0	1,600	149	192	0.00	0.00
SBL	2		2,880	178	458	0.06	0.16
SBT	2		3,200	407	762	0.13 *	0.24 *
SBR	1	0	1,600	409	773	0.00	0.00
EBL	1		1,600	104	62	0.07 *	0.04
EBT	2		3,200	168	564	0.05	0.18 *
EBR	1	0	1,600	197	266	0.00	0.00
WBL	1		1,600	170	158	0.11	0.10 *
WBT	2		3,200	384	237	0.12 *	0.07
WBR	1	0	1,600	506	162	0.00	0.00
N/S Critical Movements						0.28	0.34
E/W Critical Movements						0.19	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.57	0.72
Level of Service (LOS)						A	C

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	496	319	0.17 *	0.11 *
2		3,200	658	574	0.21	0.18
1	0	1,600	172	199	0.00	0.00
2		2,880	206	529	0.07	0.18
2		3,200	430	881	0.13 *	0.28 *
1	0	1,600	473	893	0.00	0.00
1		1,600	120	72	0.08 *	0.04
2		3,200	194	652	0.06	0.20 *
1	0	1,600	202	307	0.00	0.00
1		1,600	196	165	0.12	0.10 *
2		3,200	444	247	0.14 *	0.08
1	0	1,600	585	187	0.00	0.00
					0.30	0.39
					0.22	0.30
					0.00	0.00
					0.10	0.10
					0.62	0.79
					B	C

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	496	293	0.17 *	0.10 *
NBT	2		3,200	658	574	0.21	0.18
NBR	1	0	1,600	172	222	0.00	0.00
SBL	2		2,880	187	529	0.06	0.18
SBT	2		3,200	449	881	0.14 *	0.28 *
SBR	1	0	1,600	473	893	0.00	0.00
EBL	1		1,600	120	72	0.08 *	0.04
EBT	2		3,200	194	652	0.06	0.20 *
EBR	1	0	1,600	200	307	0.00	0.00
WBL	1		1,600	196	158	0.12	0.10 *
WBT	2		3,200	444	251	0.14 *	0.08
WBR	1	0	1,600	585	168	0.00	0.00
N/S Critical Movements						0.31	0.38
E/W Critical Movements						0.22	0.30
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.63	0.78
Level of Service (LOS)						B	C

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	496	293	0.17 *	0.10 *
2		3,200	658	574	0.21	0.18
1	0	1,600	172	222	0.00	0.00
2		2,880	187	529	0.06	0.18
2		3,200	449	881	0.14 *	0.28 *
1	0	1,600	473	893	0.00	0.00
1		1,600	120	72	0.08 *	0.04
2		3,200	194	652	0.06	0.20 *
1	0	1,600	200	307	0.00	0.00
1		1,600	196	158	0.12	0.10 *
2		3,200	444	251	0.14 *	0.08
1	0	1,600	585	168	0.00	0.00
					0.31	0.38
					0.22	0.30
					0.00	0.00
					0.10	0.10
					0.63	0.78
					B	C

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 7
North/South Roadway: Santa Fe Avenue
East/West Roadway: Willow Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	103	72	0.06	0.05
NBT	2	3,200	532	513	0.23 *	0.24 *
NBR	0	0	203	253	0.00	0.00
SBL	2	2,880	269	343	0.09 *	0.12 *
SBT	2	3,200	509	408	0.21	0.16
SBR	0	0	149	113	0.00	0.00
EBL	1	1,600	122	166	0.08 *	0.10
EBT	2	3,200	600	1,147	0.20	0.37 *
EBR	0	0	49	33	0.00	0.00
WBL	2	2,880	268	178	0.09	0.06 *
WBT	2	3,200	743	522	0.30 *	0.23
WBR	0	0	206	222	0.00	0.00
N/S Critical Movements					0.32	0.36
E/W Critical Movements					0.38	0.43
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.80	0.89
Level of Service (LOS)					C	D

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	119	95	0.07	0.06
2	3,200	615	593	0.26 *	0.28 *
0	0	203	292	0.00	0.00
2	2,880	311	396	0.11 *	0.14 *
2	3,200	516	423	0.22	0.17
0	0	172	121	0.00	0.00
1	1,600	133	180	0.08 *	0.11
2	3,200	712	1,257	0.24	0.41 *
0	0	59	48	0.00	0.00
2	2,880	296	196	0.10	0.07 *
2	3,200	747	592	0.30 *	0.27
0	0	206	257	0.00	0.00
				0.37	0.42
				0.38	0.48
				0.00	0.00
				0.10	0.10
				0.85	1.00
				D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	119	99	0.07	0.06
NBT	2	3,200	615	593	0.27 *	0.27 *
NBR	0	0	235	257	0.00	0.00
SBL	2	2,880	311	396	0.11 *	0.14 *
SBT	2	3,200	526	472	0.22	0.18
SBR	0	0	172	120	0.00	0.00
EBL	1	1,600	138	168	0.09 *	0.11
EBT	2	3,200	771	1,231	0.26	0.40 *
EBR	0	0	65	44	0.00	0.00
WBL	2	2,880	304	192	0.11	0.07 *
WBT	2	3,200	859	611	0.34 *	0.27
WBR	0	0	238	257	0.00	0.00
N/S Critical Movements					0.38	0.41
E/W Critical Movements					0.43	0.47
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.91	0.98
Level of Service (LOS)					E	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	119	99	0.07	0.06
2	3,200	615	593	0.27 *	0.27 *
0	0	235	257	0.00	0.00
2	2,880	311	396	0.11 *	0.14 *
2	3,200	526	472	0.22	0.18
0	0	172	120	0.00	0.00
1	1,600	138	168	0.09 *	0.11
3	4,800	771	1,231	0.17	0.27 *
0	0	65	44	0.00	0.00
2	2,880	304	192	0.11	0.07 *
3	4,800	859	611	0.23 *	0.18
0	0	238	257	0.00	0.00
				0.38	0.41
				0.32	0.34
				0.00	0.00
				0.10	0.10
				0.80	0.85
				C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 8
North/South Roadway: Santa Fe Ave
East/West Roadway: Pacific Coast Hwy
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	157	119	0.10	0.07
NBT	2	3,200	369	615	0.13 *	0.26 *
NBR	0	0	45	203	0.00	0.00
SBL	1	1,600	222	311	0.14 *	0.19 *
SBT	2	3,200	355	516	0.16	0.22
SBR	0	0	152	172	0.00	0.00
EBL	1	1,600	71	133	0.04 *	0.08
EBT	2	3,200	737	712	0.26	0.24 *
EBR	0	0	87	59	0.00	0.00
WBL	1	1,600	45	296	0.03	0.19 *
WBT	2	3,200	1,014	747	0.35 *	0.30
WBR	0	0	96	206	0.00	0.00
N/S Critical Movements					0.27	0.45
E/W Critical Movements					0.39	0.43
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.76	0.98
Level of Service (LOS)					C	E

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	181	230	0.11	0.14
2	3,200	426	702	0.15 *	0.26 *
0	0	52	128	0.00	0.00
1	1,600	238	180	0.15 *	0.11 *
2	3,200	387	243	0.17	0.11
0	0	156	117	0.00	0.00
1	1,600	93	109	0.06 *	0.07
2	3,200	791	1,110	0.28	0.36 *
0	0	95	43	0.00	0.00
1	1,600	46	60	0.03	0.04 *
2	3,200	1,172	868	0.40 *	0.30
0	0	118	79	0.00	0.00
				0.30	0.37
				0.46	0.40
				0.00	0.00
				0.10	0.10
				0.86	0.87
				D	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	181	230	0.11	0.14
NBT	2	3,200	426	702	0.15 *	0.25 *
NBR	0	0	52	114	0.00	0.00
SBL	1	1,600	238	191	0.15 *	0.12 *
SBT	2	3,200	402	276	0.18	0.12
SBR	0	0	176	106	0.00	0.00
EBL	1	1,600	94	109	0.06 *	0.07
EBT	2	3,200	833	1,110	0.29	0.36 *
EBR	0	0	104	43	0.00	0.00
WBL	1	1,600	49	63	0.03	0.04 *
WBT	2	3,200	1,172	868	0.40 *	0.29
WBR	0	0	116	74	0.00	0.00
N/S Critical Movements					0.30	0.37
E/W Critical Movements					0.46	0.40
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.86	0.87
Level of Service (LOS)					D	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	181	230	0.11	0.14
2	3,200	426	702	0.15 *	0.25 *
0	0	52	114	0.00	0.00
1	1,600	238	191	0.15 *	0.12 *
2	3,200	402	276	0.18	0.12
0	0	176	106	0.00	0.00
1	1,600	94	109	0.06 *	0.07
2	3,200	833	1,110	0.29	0.36 *
0	0	104	43	0.00	0.00
1	1,600	49	63	0.03	0.04 *
2	3,200	1,172	868	0.40 *	0.29
0	0	116	74	0.00	0.00
				0.30	0.37
				0.46	0.40
				0.00	0.00
				0.10	0.10
				0.86	0.87
				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 9
North/South Roadway: Santa Fe Avenue
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	21	31	0.01		0.02	
NBT	2		3,200	241	298	0.08	*	0.09	*
NBR	1	0	1,600	18	56	0.00		0.00	
SBL	1		1,600	148	190	0.09	*	0.12	*
SBT	2		3,200	142	195	0.04		0.06	
SBR	1	0	1,600	108	115	0.00		0.00	
EBL	1		1,600	66	124	0.04	*	0.08	*
EBT	3		4,800	614	1,017	0.13		0.22	
EBR	0		0	7	20	0.00		0.00	
WBL	1		1,600	8	15	0.01		0.01	
WBT	3		4,800	804	745	0.17	*	0.16	*
WBR	1	0	1,600	283	180	0.00		0.00	
N/S Critical Movements						0.17		0.21	
E/W Critical Movements						0.21		0.24	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.48		0.55	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	24	36	0.02		0.02	
2		3,200	279	344	0.09	*	0.11	*
1	0	1,600	21	65	0.00		0.00	
1		1,600	200	213	0.13	*	0.13	*
2		3,200	164	225	0.05		0.07	
1	0	1,600	149	181	0.00		0.00	
1		1,600	85	182	0.05	*	0.11	*
3		4,800	660	1,175	0.14		0.25	
0		0	8	23	0.00		0.00	
1		1,600	9	17	0.01		0.01	
3		4,800	806	775	0.17	*	0.16	*
1	0	1,600	335	199	0.00		0.00	
					0.22		0.24	
					0.22		0.27	
					0.00		0.00	
					0.10		0.10	
ICU					0.54		0.61	
Level of Service (LOS)					A		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	24	36	0.02		0.02	
NBT	2		3,200	279	344	0.09	*	0.11	*
NBR	1	0	1,600	21	65	0.00		0.00	
SBL	1		1,600	209	234	0.13	*	0.15	*
SBT	2		3,200	164	225	0.05		0.07	
SBR	1	0	1,600	164	189	0.00		0.00	
EBL	1		1,600	84	175	0.05	*	0.11	*
EBT	3		4,800	683	1,175	0.14		0.25	
EBR	0		0	8	23	0.00		0.00	
WBL	1		1,600	9	17	0.01		0.01	
WBT	3		4,800	929	787	0.19	*	0.16	*
WBR	1	0	1,600	287	215	0.00		0.00	
N/S Critical Movements						0.22		0.26	
E/W Critical Movements						0.24		0.27	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.56		0.63	
Level of Service (LOS)						A		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	24	36	0.02		0.02	
2		3,200	279	344	0.09	*	0.11	*
1	0	1,600	21	65	0.00		0.00	
1		1,600	209	234	0.13	*	0.15	*
2		3,200	164	225	0.05		0.07	
1	0	1,600	164	189	0.00		0.00	
1		1,600	84	175	0.05	*	0.11	*
3		4,800	683	1,175	0.14		0.25	
0		0	8	23	0.00		0.00	
1		1,600	9	17	0.01		0.01	
3		4,800	929	787	0.19	*	0.16	*
1	0	1,600	287	215	0.00		0.00	
					0.22		0.26	
					0.24		0.27	
					0.00		0.00	
					0.10		0.10	
ICU					0.56		0.63	
Level of Service (LOS)					A		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 10
North/South Roadway: I-710
East/West Roadway: SR-1 Cloverleaf WB
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	*
NBT	0		0	0	0	0.00		0.00	
NBR	1	0	1,600	148	155	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	
SBT	0		0	0	0	0.00	*	0.00	*
SBR	1	0	1,600	84	52	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	
EBT	3		4,800	989	1,589	0.29		0.45	*
EBR	0		0	409	560	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	2		3,200	1,099	727	0.51	*	0.32	
WBR	0		0	522	301	0.00		0.00	
N/S Critical Movements						0.00		0.00	
E/W Critical Movements						0.51		0.45	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.61		0.55	
Level of Service (LOS)						B		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1	0	1,600	171	155	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
1	0	1,600	86	60	0.00		0.00	
0		0	0	0	0.00	*	0.00	
3		4,800	1,143	1,837	0.33		0.53	*
0		0	455	715	0.00		0.00	
0		0	0	0	0.00		0.00	*
2		3,200	1,270	840	0.56	*	0.38	
0		0	536	367	0.00		0.00	
					0.00		0.00	
					0.56		0.53	
					0.00		0.00	
					0.10		0.10	
ICU					0.66		0.63	
Level of Service (LOS)					B		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	*
NBT	0		0	0	0	0.00		0.00	
NBR	1	0	1,600	171	155	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	
SBT	0		0	0	0	0.00	*	0.00	*
SBR	1	0	1,600	87	60	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	
EBT	3		4,800	1,029	1,837	0.31		0.53	*
EBR	0		0	436	711	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	2		3,200	1,270	737	0.59	*	0.34	
WBR	0		0	603	363	0.00		0.00	
N/S Critical Movements						0.00		0.00	
E/W Critical Movements						0.59		0.53	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.69		0.63	
Level of Service (LOS)						B		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1	0	1,600	171	155	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
1	0	1,600	87	60	0.00		0.00	
0		0	0	0	0.00	*	0.00	
3		4,800	1,029	1,837	0.31		0.53	*
0		0	436	711	0.00		0.00	
0		0	0	0	0.00		0.00	*
2		3,200	1,270	737	0.59	*	0.34	
0		0	603	363	0.00		0.00	
					0.00		0.00	
					0.59		0.53	
					0.00		0.00	
					0.10		0.10	
ICU					0.69		0.63	
Level of Service (LOS)					B		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 11
North/South Roadway: I-710
East/West Roadway: SR-1 Cloverleaf EB
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0		0	0	0	0.00 *	0.00 *
NBT	0		0	0	0	0.00	0.00
NBR	1	0	1,600	326	413	0.00	0.00
SBL	0		0	0	0	0.00	0.00
SBT	0		0	0	0	0.00 *	0.00 *
SBR	1	0	1,600	441	431	0.00	0.00
EBL	0		0	0	0	0.00	0.00
EBT	2		3,200	1,072	1,736	0.40 *	0.60 *
EBR	0		0	198	180	0.00	0.00
WBL	0		0	0	0	0.00 *	0.00 *
WBT	2		3,200	1,053	712	0.37	0.24
WBR	0		0	130	67	0.00	0.00
N/S Critical Movements						0.00	0.00
E/W Critical Movements						0.40	0.60
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.50	0.70
Level of Service (LOS)						A	B

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
1	0	1,600	327	477	0.00	0.00
0		0	0	0	0.00	0.00
0		0	0	0	0.00 *	0.00 *
1	0	1,600	528	567	0.00	0.00
0		0	0	0	0.00 *	0.00
2		3,200	1,126	2,006	0.41	0.69 *
0		0	201	208	0.00	0.00
0		0	0	0	0.00	0.00 *
2		3,200	1,217	823	0.42 *	0.28
0		0	130	67	0.00	0.00
					0.00	0.00
					0.42	0.69
					0.00	0.00
					0.10	0.10
ICU					0.52	0.79
Level of Service (LOS)					A	C

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0		0	0	0	0.00 *	0.00 *
NBT	0		0	0	0	0.00	0.00
NBR	1	0	1,600	353	477	0.00	0.00
SBL	0		0	0	0	0.00	0.00
SBT	0		0	0	0	0.00 *	0.00 *
SBR	1	0	1,600	512	553	0.00	0.00
EBL	0		0	0	0	0.00	0.00
EBT	2		3,200	1,163	2,006	0.43 *	0.69 *
EBR	0		0	211	208	0.00	0.00
WBL	0		0	0	0	0.00 *	0.00 *
WBT	2		3,200	1,217	712	0.42	0.24
WBR	0		0	130	67	0.00	0.00
N/S Critical Movements						0.00	0.00
E/W Critical Movements						0.43	0.69
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.53	0.79
Level of Service (LOS)						A	C

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
1	0	1,600	353	477	0.00	0.00
0		0	0	0	0.00	0.00
0		0	0	0	0.00 *	0.00 *
1	0	1,600	512	553	0.00	0.00
0		0	0	0	0.00	0.00
2		3,200	1,163	2,006	0.43 *	0.69 *
0		0	211	208	0.00	0.00
0		0	0	0	0.00 *	0.00 *
2		3,200	1,217	712	0.42	0.24
0		0	130	67	0.00	0.00
					0.00	0.00
					0.43	0.69
					0.00	0.00
					0.10	0.10
ICU					0.53	0.79
Level of Service (LOS)					A	C

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 12
North/South Roadway: Magnolia Avenue
East/West Roadway: Ocean Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	20	72	0.01		0.05	
NBT	2		3,200	23	81	0.01	*	0.03	*
NBR	1	0	1,600	21	37	0.00		0.00	
SBL	1		1,600	156	225	0.10	*	0.14	*
SBT	2		3,200	138	92	0.04		0.03	
SBR	1	0	1,600	309	292	0.00		0.00	
EBL	1		1,600	115	151	0.07	*	0.09	*
EBT	3		4,800	504	1,395	0.11		0.30	
EBR	0		0	24	23	0.00		0.00	
WBL	1		1,600	86	51	0.05		0.03	
WBT	3		4,800	1,782	1,129	0.37	*	0.24	*
WBR	1	0	1,600	127	78	0.00		0.00	
N/S Critical Movements						0.11		0.17	
E/W Critical Movements						0.44		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.65		0.60	
Level of Service (LOS)						B		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	23	83	0.01		0.05	
2		3,200	27	94	0.01	*	0.03	*
1	0	1,600	60	43	0.00		0.00	
1		1,600	221	260	0.14	*	0.16	*
2		3,200	159	106	0.05		0.03	
1	0	1,600	357	337	0.00		0.00	
1		1,600	133	175	0.08	*	0.11	*
3		4,800	736	1,525	0.16		0.32	
0		0	28	27	0.00		0.00	
1		1,600	99	61	0.06		0.04	
3		4,800	2,037	1,336	0.42	*	0.28	*
1	0	1,600	147	90	0.00		0.00	
					0.15		0.19	
					0.50		0.39	
					0.00		0.00	
					0.10		0.10	
ICU					0.75		0.68	
Level of Service (LOS)					C		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	23	83	0.01		0.05	
NBT	2		3,200	27	94	0.01	*	0.03	*
NBR	1	0	1,600	58	43	0.00		0.00	
SBL	1		1,600	215	260	0.13	*	0.16	*
SBT	2		3,200	159	106	0.05		0.03	
SBR	1	0	1,600	357	337	0.00		0.00	
EBL	1		1,600	133	175	0.08	*	0.11	*
EBT	3		4,800	752	1,512	0.16		0.32	
EBR	0		0	28	27	0.00		0.00	
WBL	1		1,600	99	56	0.06		0.04	
WBT	3		4,800	2,028	1,339	0.42	*	0.28	*
WBR	1	0	1,600	147	90	0.00		0.00	
N/S Critical Movements						0.14		0.19	
E/W Critical Movements						0.50		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.74		0.68	
Level of Service (LOS)						C		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	23	83	0.01		0.05	
2		3,200	27	94	0.01	*	0.03	*
1	0	1,600	58	43	0.00		0.00	
1		1,600	215	260	0.13	*	0.16	*
2		3,200	159	106	0.05		0.03	
1	0	1,600	357	337	0.00		0.00	
1		1,600	133	175	0.08	*	0.11	*
3		4,800	752	1,512	0.16		0.32	
0		0	28	27	0.00		0.00	
1		1,600	99	56	0.06		0.04	
3		4,800	2,028	1,339	0.42	*	0.28	*
1	0	1,600	147	90	0.00		0.00	
					0.14		0.19	
					0.50		0.39	
					0.00		0.00	
					0.10		0.10	
ICU					0.74		0.68	
Level of Service (LOS)					C		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 13
North/South Roadway: Pacific Avenue
East/West Roadway: PCH
Scenario: 0

	EXISTING CONDITION						2040 NO BUILD					
			Volume		V/C Ratio				Volume		V/C Ratio	
Move-ment	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM
NBL	1	1,600	79	93	0.05 *	0.06	1	1,600	108	107	0.07 *	0.07
NBT	2	3,200	372	580	0.13	0.22 *	2	3,200	430	670	0.15	0.25 *
NBR	0	0	59	110	0.00	0.00	0	0	60	127	0.00	0.00
SBL	1	1,600	77	98	0.05	0.06 *	1	1,600	89	113	0.06	0.07 *
SBT	2	3,200	424	394	0.16 *	0.15	2	3,200	425	455	0.17 *	0.17
SBR	0	0	100	74	0.00	0.00	0	0	104	86	0.00	0.00
EBL	1	1,600	89	99	0.06 *	0.06	1	1,600	103	114	0.06 *	0.07
EBT	3	4,800	769	1,458	0.17	0.32 *	3	4,800	889	1,685	0.20	0.37 *
EBR	0	0	55	97	0.00	0.00	0	0	68	112	0.00	0.00
WBL	1	1,600	68	78	0.04	0.05 *	1	1,600	79	79	0.05	0.05 *
WBT	3	4,800	1,185	765	0.27 *	0.18	3	4,800	1,370	797	0.31 *	0.19
WBR	0	0	111	102	0.00	0.00	0	0	128	113	0.00	0.00
N/S Critical Movements					0.21	0.28					0.24	0.32
E/W Critical Movements					0.33	0.37					0.37	0.42
Right Turn Critical Movement					0.00	0.00					0.00	0.00
Clearance Interval					0.10	0.10					0.10	0.10
ICU					0.64	0.75	ICU				0.71	0.84
Level of Service (LOS)					B	C	Level of Service (LOS)				C	D

	PROPOSED LAND USE ELEMENT						PROPOSED LAND USE ELEMENT w/ MITIGATION					
			Volume		V/C Ratio				Volume		V/C Ratio	
Move-ment	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM
NBL	1	1,600	125	107	0.08 *	0.07	1	1,600	125	107	0.08 *	0.07
NBT	2	3,200	430	585	0.15	0.22 *	2	3,200	430	585	0.15	0.22 *
NBR	0	0	64	127	0.00	0.00	0	0	64	127	0.00	0.00
SBL	1	1,600	89	113	0.06	0.07 *	1	1,600	89	113	0.06	0.07 *
SBT	2	3,200	490	455	0.19 *	0.17	2	3,200	490	455	0.19 *	0.17
SBR	0	0	105	86	0.00	0.00	0	0	105	86	0.00	0.00
EBL	1	1,600	103	102	0.06 *	0.06	1	1,600	103	102	0.06 *	0.06
EBT	3	4,800	775	1,685	0.18	0.37 *	3	4,800	775	1,685	0.18	0.37 *
EBR	0	0	76	112	0.00	0.00	0	0	76	112	0.00	0.00
WBL	1	1,600	79	82	0.05	0.05 *	1	1,600	79	82	0.05	0.05 *
WBT	3	4,800	1,370	805	0.31 *	0.19	3	4,800	1,370	805	0.31 *	0.19
WBR	0	0	128	113	0.00	0.00	0	0	128	113	0.00	0.00
N/S Critical Movements					0.27	0.29					0.27	0.29
E/W Critical Movements					0.37	0.42					0.37	0.42
Right Turn Critical Movement					0.00	0.00					0.00	0.00
Clearance Interval					0.10	0.10					0.10	0.10
ICU					0.74	0.81	ICU				0.74	0.81
Level of Service (LOS)					C	D	Level of Service (LOS)				C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 14
North/South Roadway: Pacific Avenue
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	93	75	0.06	*	0.05	
NBT	2	3,200	302	480	0.11		0.18	*
NBR	0	0	46	80	0.00		0.00	
SBL	1	1,600	88	84	0.06		0.05	*
SBT	2	3,200	335	321	0.12	*	0.12	
SBR	0	0	63	55	0.00		0.00	
EBL	1	1,600	57	102	0.04	*	0.06	
EBT	2	3,200	726	1,185	0.24		0.39	*
EBR	0	0	57	66	0.00		0.00	
WBL	1	1,600	71	35	0.04		0.02	*
WBT	2	3,200	947	728	0.33	*	0.26	
WBR	0	0	100	99	0.00		0.00	
N/S Critical Movements					0.18		0.23	
E/W Critical Movements					0.37		0.41	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.65		0.74	
Level of Service (LOS)					B		C	

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	107	87	0.07	*	0.05	
2	3,200	349	555	0.13		0.20	*
0	0	53	92	0.00		0.00	
1	1,600	91	97	0.06		0.06	*
2	3,200	387	371	0.14	*	0.13	
0	0	69	56	0.00		0.00	
1	1,600	60	102	0.04	*	0.06	
2	3,200	839	1,370	0.28		0.45	*
0	0	66	76	0.00		0.00	
1	1,600	82	40	0.05		0.03	*
2	3,200	1,095	742	0.38	*	0.27	
0	0	116	114	0.00		0.00	
				0.21		0.26	
				0.42		0.48	
				0.00		0.00	
				0.10		0.10	
ICU				0.73		0.84	
Level of Service (LOS)				C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	107	87	0.07	*	0.05	
NBT	2	3,200	349	555	0.13		0.20	*
NBR	0	0	53	92	0.00		0.00	
SBL	1	1,600	89	97	0.06		0.06	*
SBT	2	3,200	387	371	0.14	*	0.13	
SBR	0	0	76	58	0.00		0.00	
EBL	1	1,600	68	108	0.04	*	0.07	
EBT	2	3,200	736	1,370	0.25		0.45	*
EBR	0	0	66	76	0.00		0.00	
WBL	1	1,600	82	40	0.05		0.03	*
WBT	2	3,200	1,095	746	0.38	*	0.26	
WBR	0	0	116	101	0.00		0.00	
N/S Critical Movements					0.21		0.26	
E/W Critical Movements					0.42		0.48	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.73		0.84	
Level of Service (LOS)					C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	107	87	0.07	*	0.05	
2	3,200	349	555	0.13		0.20	*
0	0	53	92	0.00		0.00	
1	1,600	89	97	0.06		0.06	*
2	3,200	387	371	0.14	*	0.13	
0	0	76	58	0.00		0.00	
1	1,600	68	108	0.04	*	0.07	
2	3,200	736	1,370	0.25		0.45	*
0	0	66	76	0.00		0.00	
1	1,600	82	40	0.05		0.03	*
2	3,200	1,095	746	0.38	*	0.26	
0	0	116	101	0.00		0.00	
				0.21		0.26	
				0.42		0.48	
				0.00		0.00	
				0.10		0.10	
ICU				0.73		0.84	
Level of Service (LOS)				C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 15
North/South Roadway: Pacific Avenue
East/West Roadway: 7th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	45	58	0.03	*	0.04	
NBT	2	3,200	173	454	0.05		0.14	*
NBR	0	0	0	0	0.00		0.00	
SBL	0	0	0	0	0.00		0.00	*
SBT	2	3,200	314	249	0.11	*	0.09	
SBR	0	0	52	44	0.00		0.00	
EBL	0	0	0	0	0.00	*	0.00	*
EBT	0	0	0	0	0.00		0.00	
EBR	0	0	0	0	0.00		0.00	
WBL	1	1,600	96	71	0.06		0.04	
WBT	3	4,800	1,156	593	0.26	*	0.14	*
WBR	0	0	69	71	0.00		0.00	
N/S Critical Movements					0.14		0.14	
E/W Critical Movements					0.26		0.14	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.50		0.38	
Level of Service (LOS)					A		A	

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	47	65	0.03	*	0.04	
2	3,200	174	525	0.05		0.16	*
0	0	0	0	0.00		0.00	
0	0	0	0	0.00		0.00	*
2	3,200	363	288	0.13	*	0.11	
0	0	64	51	0.00		0.00	
0	0	0	0	0.00	*	0.00	*
0	0	0	0	0.00		0.00	
0	0	0	0	0.00		0.00	
1	1,600	111	75	0.07		0.05	
3	4,800	1,336	640	0.29	*	0.15	*
0	0	80	82	0.00		0.00	
				0.16		0.16	
				0.29		0.15	
				0.00		0.00	
				0.10		0.10	
ICU				0.55		0.41	
Level of Service (LOS)				A		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	45	64	0.03	*	0.04	
NBT	2	3,200	174	525	0.05		0.16	*
NBR	0	0	0	0	0.00		0.00	
SBL	0	0	0	0	0.00		0.00	*
SBT	2	3,200	363	288	0.13	*	0.11	
SBR	0	0	57	51	0.00		0.00	
EBL	0	0	0	0	0.00	*	0.00	*
EBT	0	0	0	0	0.00		0.00	
EBR	0	0	0	0	0.00		0.00	
WBL	1	1,600	111	79	0.07		0.05	
WBT	3	4,800	1,336	629	0.29	*	0.15	*
WBR	0	0	80	82	0.00		0.00	
N/S Critical Movements					0.16		0.16	
E/W Critical Movements					0.29		0.15	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.55		0.41	
Level of Service (LOS)					A		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	45	64	0.03	*	0.04	
2	3,200	174	525	0.05		0.16	*
0	0	0	0	0.00		0.00	
0	0	0	0	0.00		0.00	*
2	3,200	363	288	0.13	*	0.11	
0	0	57	51	0.00		0.00	
0	0	0	0	0.00	*	0.00	*
0	0	0	0	0.00		0.00	
0	0	0	0	0.00		0.00	
1	1,600	111	79	0.07		0.05	
3	4,800	1,336	629	0.29	*	0.15	*
0	0	80	82	0.00		0.00	
				0.16		0.16	
				0.29		0.15	
				0.00		0.00	
				0.10		0.10	
ICU				0.55		0.41	
Level of Service (LOS)				A		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 16
North/South Roadway: Pacific Avenue
East/West Roadway: 6th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	
NBT	2		3,200	184	446	0.07		0.18	*
NBR	0		0	46	132	0.00		0.00	
SBL	1		1,600	62	76	0.04		0.05	*
SBT	2		3,200	336	248	0.11	*	0.08	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	82	51	0.05		0.03	
EBT	3		4,800	662	1,520	0.14	*	0.32	*
EBR	1	0	1,600	38	41	0.00		0.00	
WBL	0		0	0	0	0.00	*	0.00	*
WBT	0		0	0	0	0.00		0.00	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.11		0.23	
E/W Critical Movements						0.14		0.32	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.35		0.65	
Level of Service (LOS)						A		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	
2		3,200	191	515	0.08		0.21	*
0		0	54	153	0.00		0.00	
1		1,600	72	88	0.04		0.05	*
2		3,200	388	287	0.12	*	0.09	
0		0	0	0	0.00		0.00	
1		1,600	95	106	0.06		0.07	
3		4,800	709	1,757	0.15	*	0.37	*
1	0	1,600	44	58	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
					0.12		0.26	
					0.15		0.37	
					0.00		0.00	
					0.10		0.10	
					0.37		0.73	
					A		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	
NBT	2		3,200	190	515	0.08		0.21	*
NBR	0		0	57	153	0.00		0.00	
SBL	1		1,600	72	88	0.04		0.05	*
SBT	2		3,200	388	287	0.12	*	0.09	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	95	105	0.06		0.07	
EBT	3		4,800	740	1,757	0.15	*	0.37	*
EBR	1	0	1,600	44	59	0.00		0.00	
WBL	0		0	0	0	0.00	*	0.00	*
WBT	0		0	0	0	0.00		0.00	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.12		0.26	
E/W Critical Movements						0.15		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.37		0.73	
Level of Service (LOS)						A		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	
2		3,200	190	515	0.08		0.21	*
0		0	57	153	0.00		0.00	
1		1,600	72	88	0.04		0.05	*
2		3,200	388	287	0.12	*	0.09	
0		0	0	0	0.00		0.00	
1		1,600	95	105	0.06		0.07	
3		4,800	740	1,757	0.15	*	0.37	*
1	0	1,600	44	59	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
					0.12		0.26	
					0.15		0.37	
					0.00		0.00	
					0.10		0.10	
					0.37		0.73	
					A		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 17
North/South Roadway: Pacific Avenue
East/West Roadway: 3rd Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	58	105	0.04	*	0.07	
NBT	2		3,200	106	438	0.03		0.14	*
NBR	0		0	0	0	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	*
SBT	2		3,200	272	181	0.09	*	0.06	
SBR	1	0	1,600	89	37	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	60	49	0.04		0.03	
WBT	2		3,200	859	360	0.29	*	0.14	*
WBR	0		0	58	81	0.00		0.00	
N/S Critical Movements						0.13		0.14	
E/W Critical Movements						0.29		0.14	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.52		0.38	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	67	121	0.04	*	0.08	
2		3,200	123	506	0.04		0.16	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
2		3,200	314	182	0.10	*	0.06	
1	0	1,600	103	43	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
1		1,600	69	71	0.04		0.04	
2		3,200	993	416	0.33	*	0.16	*
0		0	67	94	0.00		0.00	
					0.14		0.16	
					0.33		0.16	
					0.00		0.00	
					0.10		0.10	
ICU					0.57		0.42	
Level of Service (LOS)					A		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	67	121	0.04	*	0.08	
NBT	2		3,200	128	506	0.04		0.16	*
NBR	0		0	0	0	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	*
SBT	2		3,200	314	190	0.10	*	0.06	
SBR	1	0	1,600	103	43	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	69	83	0.04		0.05	
WBT	2		3,200	993	416	0.33	*	0.16	*
WBR	0		0	67	94	0.00		0.00	
N/S Critical Movements						0.14		0.16	
E/W Critical Movements						0.33		0.16	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.57		0.42	
Level of Service (LOS)						A		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	67	121	0.04	*	0.08	
2		3,200	128	506	0.04		0.16	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
2		3,200	314	190	0.10	*	0.06	
1	0	1,600	103	43	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
1		1,600	69	83	0.04		0.05	
2		3,200	993	416	0.33	*	0.16	*
0		0	67	94	0.00		0.00	
					0.14		0.16	
					0.33		0.16	
					0.00		0.00	
					0.10		0.10	
ICU					0.57		0.42	
Level of Service (LOS)					A		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 18
North/South Roadway: Pacific Avenue
East/West Roadway: Broadway
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	
NBT	2		3,200	149	475	0.05		0.15	*
NBR	1	0	1,600	48	202	0.00		0.00	
SBL	1		1,600	48	55	0.03		0.03	*
SBT	2		3,200	273	166	0.09	*	0.05	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	42	76	0.03		0.05	
EBT	2		3,200	479	794	0.18	*	0.27	*
EBR	0		0	98	71	0.00		0.00	
WBL	0		0	0	0	0.00	*	0.00	*
WBT	0		0	0	0	0.00		0.00	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.09		0.18	
E/W Critical Movements						0.18		0.27	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.37		0.55	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	
2		3,200	172	549	0.05		0.17	*
1	0	1,600	55	233	0.00		0.00	
1		1,600	55	64	0.03		0.04	*
2		3,200	316	199	0.10	*	0.06	
0		0	0	0	0.00		0.00	
1		1,600	49	88	0.03		0.05	
2		3,200	554	918	0.21	*	0.31	*
0		0	113	75	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
					0.10		0.21	
					0.21		0.31	
					0.00		0.00	
					0.10		0.10	
					0.41		0.62	
					A		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	
NBT	2		3,200	174	549	0.05		0.17	*
NBR	1	0	1,600	55	233	0.00		0.00	
SBL	1		1,600	55	64	0.03		0.04	*
SBT	2		3,200	316	216	0.10	*	0.07	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	49	88	0.03		0.05	
EBT	2		3,200	554	918	0.21	*	0.31	*
EBR	0		0	113	74	0.00		0.00	
WBL	0		0	0	0	0.00	*	0.00	*
WBT	0		0	0	0	0.00		0.00	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.10		0.21	
E/W Critical Movements						0.21		0.31	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.41		0.62	
Level of Service (LOS)						A		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	
2		3,200	174	549	0.05		0.17	*
1	0	1,600	55	233	0.00		0.00	
1		1,600	55	64	0.03		0.04	*
2		3,200	316	216	0.10	*	0.07	
0		0	0	0	0.00		0.00	
1		1,600	49	88	0.03		0.05	
2		3,200	554	918	0.21	*	0.31	*
0		0	113	74	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
					0.10		0.21	
					0.21		0.31	
					0.00		0.00	
					0.10		0.10	
					0.41		0.62	
					A		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 19
North/South Roadway: Pacific Ave
East/West Roadway: Ocean Blvd
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	7	7	0.00		0.00	
NBT	1		1,600	3	9	0.01	*	0.02	*
NBR	0		0	7	23	0.00		0.00	
SBL	2		2,400	128	223	0.05	*	0.09	*
SBT	1		800	3	0	0.00		0.00	
SBR	1	0	1,600	454	355	0.00		0.00	
EBL	1		1,600	302	345	0.19	*	0.22	*
EBT	3		4,800	1,058	3,050	0.22		0.64	
EBR	0		0	3	11	0.00		0.00	
WBL	1		1,600	25	31	0.02		0.02	
WBT	3		4,800	3,637	2,122	0.76	*	0.44	*
WBR	1	0	1,600	308	252	0.00		0.00	
N/S Critical Movements						0.06		0.11	
E/W Critical Movements						0.95		0.66	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						1.11		0.87	
Level of Service (LOS)						F		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	7	7	0.00		0.00	
1		1,600	3	10	0.01	*	0.03	*
0		0	8	25	0.00		0.00	
2		2,400	148	254	0.06	*	0.11	*
1		800	3	0	0.00		0.00	
1	0	1,600	525	358	0.00		0.00	
1		1,600	305	399	0.19	*	0.25	*
3		4,800	1,285	3,147	0.27		0.66	
0		0	3	13	0.00		0.00	
1		1,600	25	32	0.02		0.02	
3		4,800	3,745	2,172	0.78	*	0.45	*
1	0	1,600	356	291	0.00		0.00	
					0.07		0.14	
					0.97		0.70	
					0.00		0.00	
					0.10		0.10	
ICU					1.14		0.94	
Level of Service (LOS)					F		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	7	7	0.00		0.00	
NBT	1		1,600	3	10	0.01	*	0.03	*
NBR	0		0	8	25	0.00		0.00	
SBL	2		2,400	148	260	0.06	*	0.11	*
SBT	1		800	3	0	0.00		0.00	
SBR	1	0	1,600	525	368	0.00		0.00	
EBL	1		1,600	305	399	0.19	*	0.25	*
EBT	3		4,800	1,345	3,149	0.28		0.66	
EBR	0		0	3	13	0.00		0.00	
WBL	1		1,600	25	32	0.02		0.02	
WBT	3		4,800	3,746	2,194	0.78	*	0.46	*
WBR	1	0	1,600	356	291	0.00		0.00	
N/S Critical Movements						0.07		0.14	
E/W Critical Movements						0.97		0.71	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						1.14		0.95	
Level of Service (LOS)						F		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	7	7	0.00		0.00	
1		1,600	3	10	0.01	*	0.03	*
0		0	8	25	0.00		0.00	
2		2,880	148	260	0.05	*	0.09	*
1		800	3	0	0.00		0.00	
1	0	800	525	368	0.00		0.00	
1		1,600	305	399	0.19	*	0.25	
3		4,800	1,345	3,149	0.28		0.66	*
0		0	3	13	0.00		0.00	
1		1,600	25	32	0.02		0.02	*
5		8,000	3,746	2,194	0.51	*	0.31	
0		0	356	291	0.00		0.00	
					0.06		0.12	
					0.70		0.68	
					0.00		0.00	
					0.10		0.10	
ICU					0.86		0.90	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 20
North/South Roadway: Long Beach Boulevard
East/West Roadway: Alondra Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	96	83	0.06	*	0.05	
NBT	2		3,200	403	841	0.14		0.30	*
NBR	0		0	53	132	0.00		0.00	
SBL	1		1,600	138	191	0.09		0.12	*
SBT	2		3,200	629	615	0.23	*	0.21	
SBR	0		0	98	71	0.00		0.00	
EBL	1		1,600	91	161	0.06	*	0.10	
EBT	2		3,200	460	919	0.14		0.29	*
EBR	1	0	1,600	60	105	0.00		0.00	
WBL	1		1,600	122	95	0.08		0.06	*
WBT	2		3,200	757	392	0.24	*	0.12	
WBR	1	0	1,600	148	165	0.00		0.00	
N/S Critical Movements						0.29		0.42	
E/W Critical Movements						0.30		0.35	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.69		0.87	
Level of Service (LOS)						B		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	111	83	0.07	*	0.05	
2		3,200	466	972	0.16		0.35	*
0		0	61	153	0.00		0.00	
1		1,600	159	195	0.10		0.12	*
2		3,200	727	711	0.26	*	0.25	
0		0	113	75	0.00		0.00	
1		1,600	105	186	0.07	*	0.12	
2		3,200	500	1,062	0.16		0.33	*
1	0	1,600	67	121	0.00		0.00	
1		1,600	141	110	0.09		0.07	*
2		3,200	875	415	0.27	*	0.13	
1	0	1,600	171	191	0.00		0.00	
					0.33		0.47	
					0.34		0.40	
					0.00		0.00	
					0.10		0.10	
ICU					0.77		0.97	
Level of Service (LOS)					C		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	111	85	0.07	*	0.05	
NBT	2		3,200	466	972	0.16		0.35	*
NBR	0		0	61	153	0.00		0.00	
SBL	1		1,600	159	192	0.10		0.12	*
SBT	2		3,200	727	711	0.26	*	0.25	
SBR	0		0	113	74	0.00		0.00	
EBL	1		1,600	105	186	0.07	*	0.12	
EBT	2		3,200	508	1,062	0.16		0.33	*
EBR	1	0	1,600	67	121	0.00		0.00	
WBL	1		1,600	141	110	0.09		0.07	*
WBT	2		3,200	875	409	0.27	*	0.13	
WBR	1	0	1,600	171	191	0.00		0.00	
N/S Critical Movements						0.33		0.47	
E/W Critical Movements						0.34		0.40	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.77		0.97	
Level of Service (LOS)						C		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	111	85	0.07	*	0.05	
2		3,200	466	972	0.15		0.30	*
1	0	1,600	61	153	0.00		0.00	
1		1,600	159	192	0.10		0.12	*
2		3,200	727	711	0.26	*	0.25	
0		0	113	74	0.00		0.00	
1		1,600	105	186	0.07	*	0.12	
3		4,800	508	1,062	0.12		0.25	*
0		0	67	121	0.00		0.00	
1		1,600	141	110	0.09		0.07	*
2		3,200	875	409	0.27	*	0.13	
1	0	1,600	171	191	0.00		0.00	
					0.33		0.42	
					0.34		0.32	
					0.00		0.00	
					0.10		0.10	
ICU					0.77		0.84	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 21
North/South Roadway: Long Beach Boulevard
East/West Roadway: Artesia Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	260	154	0.09	*	0.05	
NBT	2		3,200	404	778	0.13		0.24	*
NBR	1	0	1,600	80	193	0.00		0.00	
SBL	1		1,600	157	148	0.10		0.09	*
SBT	2		3,200	704	576	0.25	*	0.20	
SBR	0		0	99	63	0.00		0.00	
EBL	1		1,600	46	272	0.03	*	0.17	
EBT	2		3,200	173	1,066	0.05		0.33	*
EBR	1	0	1,600	108	332	0.00		0.00	
WBL	1		1,600	373	82	0.23		0.05	*
WBT	2		3,200	851	261	0.27	*	0.08	
WBR	1	0	1,600	187	144	0.00		0.00	
N/S Critical Movements						0.34		0.33	
E/W Critical Movements						0.30		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.74		0.81	
Level of Service (LOS)						C		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	300	154	0.10	*	0.05	
2		3,200	467	899	0.15		0.28	*
1	0	1,600	108	223	0.00		0.00	
1		1,600	170	171	0.11		0.11	*
2		3,200	814	666	0.29	*	0.23	
0		0	114	73	0.00		0.00	
1		1,600	53	314	0.03	*	0.20	
2		3,200	213	1,232	0.07		0.39	*
1	0	1,600	120	384	0.00		0.00	
1		1,600	404	86	0.25		0.05	*
2		3,200	984	297	0.31	*	0.09	
1	0	1,600	216	145	0.00		0.00	
					0.39		0.39	
					0.34		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.83		0.93	
Level of Service (LOS)					D		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	290	158	0.10	*	0.05	
NBT	2		3,200	467	899	0.15		0.28	*
NBR	1	0	1,600	113	223	0.00		0.00	
SBL	1		1,600	161	171	0.10		0.11	*
SBT	2		3,200	717	666	0.26	*	0.23	
SBR	0		0	114	73	0.00		0.00	
EBL	1		1,600	53	314	0.03	*	0.20	
EBT	2		3,200	203	1,232	0.06		0.39	*
EBR	1	0	1,600	126	332	0.00		0.00	
WBL	1		1,600	396	86	0.25		0.05	*
WBT	2		3,200	984	292	0.31	*	0.09	
WBR	1	0	1,600	216	166	0.00		0.00	
N/S Critical Movements						0.36		0.39	
E/W Critical Movements						0.34		0.44	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.80		0.93	
Level of Service (LOS)						C		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	290	158	0.10	*	0.05	
2		3,200	467	899	0.15		0.28	*
1	0	1,600	113	223	0.00		0.00	
1		1,600	161	171	0.10		0.11	*
2		3,200	717	666	0.26	*	0.23	
0		0	114	73	0.00		0.00	
1		1,600	53	314	0.03	*	0.20	
3		4,800	203	1,232	0.07		0.33	*
0		0	126	332	0.00		0.00	
1		1,600	396	86	0.25		0.05	*
2		3,200	984	292	0.31	*	0.09	
1	0	1,600	216	166	0.00		0.00	
					0.36		0.39	
					0.34		0.38	
					0.00		0.00	
					0.10		0.10	
ICU					0.80		0.87	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 22
North/South Roadway: Long Beach Boulevard
East/West Roadway: Market Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	23	33	0.01		0.02	
NBT	2		3,200	698	717	0.25	*	0.31	*
NBR	0		0	103	269	0.00		0.00	
SBL	1		1,600	171	373	0.11	*	0.23	*
SBT	2		3,200	701	971	0.22		0.31	
SBR	0		0	17	33	0.00		0.00	
EBL	0		0	68	40	0.04		0.03	
EBT	1		1,600	34	73	0.02	*	0.05	*
EBR	1	0	1,600	23	16	0.00		0.00	
WBL	0		0	259	161	0.16	*	0.10	*
WBT	1		1,600	30	29	0.02		0.02	
WBR	1	0	1,600	374	177	0.00		0.00	
N/S Critical Movements						0.36		0.54	
E/W Critical Movements						0.18		0.15	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.64		0.79	
Level of Service (LOS)						B		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	25	33	0.02		0.02	
2		3,200	807	751	0.29	*	0.33	*
0		0	108	311	0.00		0.00	
1		1,600	175	431	0.11	*	0.27	*
2		3,200	704	1,122	0.23		0.36	
0		0	18	33	0.00		0.00	
0		0	79	45	0.05		0.03	
1		1,600	36	84	0.02	*	0.05	*
1	0	1,600	24	17	0.00		0.00	
0		0	266	186	0.17	*	0.12	*
1		1,600	32	34	0.02		0.02	
1	0	1,600	432	180	0.00		0.00	
					0.40		0.60	
					0.19		0.17	
					0.00		0.00	
					0.10		0.10	
ICU					0.69		0.87	
Level of Service (LOS)					B		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	24	34	0.02		0.02	
NBT	2		3,200	807	763	0.28	*	0.34	*
NBR	0		0	104	311	0.00		0.00	
SBL	1		1,600	173	431	0.11	*	0.27	*
SBT	2		3,200	720	1,122	0.23		0.36	
SBR	0		0	18	38	0.00		0.00	
EBL	0		0	79	45	0.05		0.03	
EBT	1		1,600	35	84	0.02	*	0.05	*
EBR	1	0	1,600	24	17	0.00		0.00	
WBL	0		0	271	186	0.17	*	0.12	*
WBT	1		1,600	32	34	0.02		0.02	
WBR	1	0	1,600	432	205	0.00		0.00	
N/S Critical Movements						0.39		0.61	
E/W Critical Movements						0.19		0.17	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.68		0.88	
Level of Service (LOS)						B		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	24	34	0.02		0.02	
2		3,200	807	763	0.28	*	0.34	*
0		0	104	311	0.00		0.00	
1		1,600	173	431	0.11	*	0.27	*
2		3,200	720	1,122	0.23		0.36	
0		0	18	38	0.00		0.00	
0		0	79	45	0.05		0.03	
1		1,600	35	84	0.02	*	0.05	*
1	0	1,600	24	17	0.00		0.00	
0		0	271	186	0.17	*	0.12	*
1		1,600	32	34	0.02		0.02	
1	0	1,600	432	205	0.00		0.00	
					0.39		0.61	
					0.19		0.17	
					0.00		0.00	
					0.10		0.10	
ICU					0.68		0.88	
Level of Service (LOS)					B		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 23
North/South Roadway: Long Beach Boulevard
East/West Roadway: Del Amo Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	275	210	0.17	*	0.13	
NBT	2		3,200	445	734	0.14		0.23	*
NBR	1	0	1,600	54	103	0.00		0.00	
SBL	1		1,600	111	175	0.07		0.11	*
SBT	2		3,200	658	612	0.21	*	0.19	
SBR	1	0	1,600	225	121	0.00		0.00	
EBL	2		2,880	137	247	0.05	*	0.09	
EBT	3		4,800	648	1,006	0.14		0.21	*
EBR	1	0	1,600	225	329	0.00		0.00	
WBL	2		2,880	135	131	0.05		0.05	*
WBT	3		4,800	1,405	731	0.29	*	0.15	
WBR	1	0	1,600	102	130	0.00		0.00	
N/S Critical Movements						0.38		0.34	
E/W Critical Movements						0.34		0.26	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.82		0.70	
Level of Service (LOS)						D		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	318	243	0.20	*	0.15	
2		3,200	514	848	0.16		0.27	*
1	0	1,600	62	119	0.00		0.00	
1		1,600	114	202	0.07		0.13	*
2		3,200	760	707	0.24	*	0.22	
1	0	1,600	260	125	0.00		0.00	
2		2,880	147	285	0.05	*	0.10	
3		4,800	749	1,163	0.16		0.24	*
1	0	1,600	260	380	0.00		0.00	
2		2,880	156	151	0.05		0.05	*
3		4,800	1,624	845	0.34	*	0.18	
1	0	1,600	102	131	0.00		0.00	
					0.44		0.40	
					0.39		0.29	
					0.00		0.00	
					0.10		0.10	
ICU					0.93		0.79	
Level of Service (LOS)					E		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	318	224	0.20	*	0.14	
NBT	2		3,200	514	763	0.16		0.24	*
NBR	1	0	1,600	62	119	0.00		0.00	
SBL	1		1,600	112	202	0.07		0.13	*
SBT	2		3,200	667	707	0.21	*	0.22	
SBR	1	0	1,600	260	125	0.00		0.00	
EBL	2		2,880	139	285	0.05	*	0.10	
EBT	3		4,800	749	1,163	0.16		0.24	*
EBR	1	0	1,600	260	380	0.00		0.00	
WBL	2		2,880	156	151	0.05		0.05	*
WBT	3		4,800	1,624	845	0.34	*	0.18	
WBR	1	0	1,600	118	150	0.00		0.00	
N/S Critical Movements						0.41		0.37	
E/W Critical Movements						0.39		0.29	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.90		0.76	
Level of Service (LOS)						D		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	318	224	0.20	*	0.14	
2		3,200	514	763	0.16		0.24	*
1	0	1,600	62	119	0.00		0.00	
1		1,600	112	202	0.07		0.13	*
2		3,200	667	707	0.21	*	0.22	
1	0	1,600	260	125	0.00		0.00	
2		2,880	139	285	0.05	*	0.10	
3		4,800	749	1,163	0.16		0.24	*
1	0	1,600	260	380	0.00		0.00	
2		2,880	156	151	0.05		0.05	*
3		4,800	1,624	845	0.34	*	0.18	
1	0	1,600	118	150	0.00		0.00	
					0.41		0.37	
					0.39		0.29	
					0.00		0.00	
					0.10		0.10	
ICU					0.90		0.76	
Level of Service (LOS)					D		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 24
North/South Roadway: Long Beach Boulevard
East/West Roadway: San Antonio Drive
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	29	21	0.02	*	0.01	
NBT	2		3,200	662	922	0.24		0.37	*
NBR	0		0	121	268	0.00		0.00	
SBL	1		1,600	72	158	0.05		0.10	*
SBT	2		3,200	845	782	0.28	*	0.26	
SBR	0		0	64	49	0.00		0.00	
EBL	0		0	66	105	0.04	*	0.07	
EBT	2		3,200	69	125	0.05		0.09	*
EBR	0		0	37	44	0.00		0.00	
WBL	2		2,400	363	304	0.15		0.13	*
WBT	1		800	126	104	0.16	*	0.13	
WBR	1	0	1,600	111	139	0.00		0.00	
N/S Critical Movements						0.30		0.47	
E/W Critical Movements						0.20		0.22	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.60		0.79	
Level of Service (LOS)						A		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	34	24	0.02	*	0.02	
2		3,200	765	1,066	0.28		0.43	*
0		0	140	310	0.00		0.00	
1		1,600	83	183	0.05		0.11	*
2		3,200	977	904	0.33	*	0.30	
0		0	74	68	0.00		0.00	
0		0	78	134	0.05	*	0.08	
2		3,200	80	144	0.06		0.10	*
0		0	43	51	0.00		0.00	
2		2,400	420	351	0.17		0.15	*
1		800	146	120	0.18	*	0.15	
1	0	1,600	128	161	0.00		0.00	
					0.35		0.54	
					0.23		0.25	
					0.00		0.00	
					0.10		0.10	
ICU					0.68		0.89	
Level of Service (LOS)					B		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	34	24	0.02	*	0.02	
NBT	2		3,200	765	1,066	0.28		0.43	*
NBR	0		0	140	310	0.00		0.00	
SBL	1		1,600	83	183	0.05		0.11	*
SBT	2		3,200	977	904	0.33	*	0.30	
SBR	0		0	74	69	0.00		0.00	
EBL	0		0	78	137	0.05	*	0.09	
EBT	2		3,200	80	144	0.06		0.10	*
EBR	0		0	43	51	0.00		0.00	
WBL	2		2,400	420	351	0.17		0.15	*
WBT	1		800	146	120	0.18	*	0.15	
WBR	1	0	1,600	120	161	0.00		0.00	
N/S Critical Movements						0.35		0.54	
E/W Critical Movements						0.23		0.25	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.68		0.89	
Level of Service (LOS)						B		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	34	24	0.02	*	0.02	
2		3,200	765	1,066	0.28		0.43	*
0		0	140	310	0.00		0.00	
1		1,600	83	183	0.05		0.11	*
2		3,200	977	904	0.33	*	0.30	
0		0	74	69	0.00		0.00	
0		0	78	137	0.05	*	0.09	
2		3,200	80	144	0.06		0.10	*
0		0	43	51	0.00		0.00	
2		2,400	420	351	0.17		0.15	*
1		800	146	120	0.18	*	0.15	
1	0	1,600	120	161	0.00		0.00	
					0.35		0.54	
					0.23		0.25	
					0.00		0.00	
					0.10		0.10	
ICU					0.68		0.89	
Level of Service (LOS)					B		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 25
North/South Roadway: Long Beach Boulevard
East/West Roadway: Wardlow Road
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	266	303	0.17	*	0.19	*
NBT	3		4,800	794	1,016	0.19		0.25	
NBR	0		0	118	168	0.00		0.00	
SBL	1		1,600	56	104	0.04		0.07	
SBT	2		3,200	730	708	0.23	*	0.22	*
SBR	1	0	1,600	383	350	0.00		0.00	
EBL	1		1,600	269	278	0.17	*	0.17	*
EBT	2		3,200	491	904	0.16		0.30	
EBR	0		0	32	41	0.00		0.00	
WBL	1		1,600	78	84	0.05		0.05	
WBT	2		3,200	658	670	0.22	*	0.23	*
WBR	0		0	32	60	0.00		0.00	
N/S Critical Movements						0.40		0.41	
E/W Critical Movements						0.39		0.40	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.89		0.91	
Level of Service (LOS)						D		E	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	307	350	0.19	*	0.22	*
3		4,800	918	1,174	0.22		0.28	
0		0	136	168	0.00		0.00	
1		1,600	65	107	0.04		0.07	
2		3,200	844	818	0.26	*	0.26	*
1	0	1,600	443	405	0.00		0.00	
1		1,600	291	321	0.18	*	0.20	*
2		3,200	567	1,045	0.19		0.34	
0		0	37	47	0.00		0.00	
1		1,600	90	97	0.06		0.06	
2		3,200	760	774	0.25	*	0.26	*
0		0	37	69	0.00		0.00	
					0.45		0.48	
					0.43		0.46	
					0.00		0.00	
					0.10		0.10	
ICU					0.98		1.04	
Level of Service (LOS)					E		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	307	311	0.19	*	0.19	*
NBT	3		4,800	918	1,174	0.22		0.28	
NBR	0		0	136	173	0.00		0.00	
SBL	1		1,600	65	120	0.04		0.08	
SBT	2		3,200	844	818	0.26	*	0.26	*
SBR	1	0	1,600	443	405	0.00		0.00	
EBL	1		1,600	284	321	0.18	*	0.20	*
EBT	2		3,200	567	1,045	0.19		0.34	
EBR	0		0	37	47	0.00		0.00	
WBL	1		1,600	90	97	0.06		0.06	
WBT	2		3,200	760	774	0.25	*	0.26	*
WBR	0		0	32	69	0.00		0.00	
N/S Critical Movements						0.45		0.45	
E/W Critical Movements						0.43		0.46	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.98		1.01	
Level of Service (LOS)						E		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	307	311	0.11	*	0.11	*
3		4,800	918	1,174	0.22		0.28	
0		0	136	173	0.00		0.00	
1		1,600	65	120	0.04		0.08	
2		3,200	844	818	0.26	*	0.26	*
1	0	1,600	443	405	0.00		0.00	
2		2,880	284	321	0.10	*	0.11	
2		3,200	567	1,045	0.19		0.34	*
0		0	37	47	0.00		0.00	
1		1,600	90	97	0.06		0.06	*
2		3,200	760	774	0.25	*	0.26	
0		0	32	69	0.00		0.00	
					0.37		0.37	
					0.35		0.40	
					0.00		0.00	
					0.10		0.10	
ICU					0.82		0.87	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 26
North/South Roadway: Long Beach Blvd
East/West Roadway: Spring St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	71	52	0.04	0.03
NBT	2		3,200	1,561	1,945	0.59 *	0.78 *
NBR	0		0	320	557	0.00	0.00
SBL	1		1,600	250	167	0.16 *	0.10 *
SBT	2		3,200	1,341	1,415	0.50	0.54
SBR	0		0	246	320	0.00	0.00
EBL	1		1,600	380	376	0.24	0.24
EBT	2		3,200	1,157	1,180	0.36 *	0.37 *
EBR	1	0	1,600	87	73	0.00	0.00
WBL	1		1,600	429	392	0.27 *	0.25 *
WBT	2		3,200	895	1,108	0.28	0.35
WBR	1	0	1,600	357	398	0.00	0.00
N/S Critical Movements						0.75	0.88
E/W Critical Movements						0.63	0.62
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.48	1.60
Level of Service (LOS)						F	F

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	82	60	0.05	0.04
2		3,200	1,804	2,248	0.68 *	0.90 *
0		0	370	644	0.00	0.00
1		1,600	263	188	0.16 *	0.12 *
2		3,200	1,550	1,635	0.57	0.63
0		0	284	370	0.00	0.00
1		1,600	439	376	0.27	0.24
2		3,200	1,205	1,364	0.38 *	0.43 *
1	0	1,600	101	84	0.00	0.00
1		1,600	438	453	0.27 *	0.28 *
2		3,200	1,034	1,122	0.32	0.35
1	0	1,600	386	473	0.00	0.00
					0.84	1.02
					0.65	0.71
					0.00	0.00
					0.10	0.10
ICU					1.59	1.83
Level of Service (LOS)					F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	82	60	0.05	0.04
NBT	2		3,200	1,804	2,248	0.68 *	0.90 *
NBR	0		0	370	644	0.00	0.00
SBL	1		1,600	279	198	0.17 *	0.12 *
SBT	2		3,200	1,550	1,635	0.57	0.63
SBR	0		0	284	370	0.00	0.00
EBL	1		1,600	439	435	0.27	0.27
EBT	2		3,200	1,182	1,364	0.37 *	0.43 *
EBR	1	0	1,600	101	84	0.00	0.00
WBL	1		1,600	496	453	0.31 *	0.28 *
WBT	2		3,200	1,034	1,120	0.32	0.35
WBR	1	0	1,600	379	502	0.00	0.00
N/S Critical Movements						0.85	1.02
E/W Critical Movements						0.68	0.71
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.63	1.83
Level of Service (LOS)						F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	82	60	0.05	0.04
4		6,400	1,804	2,248	0.28 *	0.35 *
1	0	1,600	370	644	0.00	0.00
2		2,880	279	198	0.10 *	0.07 *
4		6,400	1,550	1,635	0.24	0.26
1	0	1,600	284	370	0.00	0.00
2		2,880	439	435	0.15 *	0.15 *
4		6,400	1,182	1,364	0.18	0.21
1	0	1,600	101	84	0.00	0.00
2		2,880	496	453	0.17	0.16
3		4,800	1,034	1,120	0.22 *	0.23 *
1	0	1,600	379	502	0.00	0.00
					0.38	0.42
					0.37	0.38
					0.00	0.00
					0.10	0.10
ICU					0.85	0.90
Level of Service (LOS)					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 27
North/South Roadway: Long Beach Boulevard
East/West Roadway: Williow Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	238	212	0.15 *	0.13 *
NBT	2		3,200	575	524	0.18	0.16
NBR	1	0	1,600	102	140	0.00	0.00
SBL	1		1,600	167	234	0.10	0.15
SBT	2		3,200	527	575	0.16 *	0.18 *
SBR	1	0	1,600	193	185	0.00	0.00
EBL	1		1,600	233	207	0.15 *	0.13 *
EBT	3		4,800	988	1,250	0.21	0.26
EBR	1	0	1,600	113	168	0.00	0.00
WBL	1		1,600	105	182	0.07	0.11
WBT	3		4,800	924	1,128	0.19 *	0.24 *
WBR	1	0	1,600	94	83	0.00	0.00
N/S Critical Movements						0.31	0.31
E/W Critical Movements						0.34	0.37
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.75	0.78
Level of Service (LOS)						C	C

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	275	218	0.17 *	0.14
2		3,200	665	606	0.21	0.19 *
1	0	1,600	104	141	0.00	0.00
1		1,600	193	270	0.12	0.17 *
2		3,200	609	665	0.19 *	0.21
1	0	1,600	223	214	0.00	0.00
1		1,600	269	239	0.17 *	0.15
3		4,800	1,142	1,445	0.24	0.30 *
1	0	1,600	131	194	0.00	0.00
1		1,600	121	186	0.08	0.12 *
3		4,800	1,068	1,181	0.22 *	0.25
1	0	1,600	109	96	0.00	0.00
					0.36	0.36
					0.39	0.42
					0.00	0.00
					0.10	0.10
					0.85	0.88
					D	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	275	245	0.17 *	0.15 *
NBT	2		3,200	665	606	0.21	0.19
NBR	1	0	1,600	118	162	0.00	0.00
SBL	1		1,600	193	270	0.12	0.17
SBT	2		3,200	609	665	0.19 *	0.21 *
SBR	1	0	1,600	223	214	0.00	0.00
EBL	1		1,600	269	239	0.17 *	0.15
EBT	3		4,800	1,142	1,445	0.24	0.30 *
EBR	1	0	1,600	116	194	0.00	0.00
WBL	1		1,600	121	210	0.08	0.13 *
WBT	3		4,800	1,068	1,207	0.22 *	0.25
WBR	1	0	1,600	109	83	0.00	0.00
N/S Critical Movements						0.36	0.36
E/W Critical Movements						0.39	0.43
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.85	0.89
Level of Service (LOS)						D	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	275	245	0.17 *	0.15 *
2		3,200	665	606	0.21	0.19
1	0	1,600	118	162	0.00	0.00
1		1,600	193	270	0.12	0.17
2		3,200	609	665	0.19 *	0.21 *
1	0	1,600	223	214	0.00	0.00
1		1,600	269	239	0.17 *	0.15
3		4,800	1,142	1,445	0.24	0.30 *
1	0	1,600	116	194	0.00	0.00
1		1,600	121	210	0.08	0.13 *
3		4,800	1,068	1,207	0.22 *	0.25
1	0	1,600	109	83	0.00	0.00
					0.36	0.36
					0.39	0.43
					0.00	0.00
					0.10	0.10
					0.85	0.89
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 28
North/South Roadway: Long Beach Boulevard
East/West Roadway: PCH
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	168	124	0.11		0.08	
NBT	2		3,200	556	564	0.17	*	0.18	*
NBR	1	0	1,600	55	86	0.00		0.00	
SBL	1		1,600	180	164	0.11	*	0.10	*
SBT	2		3,200	466	520	0.15		0.16	
SBR	1	0	1,600	113	111	0.00		0.00	
EBL	1		1,600	92	177	0.06	*	0.11	
EBT	3		4,800	769	1,380	0.17		0.31	*
EBR	0		0	62	101	0.00		0.00	
WBL	1		1,600	105	94	0.07		0.06	*
WBT	3		4,800	1,089	767	0.24	*	0.18	
WBR	0		0	80	109	0.00		0.00	
N/S Critical Movements						0.28		0.28	
E/W Critical Movements						0.30		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.68		0.75	
Level of Service (LOS)						B		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	194	143	0.12		0.09	
2		3,200	643	652	0.20	*	0.20	*
1	0	1,600	59	86	0.00		0.00	
1		1,600	208	190	0.13	*	0.12	*
2		3,200	539	601	0.17		0.19	
1	0	1,600	131	128	0.00		0.00	
1		1,600	106	205	0.07	*	0.13	
3		4,800	889	1,595	0.20		0.35	*
0		0	72	106	0.00		0.00	
1		1,600	121	114	0.08		0.07	*
3		4,800	1,259	819	0.28	*	0.19	
0		0	92	116	0.00		0.00	
					0.33		0.32	
					0.35		0.42	
					0.00		0.00	
					0.10		0.10	
ICU					0.78		0.84	
Level of Service (LOS)					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	194	143	0.12		0.09	
NBT	2		3,200	643	652	0.20	*	0.20	*
NBR	1	0	1,600	56	90	0.00		0.00	
SBL	1		1,600	183	190	0.11	*	0.12	*
SBT	2		3,200	539	601	0.17		0.19	
SBR	1	0	1,600	131	128	0.00		0.00	
EBL	1		1,600	106	205	0.07	*	0.13	
EBT	3		4,800	889	1,595	0.20		0.35	*
EBR	0		0	72	104	0.00		0.00	
WBL	1		1,600	121	125	0.08		0.08	*
WBT	3		4,800	1,259	831	0.28	*	0.20	
WBR	0		0	92	120	0.00		0.00	
N/S Critical Movements						0.31		0.32	
E/W Critical Movements						0.35		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.76		0.85	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	194	143	0.12		0.09	
2		3,200	643	652	0.20	*	0.20	*
1	0	1,600	56	90	0.00		0.00	
1		1,600	183	190	0.11	*	0.12	*
2		3,200	539	601	0.17		0.19	
1	0	1,600	131	128	0.00		0.00	
1		1,600	106	205	0.07	*	0.13	
3		4,800	889	1,595	0.20		0.35	*
0		0	72	104	0.00		0.00	
1		1,600	121	125	0.08		0.08	*
3		4,800	1,259	831	0.28	*	0.20	
0		0	92	120	0.00		0.00	
					0.31		0.32	
					0.35		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.76		0.85	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 29
North/South Roadway: Long Beach Boulevard
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	123	149	0.08		0.09	
NBT	2		3,200	406	510	0.15	*	0.19	*
NBR	0		0	71	96	0.00		0.00	
SBL	1		1,600	107	162	0.07	*	0.10	*
SBT	2		3,200	383	463	0.12		0.14	
SBR	1	0	1,600	56	68	0.00		0.00	
EBL	0		0	0	6	0.00	*	0.00	
EBT	3		4,800	800	1,274	0.18		0.29	*
EBR	0		0	62	99	0.00		0.00	
WBL	0		0	4	5	0.00		0.00	*
WBT	3		4,800	1,065	751	0.24	*	0.18	
WBR	0		0	104	130	0.00		0.00	
N/S Critical Movements						0.22		0.29	
E/W Critical Movements						0.24		0.29	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.56		0.68	
Level of Service (LOS)						A		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	142	149	0.09		0.09	
2		3,200	469	589	0.17	*	0.22	*
0		0	74	102	0.00		0.00	
1		1,600	124	187	0.08	*	0.12	*
2		3,200	443	535	0.14		0.17	
1	0	1,600	65	79	0.00		0.00	
0		0	0	7	0.00	*	0.00	
3		4,800	925	1,472	0.21		0.33	*
0		0	77	114	0.00		0.00	
0		0	6	5	0.00		0.00	*
3		4,800	1,231	763	0.28	*	0.19	
0		0	120	150	0.00		0.00	
					0.25		0.34	
					0.28		0.33	
					0.00		0.00	
					0.10		0.10	
ICU					0.63		0.77	
Level of Service (LOS)					B		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	142	155	0.09		0.10	
NBT	2		3,200	469	589	0.17	*	0.22	*
NBR	0		0	80	103	0.00		0.00	
SBL	1		1,600	124	187	0.08	*	0.12	*
SBT	2		3,200	443	535	0.14		0.17	
SBR	1	0	1,600	65	79	0.00		0.00	
EBL	0		0	0	7	0.00	*	0.00	
EBT	3		4,800	925	1,472	0.21		0.33	*
EBR	0		0	79	114	0.00		0.00	
WBL	0		0	6	5	0.00		0.00	*
WBT	3		4,800	1,231	755	0.28	*	0.19	
WBR	0		0	120	150	0.00		0.00	
N/S Critical Movements						0.25		0.34	
E/W Critical Movements						0.28		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.63		0.77	
Level of Service (LOS)						B		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	142	155	0.09		0.10	
2		3,200	469	589	0.17	*	0.22	*
0		0	80	103	0.00		0.00	
1		1,600	124	187	0.08	*	0.12	*
2		3,200	443	535	0.14		0.17	
1	0	1,600	65	79	0.00		0.00	
0		0	0	7	0.00	*	0.00	
3		4,800	925	1,472	0.21		0.33	*
0		0	79	114	0.00		0.00	
0		0	6	5	0.00		0.00	*
3		4,800	1,231	755	0.28	*	0.19	
0		0	120	150	0.00		0.00	
					0.25		0.34	
					0.28		0.33	
					0.00		0.00	
					0.10		0.10	
ICU					0.63		0.77	
Level of Service (LOS)					B		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 30
North/South Roadway: Long Beach Blvd
East/West Roadway: 7th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	330	236	0.21 *	0.15 *
NBT	2		3,200	741	992	0.23	0.31
NBR	0		0	0	0	0.00	0.00
SBL	0		0	0	0	0.00	0.00
SBT	2		3,200	798	842	0.25 *	0.26 *
SBR	1	0	1,600	242	128	0.00	0.00
EBL	0		0	0	0	0.00 *	0.00 *
EBT	0		0	0	0	0.00	0.00
EBR	0		0	0	0	0.00	0.00
WBL	1		1,600	194	227	0.12	0.14
WBT	3		4,800	2,837	1,341	0.59 *	0.28 *
WBR	1	0	1,600	147	163	0.00	0.00
N/S Critical Movements						0.46	0.41
E/W Critical Movements						0.59	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.15	0.79
Level of Service (LOS)						F	C

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	381	249	0.24 *	0.16 *
2		3,200	856	1,147	0.27	0.36
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00
2		3,200	922	850	0.29 *	0.27 *
1	0	1,600	280	132	0.00	0.00
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00
1		1,600	224	227	0.14	0.14
3		4,800	3,279	1,366	0.68 *	0.28 *
1	0	1,600	170	188	0.00	0.00
					0.53	0.43
					0.68	0.28
					0.00	0.00
					0.10	0.10
ICU					1.31	0.81
Level of Service (LOS)					F	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	381	259	0.24 *	0.16 *
NBT	2		3,200	856	993	0.27	0.31
NBR	0		0	0	0	0.00	0.00
SBL	0		0	0	0	0.00	0.00
SBT	2		3,200	922	850	0.29 *	0.27 *
SBR	1	0	1,600	280	132	0.00	0.00
EBL	0		0	0	0	0.00 *	0.00 *
EBT	0		0	0	0	0.00	0.00
EBR	0		0	0	0	0.00	0.00
WBL	1		1,600	194	262	0.12	0.16
WBT	3		4,800	3,279	1,347	0.68 *	0.28 *
WBR	1	0	1,600	170	188	0.00	0.00
N/S Critical Movements						0.53	0.43
E/W Critical Movements						0.68	0.28
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.31	0.81
Level of Service (LOS)						F	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	381	259	0.13 *	0.09 *
3		4,800	856	993	0.18	0.21
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00
3		4,800	922	850	0.19 *	0.18 *
1	0	1,600	280	132	0.00	0.00
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00
1		1,600	194	262	0.12	0.16
5		8,000	3,279	1,347	0.43 *	0.19 *
0		0	170	188	0.00	0.00
					0.32	0.27
					0.43	0.19
					0.00	0.00
					0.10	0.10
ICU					0.85	0.56
Level of Service (LOS)					D	A

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 31
North/South Roadway: Long Beach Boulevard
East/West Roadway: 6th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	2		3,200	378	457	0.12	*	0.14	*
NBR	1	0	1,600	30	55	0.00		0.00	
SBL	1		1,600	84	128	0.05	*	0.08	*
SBT	2		3,200	348	375	0.11		0.12	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	77	149	0.05		0.09	
EBT	3		4,800	587	1,517	0.12	*	0.32	*
EBR	1	0	1,600	58	85	0.00		0.00	
WBL	0		0	0	0	0.00	*	0.00	*
WBT	0		0	0	0	0.00		0.00	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.17		0.22	
E/W Critical Movements						0.12		0.32	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.39		0.64	
Level of Service (LOS)						A		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
2		3,200	437	472	0.14	*	0.15	*
1	0	1,600	35	55	0.00		0.00	
1		1,600	84	220	0.05	*	0.14	*
2		3,200	402	433	0.13		0.14	
0		0	0	0	0.00		0.00	
1		1,600	80	172	0.05		0.11	
3		4,800	636	1,753	0.13	*	0.37	*
1	0	1,600	58	98	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
					0.19		0.29	
					0.13		0.37	
					0.00		0.00	
					0.10		0.10	
					0.42		0.76	
					A		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	2		3,200	437	484	0.14	*	0.15	*
NBR	1	0	1,600	35	57	0.00		0.00	
SBL	1		1,600	97	219	0.06	*	0.14	*
SBT	2		3,200	402	433	0.13		0.14	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	82	172	0.05		0.11	
EBT	3		4,800	659	1,753	0.14	*	0.37	*
EBR	1	0	1,600	66	98	0.00		0.00	
WBL	0		0	0	0	0.00	*	0.00	*
WBT	0		0	0	0	0.00		0.00	
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.20		0.29	
E/W Critical Movements						0.14		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.44		0.76	
Level of Service (LOS)						A		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
2		3,200	437	484	0.14	*	0.15	*
1	0	1,600	35	57	0.00		0.00	
1		1,600	97	219	0.06	*	0.14	*
2		3,200	402	433	0.13		0.14	
0		0	0	0	0.00		0.00	
1		1,600	82	172	0.05		0.11	
3		4,800	659	1,753	0.14	*	0.37	*
1	0	1,600	66	98	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
					0.20		0.29	
					0.14		0.37	
					0.00		0.00	
					0.10		0.10	
					0.44		0.76	
					A		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 32
North/South Roadway: Long Beach Boulevard
East/West Roadway: 3rd Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	60	99	0.04	*	0.06	*
NBT	2		3,200	212	312	0.07		0.10	
NBR	0		0	0	0	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	
SBT	2		3,200	294	334	0.09	*	0.10	*
SBR	1	0	1,600	87	71	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	47	46	0.03		0.03	
WBT	2		3,200	860	360	0.29	*	0.14	*
WBR	0		0	60	89	0.00		0.00	
N/S Critical Movements						0.13		0.16	
E/W Critical Movements						0.29		0.14	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.52		0.40	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	63	101	0.04	*	0.06	*
2		3,200	245	316	0.08		0.10	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
2		3,200	312	386	0.10	*	0.12	*
1	0	1,600	101	82	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
1		1,600	132	53	0.08		0.03	
2		3,200	994	416	0.33	*	0.16	*
0		0	69	103	0.00		0.00	
					0.14		0.18	
					0.33		0.16	
					0.00		0.00	
					0.10		0.10	
ICU					0.57		0.44	
Level of Service (LOS)					A		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	62	105	0.04	*	0.07	*
NBT	2		3,200	215	361	0.07		0.11	
NBR	0		0	0	0	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	
SBT	2		3,200	304	386	0.10	*	0.12	*
SBR	1	0	1,600	101	82	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	116	53	0.07		0.03	
WBT	2		3,200	994	416	0.33	*	0.16	*
WBR	0		0	69	103	0.00		0.00	
N/S Critical Movements						0.14		0.19	
E/W Critical Movements						0.33		0.16	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.57		0.45	
Level of Service (LOS)						A		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	62	105	0.04	*	0.07	*
2		3,200	215	361	0.07		0.11	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
2		3,200	304	386	0.10	*	0.12	*
1	0	1,600	101	82	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
1		1,600	116	53	0.07		0.03	
2		3,200	994	416	0.33	*	0.16	*
0		0	69	103	0.00		0.00	
					0.14		0.19	
					0.33		0.16	
					0.00		0.00	
					0.10		0.10	
ICU					0.57		0.45	
Level of Service (LOS)					A		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 33
North/South Roadway: Long Beach Blvd
East/West Roadway: Broadway
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00 *	0.00 *
NBT	2	3,200	195	270	0.07	0.10
NBR	0	0	17	43	0.00	0.00
SBL	2	2,880	58	100	0.02	0.03
SBT	1	1,600	275	239	0.17 *	0.15 *
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	67	120	0.04	0.08
EBT	2	3,200	305	1,089	0.14 *	0.36 *
EBR	0	0	134	64	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
N/S Critical Movements					0.17	0.15
E/W Critical Movements					0.14	0.36
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.41	0.61
Level of Service (LOS)					A	B

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	0	0	0.00 *	0.00 *
2	3,200	204	284	0.07	0.10
0	0	17	50	0.00	0.00
2	2,880	61	116	0.02	0.04
1	1,600	375	276	0.23 *	0.17 *
0	0	0	0	0.00	0.00
1	1,600	68	139	0.04	0.09
2	3,200	353	1,259	0.16 *	0.42 *
0	0	171	84	0.00	0.00
0	0	0	0	0.00 *	0.00 *
0	0	0	0	0.00	0.00
0	0	0	0	0.00	0.00
				0.23	0.17
				0.16	0.42
				0.00	0.00
				0.10	0.10
				0.49	0.69
				A	B

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00 *	0.00 *
NBT	2	3,200	204	283	0.07	0.10
NBR	0	0	20	50	0.00	0.00
SBL	2	2,880	67	116	0.02	0.04
SBT	1	1,600	358	276	0.22 *	0.17 *
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	70	139	0.04	0.09
EBT	2	3,200	353	1,259	0.16 *	0.42 *
EBR	0	0	165	83	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
N/S Critical Movements					0.22	0.17
E/W Critical Movements					0.16	0.42
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.48	0.69
Level of Service (LOS)					A	B

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	0	0	0.00 *	0.00 *
2	3,200	204	283	0.07	0.10
0	0	20	50	0.00	0.00
2	2,880	67	116	0.02	0.04
1	1,600	358	276	0.22 *	0.17 *
0	0	0	0	0.00	0.00
1	1,600	70	139	0.04	0.09
2	3,200	353	1,259	0.16 *	0.42 *
0	0	165	83	0.00	0.00
0	0	0	0	0.00 *	0.00 *
0	0	0	0	0.00	0.00
0	0	0	0	0.00	0.00
				0.22	0.17
				0.16	0.42
				0.00	0.00
				0.10	0.10
				0.48	0.69
				A	B

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 34
North/South Roadway: Long Beach Blvd
East/West Roadway: Ocean Blvd
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	2		2,400	72	171	0.03	*	0.07	*
SBT	0		0	0	0	0.00		0.00	
SBR	2	0	2,400	212	244	0.00		0.00	
EBL	1		1,600	92	182	0.06	*	0.11	
EBT	3		4,800	479	1,653	0.10		0.34	*
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	3		4,800	1,976	994	0.41	*	0.21	
WBR	1	0	1,600	115	109	0.00		0.00	
N/S Critical Movements						0.03		0.07	
E/W Critical Movements						0.47		0.34	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.60		0.51	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,400	93	198	0.04	*	0.08	*
0		0	0	0	0.00		0.00	
2	0	2,400	318	282	0.00		0.00	
1		1,600	117	183	0.07	*	0.11	
3		4,800	710	1,814	0.15		0.38	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	2,001	1,054	0.42	*	0.22	
1	0	1,600	133	126	0.00		0.00	
					0.04		0.08	
					0.49		0.38	
					0.00		0.00	
					0.10		0.10	
ICU					0.63		0.56	
Level of Service (LOS)					B		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	2		2,400	91	171	0.04	*	0.07	*
SBT	0		0	0	0	0.00		0.00	
SBR	2	0	2,400	297	282	0.00		0.00	
EBL	1		1,600	116	184	0.07	*	0.12	
EBT	3		4,800	732	1,809	0.15		0.38	*
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	3		4,800	2,021	1,033	0.42	*	0.22	
WBR	1	0	1,600	133	126	0.00		0.00	
N/S Critical Movements						0.04		0.07	
E/W Critical Movements						0.49		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.63		0.55	
Level of Service (LOS)						B		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,400	91	171	0.04	*	0.07	*
0		0	0	0	0.00		0.00	
2	0	2,400	297	282	0.00		0.00	
1		1,600	116	184	0.07	*	0.12	
3		4,800	732	1,809	0.15		0.38	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	2,021	1,033	0.42	*	0.22	
1	0	1,600	133	126	0.00		0.00	
					0.04		0.07	
					0.49		0.38	
					0.00		0.00	
					0.10		0.10	
ICU					0.63		0.55	
Level of Service (LOS)					B		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 35
North/South Roadway: Atlantic Avenue
East/West Roadway: Alondra Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	176	128	0.11	*	0.08	
NBT	3		4,800	419	601	0.12		0.16	*
NBR	0		0	174	167	0.00		0.00	
SBL	1		1,600	321	229	0.20		0.14	*
SBT	2		3,200	727	615	0.23	*	0.19	
SBR	1	0	1,600	100	112	0.00		0.00	
EBL	1		1,600	128	182	0.08	*	0.11	
EBT	3		4,800	828	985	0.19		0.26	*
EBR	0		0	93	248	0.00		0.00	
WBL	1		1,600	179	160	0.11		0.10	*
WBT	2		3,200	894	697	0.28	*	0.22	
WBR	1	0	1,600	265	373	0.00		0.00	
N/S Critical Movements						0.34		0.30	
E/W Critical Movements						0.36		0.36	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.80		0.76	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	203	148	0.13	*	0.09	
3		4,800	484	695	0.14		0.18	*
0		0	201	193	0.00		0.00	
1		1,600	371	265	0.23		0.17	*
2		3,200	840	711	0.26	*	0.22	
1	0	1,600	116	129	0.00		0.00	
1		1,600	148	210	0.09	*	0.13	
3		4,800	957	1,138	0.22		0.30	*
0		0	94	287	0.00		0.00	
1		1,600	207	185	0.13		0.12	*
2		3,200	1,033	729	0.32	*	0.23	
1	0	1,600	306	373	0.00		0.00	
					0.39		0.35	
					0.41		0.42	
					0.00		0.00	
					0.10		0.10	
ICU					0.90		0.87	
Level of Service (LOS)					D		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	203	148	0.13	*	0.09	
NBT	3		4,800	484	695	0.14		0.18	*
NBR	0		0	201	193	0.00		0.00	
SBL	1		1,600	326	265	0.20		0.17	*
SBT	2		3,200	739	711	0.23	*	0.22	
SBR	1	0	1,600	116	129	0.00		0.00	
EBL	1		1,600	148	210	0.09	*	0.13	
EBT	3		4,800	837	1,138	0.19		0.30	*
EBR	0		0	94	287	0.00		0.00	
WBL	1		1,600	207	185	0.13		0.12	*
WBT	2		3,200	1,033	720	0.32	*	0.23	
WBR	1	0	1,600	306	384	0.00		0.00	
N/S Critical Movements						0.36		0.35	
E/W Critical Movements						0.41		0.42	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.87		0.87	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	203	148	0.13	*	0.09	
3		4,800	484	695	0.14		0.18	*
0		0	201	193	0.00		0.00	
1		1,600	326	265	0.20		0.17	*
2		3,200	739	711	0.23	*	0.22	
1	0	1,600	116	129	0.00		0.00	
1		1,600	148	210	0.09	*	0.13	
3		4,800	837	1,138	0.19		0.30	*
0		0	94	287	0.00		0.00	
1		1,600	207	185	0.13		0.12	*
2		3,200	1,033	720	0.32	*	0.23	
1	0	1,600	306	384	0.00		0.00	
					0.36		0.35	
					0.41		0.42	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.87	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 36
North/South Roadway: Atlantic Avenue
East/West Roadway: SR-91 WB Ramps
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	402	292	0.14	*	0.10	*
NBT	2		3,200	485	688	0.15		0.22	
NBR	0		0	0	0	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	
SBT	3		4,800	891	1,007	0.28	*	0.24	*
SBR	0		0	450	132	0.00		0.00	
EBL	0		0	0	0	0.00		0.00	
EBT	0		0	0	0	0.00	*	0.00	*
EBR	0		0	0	0	0.00		0.00	
WBL	2		2,880	224	256	0.08	*	0.09	*
WBT	0		0	0	0	0.00		0.00	
WBR	1	0	1,600	227	451	0.00		0.00	
N/S Critical Movements						0.42		0.34	
E/W Critical Movements						0.08		0.09	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.60		0.53	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	465	337	0.16	*	0.12	*
2		3,200	561	795	0.18		0.25	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
3		4,800	1,030	1,164	0.32	*	0.27	*
0		0	520	153	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,880	234	296	0.08	*	0.10	*
0		0	0	0	0.00		0.00	
1	0	1,600	262	521	0.00		0.00	
					0.48		0.39	
					0.08		0.10	
					0.00		0.00	
					0.10		0.10	
					0.66		0.59	
					B		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	465	337	0.16	*	0.12	*
NBT	2		3,200	561	795	0.18		0.25	
NBR	0		0	0	0	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	
SBT	3		4,800	898	1,164	0.30	*	0.27	*
SBR	0		0	520	153	0.00		0.00	
EBL	0		0	0	0	0.00		0.00	
EBT	0		0	0	0	0.00	*	0.00	*
EBR	0		0	0	0	0.00		0.00	
WBL	2		2,880	229	296	0.08	*	0.10	*
WBT	0		0	0	0	0.00		0.00	
WBR	1	0	1,600	262	521	0.00		0.00	
N/S Critical Movements						0.46		0.39	
E/W Critical Movements						0.08		0.10	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.64		0.59	
Level of Service (LOS)						B		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	465	337	0.16	*	0.12	*
2		3,200	561	795	0.18		0.25	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
3		4,800	898	1,164	0.30	*	0.27	*
0		0	520	153	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,880	229	296	0.08	*	0.10	*
0		0	0	0	0.00		0.00	
1	0	1,600	262	521	0.00		0.00	
					0.46		0.39	
					0.08		0.10	
					0.00		0.00	
					0.10		0.10	
					0.64		0.59	
					B		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 37
North/South Roadway: Atlantic Avenue
East/West Roadway: SR-91 EB Ramps
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	2		3,200	841	861	0.26	*	0.27	*
NBR	1	0	1,600	296	320	0.00		0.00	
SBL	2		2,880	275	380	0.10	*	0.13	*
SBT	2		3,200	777	881	0.24		0.28	
SBR	0		0	0	0	0.00		0.00	
EBL	2		2,400	54	185	0.02	*	0.08	*
EBT	0		0	0	0	0.00		0.00	
EBR	2	0	2,400	234	546	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.36		0.40	
E/W Critical Movements						0.02		0.08	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.48		0.58	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
2		3,200	972	995	0.30	*	0.31	*
1	0	1,600	297	353	0.00		0.00	
2		2,880	318	439	0.11	*	0.15	*
2		3,200	799	1,018	0.25		0.32	
0		0	0	0	0.00		0.00	
2		2,400	62	214	0.03	*	0.09	*
0		0	0	0	0.00		0.00	
2	0	2,400	270	631	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
					0.41		0.46	
					0.03		0.09	
					0.00		0.00	
					0.10		0.10	
					0.54		0.65	
					A		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	2		3,200	972	995	0.30	*	0.31	*
NBR	1	0	1,600	302	378	0.00		0.00	
SBL	2		2,880	318	439	0.11	*	0.15	*
SBT	2		3,200	827	1,018	0.26		0.32	
SBR	0		0	0	0	0.00		0.00	
EBL	2		2,400	62	214	0.03	*	0.09	*
EBT	0		0	0	0	0.00		0.00	
EBR	2	0	2,400	270	631	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.41		0.46	
E/W Critical Movements						0.03		0.09	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.54		0.65	
Level of Service (LOS)						A		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
2		3,200	972	995	0.30	*	0.31	*
1	0	1,600	302	378	0.00		0.00	
2		2,880	318	439	0.11	*	0.15	*
2		3,200	827	1,018	0.26		0.32	
0		0	0	0	0.00		0.00	
2		2,400	62	214	0.03	*	0.09	*
0		0	0	0	0.00		0.00	
2	0	2,400	270	631	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
					0.41		0.46	
					0.03		0.09	
					0.00		0.00	
					0.10		0.10	
					0.54		0.65	
					A		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 38
North/South Roadway: Atlantic Avenue
East/West Roadway: Artesia Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	249	160	0.16	*	0.10	
NBT	2		3,200	689	640	0.22		0.20	*
NBR	1	0	1,600	148	109	0.00		0.00	
SBL	1		1,600	158	300	0.10		0.19	*
SBT	3		4,800	529	923	0.18	*	0.22	
SBR	0		0	348	134	0.00		0.00	
EBL	2		2,880	227	367	0.08	*	0.13	
EBT	2		3,200	440	962	0.14		0.30	*
EBR	1	0	1,600	208	214	0.00		0.00	
WBL	1		1,600	90	117	0.06		0.07	*
WBT	2		3,200	855	379	0.27	*	0.12	
WBR	1	0	1,600	230	235	0.00		0.00	
N/S Critical Movements						0.34		0.39	
E/W Critical Movements						0.35		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.79		0.86	
Level of Service (LOS)						C		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	288	189	0.18	*	0.12	
2		3,200	796	740	0.25		0.23	*
1	0	1,600	171	126	0.00		0.00	
1		1,600	183	347	0.11		0.22	*
3		4,800	532	1,067	0.19	*	0.26	
0		0	402	171	0.00		0.00	
2		2,880	262	370	0.09	*	0.13	
2		3,200	519	1,112	0.16		0.35	*
1	0	1,600	213	247	0.00		0.00	
1		1,600	91	135	0.06		0.08	*
2		3,200	988	457	0.31	*	0.14	
1	0	1,600	266	272	0.00		0.00	
					0.37		0.45	
					0.40		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.98	
Level of Service (LOS)					D		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	288	196	0.18	*	0.12	
NBT	2		3,200	796	740	0.25		0.23	*
NBR	1	0	1,600	171	126	0.00		0.00	
SBL	1		1,600	186	347	0.12		0.22	*
SBT	3		4,800	556	1,067	0.20	*	0.26	
SBR	0		0	402	174	0.00		0.00	
EBL	2		2,880	262	376	0.09	*	0.13	
EBT	2		3,200	499	1,112	0.16		0.35	*
EBR	1	0	1,600	211	247	0.00		0.00	
WBL	1		1,600	92	135	0.06		0.08	*
WBT	2		3,200	988	439	0.31	*	0.14	
WBR	1	0	1,600	266	272	0.00		0.00	
N/S Critical Movements						0.38		0.45	
E/W Critical Movements						0.40		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.88		0.98	
Level of Service (LOS)						D		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	288	196	0.18	*	0.12	
2		3,200	796	740	0.25		0.23	*
1	0	1,600	171	126	0.00		0.00	
1		1,600	186	347	0.12		0.22	*
3		4,800	556	1,067	0.20	*	0.26	
0		0	402	174	0.00		0.00	
2		2,880	262	376	0.09	*	0.13	
3		4,800	499	1,112	0.10		0.23	*
1	0	1,600	211	247	0.00		0.00	
1		1,600	92	135	0.06		0.08	*
2		3,200	988	439	0.31	*	0.14	
1	0	1,600	266	272	0.00		0.00	
					0.38		0.45	
					0.40		0.31	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.86	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 39
North/South Roadway: Atlantic Avenue
East/West Roadway: South Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	41	71	0.03	*	0.04	
NBT	2		3,200	427	716	0.16		0.27	*
NBR	0		0	79	160	0.00		0.00	
SBL	1		1,600	152	255	0.10		0.16	*
SBT	2		3,200	725	509	0.23	*	0.16	
SBR	1	0	1,600	59	80	0.00		0.00	
EBL	1		1,600	70	71	0.04		0.04	
EBT	2		3,200	201	342	0.08	*	0.12	*
EBR	0		0	48	35	0.00		0.00	
WBL	1		1,600	123	112	0.08	*	0.07	*
WBT	2		3,200	251	252	0.11		0.12	
WBR	0		0	112	137	0.00		0.00	
N/S Critical Movements						0.26		0.43	
E/W Critical Movements						0.16		0.19	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.52		0.72	
Level of Service (LOS)						A		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	77	82	0.05		0.05	
2		3,200	494	828	0.20	*	0.32	*
0		0	153	185	0.00		0.00	
1		1,600	176	257	0.11	*	0.16	*
2		3,200	746	588	0.23		0.18	
1	0	1,600	68	92	0.00		0.00	
1		1,600	81	72	0.05	*	0.05	
2		3,200	214	395	0.09		0.14	*
0		0	59	40	0.00		0.00	
1		1,600	132	129	0.08		0.08	*
2		3,200	290	256	0.13	*	0.13	
0		0	129	154	0.00		0.00	
					0.31		0.48	
					0.18		0.22	
					0.00		0.00	
					0.10		0.10	
ICU					0.59		0.80	
Level of Service (LOS)					A		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	87	82	0.05		0.05	
NBT	2		3,200	494	828	0.20	*	0.32	*
NBR	0		0	159	185	0.00		0.00	
SBL	1		1,600	176	255	0.11	*	0.16	*
SBT	2		3,200	780	588	0.24		0.18	
SBR	1	0	1,600	68	92	0.00		0.00	
EBL	1		1,600	81	76	0.05	*	0.05	
EBT	2		3,200	232	395	0.09		0.14	*
EBR	0		0	60	40	0.00		0.00	
WBL	1		1,600	129	129	0.08		0.08	*
WBT	2		3,200	290	291	0.13	*	0.14	
WBR	0		0	129	150	0.00		0.00	
N/S Critical Movements						0.31		0.48	
E/W Critical Movements						0.18		0.22	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.59		0.80	
Level of Service (LOS)						A		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	87	82	0.05		0.05	
2		3,200	494	828	0.20	*	0.32	*
0		0	159	185	0.00		0.00	
1		1,600	176	255	0.11	*	0.16	*
2		3,200	780	588	0.24		0.18	
1	0	1,600	68	92	0.00		0.00	
1		1,600	81	76	0.05	*	0.05	
2		3,200	232	395	0.09		0.14	*
0		0	60	40	0.00		0.00	
1		1,600	129	129	0.08		0.08	*
2		3,200	290	291	0.13	*	0.14	
0		0	129	150	0.00		0.00	
					0.31		0.48	
					0.18		0.22	
					0.00		0.00	
					0.10		0.10	
ICU					0.59		0.80	
Level of Service (LOS)					A		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 40
North/South Roadway: Atlantic Avenue
East/West Roadway: Del Amo Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	167	217	0.10	*	0.14	
NBT	2		3,200	300	783	0.09		0.24	*
NBR	1	0	1,600	71	144	0.00		0.00	
SBL	1		1,600	154	108	0.10		0.07	*
SBT	2		3,200	675	471	0.21	*	0.15	
SBR	1	0	1,600	225	118	0.00		0.00	
EBL	1		1,600	81	165	0.05	*	0.10	
EBT	3		4,800	591	1,504	0.12		0.31	*
EBR	1	0	1,600	148	259	0.00		0.00	
WBL	1		1,600	71	104	0.04		0.07	*
WBT	3		4,800	1,383	683	0.31	*	0.17	
WBR	0		0	92	138	0.00		0.00	
N/S Critical Movements						0.31		0.31	
E/W Critical Movements						0.36		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.77		0.79	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	193	231	0.12	*	0.14	
2		3,200	347	905	0.11		0.28	*
1	0	1,600	82	166	0.00		0.00	
1		1,600	178	125	0.11		0.08	*
2		3,200	780	544	0.24	*	0.17	
1	0	1,600	260	118	0.00		0.00	
1		1,600	94	191	0.06	*	0.12	
3		4,800	683	1,738	0.14		0.36	*
1	0	1,600	171	299	0.00		0.00	
1		1,600	82	120	0.05		0.08	*
3		4,800	1,598	789	0.36	*	0.20	
0		0	106	159	0.00		0.00	
					0.36		0.36	
					0.42		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.90	
Level of Service (LOS)					D		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	193	230	0.12	*	0.14	
NBT	2		3,200	347	905	0.11		0.28	*
NBR	1	0	1,600	82	166	0.00		0.00	
SBL	1		1,600	178	125	0.11		0.08	*
SBT	2		3,200	780	544	0.24	*	0.17	
SBR	1	0	1,600	260	136	0.00		0.00	
EBL	1		1,600	94	191	0.06	*	0.12	
EBT	3		4,800	683	1,738	0.14		0.36	*
EBR	1	0	1,600	171	299	0.00		0.00	
WBL	1		1,600	82	120	0.05		0.08	*
WBT	3		4,800	1,598	789	0.36	*	0.20	
WBR	0		0	106	159	0.00		0.00	
N/S Critical Movements						0.36		0.36	
E/W Critical Movements						0.42		0.44	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.88		0.90	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	193	230	0.12	*	0.14	
2		3,200	347	905	0.11		0.28	*
1	0	1,600	82	166	0.00		0.00	
1		1,600	178	125	0.11		0.08	*
2		3,200	780	544	0.24	*	0.17	
1	0	1,600	260	136	0.00		0.00	
1		1,600	94	191	0.06	*	0.12	
3		4,800	683	1,738	0.14		0.36	*
1	0	1,600	171	299	0.00		0.00	
1		1,600	82	120	0.05		0.08	*
3		4,800	1,598	789	0.36	*	0.20	
0		0	106	159	0.00		0.00	
					0.36		0.36	
					0.42		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.90	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 41
North/South Roadway: Atlantic Avenue
East/West Roadway: 33rd Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	22	26	0.01	0.02
NBT	2	3,200	793	1,222	0.28 *	0.47 *
NBR	0	0	113	268	0.00	0.00
SBL	1	1,600	59	79	0.04 *	0.05 *
SBT	2	3,200	874	739	0.28	0.24
SBR	0	0	8	13	0.00	0.00
EBL	0	0	4	10	0.00	0.01 *
EBT	1	1,600	9	9	0.02 *	0.03
EBR	0	0	16	26	0.00	0.00
WBL	0	0	58	118	0.04 *	0.07
WBT	2	3,200	11	16	0.05	0.09 *
WBR	0	0	97	157	0.00	0.00
N/S Critical Movements					0.32	0.52
E/W Critical Movements					0.06	0.10
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.48	0.72
Level of Service (LOS)					A	C

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	25	28	0.02	0.02
2	3,200	796	1,412	0.29 *	0.53 *
0	0	131	279	0.00	0.00
1	1,600	68	91	0.04 *	0.06 *
2	3,200	877	854	0.28	0.27
0	0	9	15	0.00	0.00
0	0	4	17	0.00	0.01
1	1,600	9	16	0.02 *	0.06 *
0	0	24	57	0.00	0.00
0	0	78	136	0.05 *	0.09 *
2	3,200	13	16	0.06	0.10
0	0	112	181	0.00	0.00
				0.33	0.59
				0.07	0.15
				0.00	0.00
				0.10	0.10
				0.50	0.84
				A	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	26	29	0.02	0.02
NBT	2	3,200	917	1,230	0.33 *	0.47 *
NBR	0	0	130	283	0.00	0.00
SBL	1	1,600	68	91	0.04 *	0.06 *
SBT	2	3,200	931	854	0.29	0.27
SBR	0	0	9	15	0.00	0.00
EBL	0	0	4	18	0.00	0.01
EBT	1	1,600	12	17	0.03 *	0.06 *
EBR	0	0	34	63	0.00	0.00
WBL	0	0	83	139	0.05 *	0.09 *
WBT	2	3,200	13	16	0.06	0.11
WBR	0	0	112	181	0.00	0.00
N/S Critical Movements					0.37	0.53
E/W Critical Movements					0.08	0.15
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.55	0.78
Level of Service (LOS)					A	C

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	26	29	0.02	0.02
2	3,200	917	1,230	0.33 *	0.47 *
0	0	130	283	0.00	0.00
1	1,600	68	91	0.04 *	0.06 *
2	3,200	931	854	0.29	0.27
0	0	9	15	0.00	0.00
0	0	4	18	0.00	0.01
1	1,600	12	17	0.03 *	0.06 *
0	0	34	63	0.00	0.00
0	0	83	139	0.05 *	0.09 *
2	3,200	13	16	0.06	0.11
0	0	112	181	0.00	0.00
				0.37	0.53
				0.08	0.15
				0.00	0.00
				0.10	0.10
				0.55	0.78
				A	C

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 42
North/South Roadway: Atlantic Avenue
East/West Roadway: I-405 EB Ramps
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	*
NBT	3		4,800	690	1,110	0.21		0.28	
NBR	0		0	315	230	0.00		0.00	
SBL	0		0	1	2	0.00		0.00	
SBT	2		3,200	937	893	0.29	*	0.28	*
SBR	1	0	1,600	331	242	0.00		0.00	
EBL	1		1,600	167	265	0.10	*	0.17	*
EBT	0		0	0	0	0.00		0.00	
EBR	1	0	1,600	341	267	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.29		0.28	
E/W Critical Movements						0.10		0.17	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.49		0.55	
Level of Service (LOS)						A		A	

2040 NO BUILD

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
	0		0	0	0	0.00	*	0.00	*
	3		4,800	748	1,158	0.23		0.30	
	0		0	364	266	0.00		0.00	
	0		0	1	2	0.00		0.00	
	2		3,200	986	1,032	0.31	*	0.32	*
	1	0	1,600	331	242	0.00		0.00	
	1		1,600	193	306	0.12	*	0.19	*
	0		0	0	0	0.00		0.00	
	1	0	1,600	414	294	0.00		0.00	
	0		0	0	0	0.00		0.00	
	0		0	0	0	0.00	*	0.00	*
	0		0	0	0	0.00		0.00	
						0.31		0.32	
						0.12		0.19	
						0.00		0.00	
						0.10		0.10	
ICU						0.53		0.61	
Level of Service (LOS)						A		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	*
NBT	3		4,800	708	1,227	0.22		0.31	
NBR	0		0	364	266	0.00		0.00	
SBL	0		0	1	2	0.00		0.00	
SBT	2		3,200	1,056	1,032	0.33	*	0.32	*
SBR	1	0	1,600	331	242	0.00		0.00	
EBL	1		1,600	193	306	0.12	*	0.19	*
EBT	0		0	0	0	0.00		0.00	
EBR	1	0	1,600	444	309	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	0		0	0	0	0.00		0.00	
N/S Critical Movements						0.33		0.32	
E/W Critical Movements						0.12		0.19	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.55		0.61	
Level of Service (LOS)						A		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
	0		0	0	0	0.00	*	0.00	*
	3		4,800	708	1,227	0.22		0.31	
	0		0	364	266	0.00		0.00	
	0		0	1	2	0.00		0.00	
	2		3,200	1,056	1,032	0.33	*	0.32	*
	1	0	1,600	331	242	0.00		0.00	
	1		1,600	193	306	0.12	*	0.19	*
	0		0	0	0	0.00		0.00	
	1	0	1,600	444	309	0.00		0.00	
	0		0	0	0	0.00		0.00	
	0		0	0	0	0.00	*	0.00	*
	0		0	0	0	0.00		0.00	
						0.33		0.32	
						0.12		0.19	
						0.00		0.00	
						0.10		0.10	
ICU						0.55		0.61	
Level of Service (LOS)						A		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 43
North/South Roadway: Atlantic Avenue
East/West Roadway: Willow Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	113	80	0.07	0.05
NBT	2	3,200	666	556	0.24 *	0.21 *
NBR	0	0	105	130	0.00	0.00
SBL	1	1,600	97	167	0.06 *	0.10 *
SBT	2	3,200	565	673	0.20	0.25
SBR	0	0	74	142	0.00	0.00
EBL	2	2,880	135	112	0.05 *	0.04
EBT	3	4,800	894	1,369	0.20	0.31 *
EBR	0	0	79	100	0.00	0.00
WBL	1	1,600	105	109	0.07	0.07 *
WBT	3	4,800	959	1,071	0.23 *	0.24
WBR	0	0	166	89	0.00	0.00
N/S Critical Movements					0.30	0.31
E/W Critical Movements					0.28	0.38
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.68	0.79
Level of Service (LOS)					B	C

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	132	82	0.08	0.05
2	3,200	804	653	0.29 *	0.25 *
0	0	116	150	0.00	0.00
1	1,600	121	167	0.08 *	0.10 *
2	3,200	682	728	0.24	0.28
0	0	97	155	0.00	0.00
2	2,880	142	127	0.05 *	0.04
3	4,800	1,033	1,582	0.23	0.35 *
0	0	91	116	0.00	0.00
1	1,600	121	109	0.08	0.07 *
3	4,800	1,108	1,086	0.27 *	0.25
0	0	192	103	0.00	0.00
				0.37	0.35
				0.32	0.42
				0.00	0.00
				0.10	0.10
ICU				0.79	0.87
Level of Service (LOS)				C	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	116	92	0.07 *	0.06
NBT	2	3,200	707	675	0.25	0.26 *
NBR	0	0	106	150	0.00	0.00
SBL	1	1,600	124	193	0.08	0.12 *
SBT	2	3,200	740	678	0.26 *	0.26
SBR	0	0	96	152	0.00	0.00
EBL	2	2,880	156	139	0.05 *	0.05
EBT	3	4,800	1,033	1,582	0.23	0.35 *
EBR	0	0	91	116	0.00	0.00
WBL	1	1,600	121	126	0.08	0.08 *
WBT	3	4,800	1,108	1,097	0.27 *	0.25
WBR	0	0	192	119	0.00	0.00
N/S Critical Movements					0.33	0.38
E/W Critical Movements					0.32	0.43
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.75	0.91
Level of Service (LOS)					C	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	116	92	0.07 *	0.06
2	3,200	707	675	0.25	0.26 *
0	0	106	150	0.00	0.00
1	1,600	124	193	0.08	0.12 *
2	3,200	740	678	0.26 *	0.26
0	0	96	152	0.00	0.00
2	2,880	156	139	0.05 *	0.05
3	4,800	1,033	1,582	0.22	0.33 *
1 0	1,600	91	116	0.00	0.00
1	1,600	121	126	0.08	0.08 *
3	4,800	1,108	1,097	0.27 *	0.25
0	0	192	119	0.00	0.00
				0.33	0.38
				0.32	0.41
				0.00	0.00
				0.10	0.10
ICU				0.75	0.89
Level of Service (LOS)				C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 44
North/South Roadway: Atlantic Avenue
East/West Roadway: PCH
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	69	68	0.04	*	0.04	
NBT	2		3,200	572	603	0.18		0.19	*
NBR	1	0	1,600	200	176	0.00		0.00	
SBL	1		1,600	50	93	0.03		0.06	*
SBT	2		3,200	660	543	0.23	*	0.19	
SBR	0		0	72	79	0.00		0.00	
EBL	1		1,600	98	77	0.06	*	0.05	
EBT	3		4,800	689	1,393	0.18		0.31	*
EBR	0		0	192	94	0.00		0.00	
WBL	1		1,600	181	113	0.11		0.07	*
WBT	3		4,800	1,101	791	0.25	*	0.18	
WBR	0		0	109	72	0.00		0.00	
N/S Critical Movements						0.27		0.25	
E/W Critical Movements						0.31		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.68		0.73	
Level of Service (LOS)						B		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	80	130	0.05	*	0.08	*
2		3,200	735	733	0.23		0.23	
1	0	1,600	231	178	0.00		0.00	
1		1,600	58	107	0.04		0.07	
2		3,200	745	644	0.26	*	0.23	*
0		0	83	89	0.00		0.00	
1		1,600	117	80	0.07	*	0.05	
3		4,800	796	1,610	0.21		0.37	*
0		0	207	163	0.00		0.00	
1		1,600	181	116	0.11		0.07	*
3		4,800	1,272	914	0.29	*	0.21	
0		0	121	83	0.00		0.00	
					0.31		0.31	
					0.36		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.77		0.85	
Level of Service (LOS)					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	80	143	0.05	*	0.09	*
NBT	2		3,200	684	725	0.21		0.23	
NBR	1	0	1,600	231	203	0.00		0.00	
SBL	1		1,600	58	107	0.04		0.07	
SBT	2		3,200	780	626	0.27	*	0.23	*
SBR	0		0	72	100	0.00		0.00	
EBL	1		1,600	113	81	0.07	*	0.05	
EBT	3		4,800	796	1,610	0.21		0.37	*
EBR	0		0	216	157	0.00		0.00	
WBL	1		1,600	209	131	0.13		0.08	*
WBT	3		4,800	1,272	914	0.29	*	0.21	
WBR	0		0	126	83	0.00		0.00	
N/S Critical Movements						0.32		0.32	
E/W Critical Movements						0.36		0.45	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.78		0.87	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	80	143	0.05	*	0.09	*
2		3,200	684	725	0.21		0.23	
1	0	1,600	231	203	0.00		0.00	
1		1,600	58	107	0.04		0.07	
2		3,200	780	626	0.27	*	0.23	*
0		0	72	100	0.00		0.00	
1		1,600	113	81	0.07	*	0.05	
3		4,800	796	1,610	0.21		0.37	*
0		0	216	157	0.00		0.00	
1		1,600	209	131	0.13		0.08	*
3		4,800	1,272	914	0.29	*	0.21	
0		0	126	83	0.00		0.00	
					0.32		0.32	
					0.36		0.45	
					0.00		0.00	
					0.10		0.10	
ICU					0.78		0.87	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 45
North/South Roadway: Atlantic Avenue
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	60	64	0.04 *	0.04
NBT	2	3,200	417	477	0.14	0.18 *
NBR	0	0	45	103	0.00	0.00
SBL	1	1,600	110	97	0.07	0.06 *
SBT	2	3,200	495	542	0.18 *	0.19
SBR	0	0	78	79	0.00	0.00
EBL	1	1,600	124	166	0.08 *	0.10
EBT	2	3,200	636	1,210	0.23	0.41 *
EBR	0	0	87	87	0.00	0.00
WBL	1	1,600	127	101	0.08	0.06 *
WBT	2	3,200	1,052	760	0.36 *	0.26
WBR	0	0	109	83	0.00	0.00
N/S Critical Movements					0.22	0.24
E/W Critical Movements					0.44	0.47
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.76	0.81
Level of Service (LOS)					C	D

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	78	79	0.05	0.05 *
2	3,200	579	654	0.20 *	0.24
0	0	61	121	0.00	0.00
1	1,600	124	102	0.08 *	0.06
2	3,200	558	712	0.20	0.25 *
0	0	85	88	0.00	0.00
1	1,600	143	181	0.09 *	0.11
2	3,200	735	1,398	0.26	0.47 *
0	0	101	101	0.00	0.00
1	1,600	147	118	0.09	0.07 *
2	3,200	1,216	878	0.41 *	0.30
0	0	110	90	0.00	0.00
				0.28	0.30
				0.50	0.54
				0.00	0.00
				0.10	0.10
ICU				0.88	0.94
Level of Service (LOS)				D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	78	79	0.05	0.05 *
NBT	2	3,200	579	654	0.20 *	0.24
NBR	0	0	61	121	0.00	0.00
SBL	1	1,600	124	102	0.08 *	0.06
SBT	2	3,200	558	712	0.20	0.25 *
SBR	0	0	85	88	0.00	0.00
EBL	1	1,600	129	181	0.08 *	0.11
EBT	2	3,200	660	1,255	0.23	0.42 *
EBR	0	0	90	101	0.00	0.00
WBL	1	1,600	132	118	0.08	0.07 *
WBT	2	3,200	1,091	788	0.38 *	0.27
WBR	0	0	110	90	0.00	0.00
N/S Critical Movements					0.28	0.30
E/W Critical Movements					0.46	0.49
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.84	0.89
Level of Service (LOS)					D	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	78	79	0.05	0.05 *
2	3,200	579	654	0.20 *	0.24
0	0	61	121	0.00	0.00
1	1,600	124	102	0.08 *	0.06
2	3,200	558	712	0.20	0.25 *
0	0	85	88	0.00	0.00
1	1,600	129	181	0.08 *	0.11
2	3,200	660	1,255	0.23	0.42 *
0	0	90	101	0.00	0.00
1	1,600	132	118	0.08	0.07 *
2	3,200	1,091	788	0.38 *	0.27
0	0	110	90	0.00	0.00
				0.28	0.30
				0.46	0.49
				0.00	0.00
				0.10	0.10
ICU				0.84	0.89
Level of Service (LOS)				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 46
North/South Roadway: Atlantic Ave
East/West Roadway: 7th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	117	66	0.07 *	0.04 *
NBT	2		3,200	346	331	0.11	0.10
NBR	1	0	1,600	132	397	0.00	0.00
SBL	1		1,600	111	121	0.07	0.08
SBT	2		3,200	280	375	0.12 *	0.14 *
SBR	0		0	89	85	0.00	0.00
EBL	0		0	0	0	0.00 *	0.00 *
EBT	0		0	0	0	0.00	0.00
EBR	0		0	0	0	0.00	0.00
WBL	1		1,600	103	99	0.06	0.06
WBT	2		3,200	1,195	753	0.41 *	0.27 *
WBR	0		0	126	109	0.00	0.00
N/S Critical Movements						0.19	0.18
E/W Critical Movements						0.41	0.27
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.70	0.55
Level of Service (LOS)						B	A

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	123	69	0.08 *	0.04
2		3,200	413	409	0.13	0.13 *
1	0	1,600	153	459	0.00	0.00
1		1,600	128	127	0.08	0.08 *
2		3,200	317	431	0.13 *	0.16
0		0	102	94	0.00	0.00
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00
1		1,600	119	103	0.07	0.06
2		3,200	1,381	755	0.47 *	0.28 *
0		0	135	130	0.00	0.00
					0.21	0.21
					0.47	0.28
					0.00	0.00
					0.10	0.10
ICU					0.78	0.59
Level of Service (LOS)					C	A

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	128	69	0.08 *	0.04
NBT	2		3,200	408	403	0.13	0.13 *
NBR	1	0	1,600	153	459	0.00	0.00
SBL	1		1,600	128	126	0.08	0.08 *
SBT	2		3,200	310	433	0.13 *	0.16
SBR	0		0	99	93	0.00	0.00
EBL	0		0	0	0	0.00 *	0.00 *
EBT	0		0	0	0	0.00	0.00
EBR	0		0	0	0	0.00	0.00
WBL	1		1,600	119	100	0.07	0.06
WBT	2		3,200	1,381	870	0.47 *	0.31 *
WBR	0		0	131	122	0.00	0.00
N/S Critical Movements						0.21	0.21
E/W Critical Movements						0.47	0.31
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.78	0.62
Level of Service (LOS)						C	B

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	128	69	0.08 *	0.04
2		3,200	408	403	0.13	0.13 *
1	0	1,600	153	459	0.00	0.00
1		1,600	128	126	0.08	0.08 *
2		3,200	310	433	0.13 *	0.16
0		0	99	93	0.00	0.00
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00
1		1,600	119	100	0.07	0.06
2		3,200	1,381	870	0.47 *	0.31 *
0		0	131	122	0.00	0.00
					0.21	0.21
					0.47	0.31
					0.00	0.00
					0.10	0.10
ICU					0.78	0.62
Level of Service (LOS)					C	B

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 47
North/South Roadway: Atlantic Ave
East/West Roadway: 6th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00	0.00 *
NBT	2	3,200	353	380	0.12 *	0.12
NBR	0	0	32	15	0.00	0.00
SBL	1	1,600	50	30	0.03 *	0.02
SBT	2	3,200	353	433	0.11	0.14 *
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	215	590	0.13	0.37 *
EBT	2	3,200	389	845	0.14 *	0.30
EBR	0	0	73	107	0.00	0.00
WBL	1	1,600	18	3	0.01 *	0.00
WBT	0	0	0	0	0.00	0.00 *
WBR	1 0	1,600	31	12	0.00	0.00
N/S Critical Movements					0.15	0.14
E/W Critical Movements					0.15	0.37
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.40	0.61
Level of Service (LOS)					A	B

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	0	0	0.00	0.00 *
2	3,200	481	432	0.17 *	0.14
0	0	57	17	0.00	0.00
1	1,600	58	35	0.04 *	0.02
2	3,200	401	518	0.13	0.16 *
0	0	0	0	0.00	0.00
1	1,600	248	616	0.16	0.39
2	3,200	450	977	0.17 *	0.40 *
0	0	103	300	0.00	0.00
1	1,600	21	6	0.01 *	0.00 *
0	0	0	0	0.00	0.00
1 0	1,600	36	14	0.00	0.00
				0.21	0.16
				0.18	0.40
				0.00	0.00
				0.10	0.10
				0.49	0.66
				A	B

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00	0.00 *
NBT	2	3,200	480	434	0.17 *	0.14
NBR	0	0	55	15	0.00	0.00
SBL	1	1,600	58	35	0.04 *	0.02
SBT	2	3,200	398	518	0.12	0.16 *
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	248	609	0.16	0.38
EBT	2	3,200	450	977	0.17 *	0.40 *
EBR	0	0	103	309	0.00	0.00
WBL	1	1,600	21	6	0.01 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	1 0	1,600	36	14	0.00	0.00
N/S Critical Movements					0.21	0.16
E/W Critical Movements					0.18	0.40
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.49	0.66
Level of Service (LOS)					A	B

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	0	0	0.00	0.00 *
2	3,200	480	434	0.17 *	0.14
0	0	55	15	0.00	0.00
1	1,600	58	35	0.04 *	0.02
2	3,200	398	518	0.12	0.16 *
0	0	0	0	0.00	0.00
1	1,600	248	609	0.16	0.38
2	3,200	450	977	0.17 *	0.40 *
0	0	103	309	0.00	0.00
1	1,600	21	6	0.01 *	0.00 *
0	0	0	0	0.00	0.00
1 0	1,600	36	14	0.00	0.00
				0.21	0.16
				0.18	0.40
				0.00	0.00
				0.10	0.10
				0.49	0.66
				A	B

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 48
North/South Roadway: Atlantic Ave
East/West Roadway: 3rd St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	24	30	0.02 *	0.02 *
NBT	2	3,200	138	230	0.05	0.08
NBR	0	0	0	0	0.00	0.00
SBL	0	0	0	0	0.00	0.00
SBT	2	3,200	247	296	0.10 *	0.11 *
SBR	0	0	65	58	0.00	0.00
EBL	0	0	0	0	0.00 *	0.00 *
EBT	0	0	0	0	0.00	0.00
EBR	0	0	0	0	0.00	0.00
WBL	1	1,600	29	22	0.02	0.01
WBT	2	3,200	1,029	343	0.34 *	0.12 *
WBR	0	0	67	41	0.00	0.00
N/S Critical Movements					0.12	0.13
E/W Critical Movements					0.34	0.12
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.56	0.35
Level of Service (LOS)					A	A

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	28	35	0.02 *	0.02 *
2	3,200	161	270	0.06	0.10
0	0	0	0	0.00	0.00
0	0	0	0	0.00	0.00
2	3,200	274	380	0.11 *	0.14 *
0	0	75	67	0.00	0.00
0	0	0	0	0.00 *	0.00 *
0	0	0	0	0.00	0.00
0	0	0	0	0.00	0.00
1	1,600	34	25	0.02	0.02
2	3,200	1,189	396	0.40 *	0.15 *
0	0	98	70	0.00	0.00
				0.13	0.16
				0.40	0.15
				0.00	0.00
				0.10	0.10
				0.63	0.41
				B	A

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	28	35	0.02 *	0.02 *
NBT	2	3,200	165	266	0.06	0.09
NBR	0	0	0	0	0.00	0.00
SBL	0	0	0	0	0.00	0.00
SBT	2	3,200	260	397	0.10 *	0.15 *
SBR	0	0	75	67	0.00	0.00
EBL	0	0	0	0	0.00 *	0.00 *
EBT	0	0	0	0	0.00	0.00
EBR	0	0	0	0	0.00	0.00
WBL	1	1,600	34	23	0.02	0.01
WBT	2	3,200	1,189	396	0.40 *	0.15 *
WBR	0	0	102	68	0.00	0.00
N/S Critical Movements					0.12	0.17
E/W Critical Movements					0.40	0.15
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.62	0.42
Level of Service (LOS)					B	A

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	28	35	0.02 *	0.02 *
2	3,200	165	266	0.06	0.09
0	0	0	0	0.00	0.00
0	0	0	0	0.00	0.00
2	3,200	260	397	0.10 *	0.15 *
0	0	75	67	0.00	0.00
0	0	0	0	0.00 *	0.00 *
0	0	0	0	0.00	0.00
0	0	0	0	0.00	0.00
1	1,600	34	23	0.02	0.01
2	3,200	1,189	396	0.40 *	0.15 *
0	0	102	68	0.00	0.00
				0.12	0.17
				0.40	0.15
				0.00	0.00
				0.10	0.10
				0.62	0.42
				B	A

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 49
North/South Roadway: Atlantic Ave
East/West Roadway: Broadway
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00 *	0.00
NBT	2	3,200	140	221	0.05	0.09 *
NBR	0	0	30	81	0.00	0.00
SBL	0	0	56	72	0.04	0.05 *
SBT	2	3,200	222	246	0.09 *	0.10
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	23	43	0.01	0.03
EBT	2	3,200	270	1,135	0.09 *	0.38 *
EBR	0	0	32	78	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
N/S Critical Movements					0.09	0.14
E/W Critical Movements					0.09	0.38
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.28	0.62
Level of Service (LOS)					A	B

2040 NO BUILD

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00	0.00
NBT	2	3,200	151	237	0.06 *	0.10 *
NBR	0	0	31	84	0.00	0.00
SBL	0	0	67	115	0.04 *	0.07 *
SBT	2	3,200	234	285	0.09	0.13
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	24	45	0.02	0.03
EBT	2	3,200	273	1,154	0.10 *	0.39 *
EBR	0	0	37	90	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
					0.10	0.17
					0.10	0.39
					0.00	0.00
					0.10	0.10
ICU					0.30	0.66
Level of Service (LOS)					A	B

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00	0.00
NBT	2	3,200	154	236	0.06 *	0.10 *
NBR	0	0	31	84	0.00	0.00
SBL	0	0	59	127	0.04 *	0.08 *
SBT	2	3,200	228	292	0.09	0.13
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	24	45	0.02	0.03
EBT	2	3,200	270	1,158	0.10 *	0.39 *
EBR	0	0	37	90	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
N/S Critical Movements					0.10	0.18
E/W Critical Movements					0.10	0.39
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.30	0.67
Level of Service (LOS)					A	B

PROPOSED LAND USE ELEMENT w/ MITIGATION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	0	0	0.00	0.00
NBT	2	3,200	154	236	0.06 *	0.10 *
NBR	0	0	31	84	0.00	0.00
SBL	0	0	59	127	0.04 *	0.08 *
SBT	2	3,200	228	292	0.09	0.13
SBR	0	0	0	0	0.00	0.00
EBL	1	1,600	24	45	0.02	0.03
EBT	2	3,200	270	1,158	0.10 *	0.39 *
EBR	0	0	37	90	0.00	0.00
WBL	0	0	0	0	0.00 *	0.00 *
WBT	0	0	0	0	0.00	0.00
WBR	0	0	0	0	0.00	0.00
					0.10	0.18
					0.10	0.39
					0.00	0.00
					0.10	0.10
ICU					0.30	0.67
Level of Service (LOS)					A	B

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 50
North/South Roadway: Atlantic Ave
East/West Roadway: Shoreline Ave-Ocean Blvd
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	5	0	0.00		0.00	
NBT	1		1,600	2	3	0.01	*	0.00	*
NBR	0		0	5	0	0.00		0.00	
SBL	0		0	64	93	0.04	*	0.06	*
SBT	1		1,600	3	4	0.00		0.00	
SBR	1	0	1,600	172	142	0.00		0.00	
EBL	1		1,600	31	117	0.02	*	0.07	
EBT	3		4,800	518	1,667	0.11		0.35	*
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	7	11	0.00		0.01	*
WBT	3		4,800	1,852	890	0.40	*	0.20	
WBR	0		0	46	72	0.00		0.00	
N/S Critical Movements						0.05		0.06	
E/W Critical Movements						0.42		0.36	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.57		0.52	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	6	0	0.00		0.00	
1		1,600	2	3	0.01	*	0.00	*
0		0	6	0	0.00		0.00	
0		0	74	101	0.05	*	0.06	*
1		1,600	3	4	0.00		0.00	
1	0	1,600	196	152	0.00		0.00	
1		1,600	44	128	0.03	*	0.08	
3		4,800	540	1,761	0.11		0.37	*
0		0	0	0	0.00		0.00	
1		1,600	7	11	0.00		0.01	*
3		4,800	2,004	923	0.43	*	0.21	
0		0	53	79	0.00		0.00	
					0.06		0.06	
					0.46		0.38	
					0.00		0.00	
					0.10		0.10	
ICU					0.62		0.54	
Level of Service (LOS)					B		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	6	0	0.00		0.00	
NBT	1		1,600	2	3	0.01	*	0.00	*
NBR	0		0	6	0	0.00		0.00	
SBL	0		0	74	105	0.05	*	0.07	*
SBT	1		1,600	3	4	0.00		0.00	
SBR	1	0	1,600	191	151	0.00		0.00	
EBL	1		1,600	44	127	0.03	*	0.08	
EBT	3		4,800	564	1,772	0.12		0.37	*
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	7	11	0.00		0.01	*
WBT	3		4,800	2,046	908	0.44	*	0.21	
WBR	0		0	47	79	0.00		0.00	
N/S Critical Movements						0.06		0.07	
E/W Critical Movements						0.47		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.63		0.55	
Level of Service (LOS)						B		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	6	0	0.00		0.00	
1		1,600	2	3	0.01	*	0.00	*
0		0	6	0	0.00		0.00	
0		0	74	105	0.05	*	0.07	*
1		1,600	3	4	0.00		0.00	
1	0	1,600	191	151	0.00		0.00	
1		1,600	44	127	0.03	*	0.08	
3		4,800	564	1,772	0.12		0.37	*
0		0	0	0	0.00		0.00	
1		1,600	7	11	0.00		0.01	*
3		4,800	2,046	908	0.44	*	0.21	
0		0	47	79	0.00		0.00	
					0.06		0.07	
					0.47		0.38	
					0.00		0.00	
					0.10		0.10	
ICU					0.63		0.55	
Level of Service (LOS)					B		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 51
North/South Roadway: Orange Avenue
East/West Roadway: Wardlow Road
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	51	61	0.03 *	0.04
NBT	1	1,600	339	607	0.23	0.42 *
NBR	0	0	35	61	0.00	0.00
SBL	1	1,600	26	28	0.02	0.02 *
SBT	1	1,600	610	467	0.44 *	0.34
SBR	0	0	87	71	0.00	0.00
EBL	1	1,600	85	161	0.05 *	0.10
EBT	2	3,200	318	691	0.12	0.24 *
EBR	0	0	65	79	0.00	0.00
WBL	1	1,600	71	41	0.04	0.03 *
WBT	2	3,200	374	370	0.13 *	0.13
WBR	0	0	29	42	0.00	0.00
N/S Critical Movements					0.47	0.44
E/W Critical Movements					0.18	0.27
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.75	0.81
Level of Service (LOS)					C	D

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	51	70	0.03 *	0.04
1	1,600	392	702	0.27	0.48 *
0	0	40	71	0.00	0.00
1	1,600	30	32	0.02	0.02 *
1	1,600	705	540	0.50 *	0.39
0	0	88	87	0.00	0.00
1	1,600	85	202	0.05	0.13
2	3,200	368	799	0.14 *	0.28 *
0	0	75	96	0.00	0.00
1	1,600	82	47	0.05 *	0.03 *
2	3,200	379	428	0.13	0.15
0	0	34	49	0.00	0.00
				0.53	0.50
				0.19	0.31
				0.00	0.00
				0.10	0.10
ICU				0.82	0.91
Level of Service (LOS)				D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	59	63	0.04 *	0.04
NBT	1	1,600	392	702	0.27	0.48 *
NBR	0	0	37	71	0.00	0.00
SBL	1	1,600	27	32	0.02	0.02 *
SBT	1	1,600	705	540	0.50 *	0.38
SBR	0	0	101	72	0.00	0.00
EBL	1	1,600	98	176	0.06 *	0.11
EBT	2	3,200	324	799	0.12	0.28 *
EBR	0	0	75	88	0.00	0.00
WBL	1	1,600	80	41	0.05	0.03 *
WBT	2	3,200	432	387	0.15 *	0.14
WBR	0	0	32	49	0.00	0.00
N/S Critical Movements					0.54	0.50
E/W Critical Movements					0.21	0.31
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.85	0.91
Level of Service (LOS)					D	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	59	63	0.04 *	0.04
1	1,600	392	702	0.27	0.48 *
0	0	37	71	0.00	0.00
1	1,600	27	32	0.02	0.02 *
1	1,600	705	540	0.50 *	0.38
0	0	101	72	0.00	0.00
1	1,600	98	176	0.06 *	0.11
2	3,200	324	799	0.10	0.25 *
1 0	1,600	75	88	0.00	0.00
1	1,600	80	41	0.05	0.03 *
2	3,200	432	387	0.15 *	0.14
0	0	32	49	0.00	0.00
				0.54	0.50
				0.21	0.28
				0.00	0.00
				0.10	0.10
ICU				0.85	0.88
Level of Service (LOS)				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 52
North/South Roadway: Orange Avenue
East/West Roadway: PCH
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM	
NBL	1		1,600	89	76	0.06	0.05	*
NBT	2		3,200	475	444	0.15	0.14	*
NBR	1	0	1,600	188	276	0.00	0.00	
SBL	1		1,600	59	87	0.04	0.05	*
SBT	2		3,200	329	500	0.10	0.16	*
SBR	1	0	1,600	113	114	0.00	0.00	
EBL	1		1,600	110	87	0.07	0.05	*
EBT	3		4,800	834	1,499	0.19	0.33	*
EBR	0		0	75	101	0.00	0.00	
WBL	1		1,600	205	146	0.13	0.09	*
WBT	3		4,800	1,268	807	0.29	0.20	*
WBR	0		0	124	129	0.00	0.00	
N/S Critical Movements						0.19	0.21	
E/W Critical Movements						0.36	0.42	
Right Turn Critical Movement						0.00	0.00	
Clearance Interval						0.10	0.10	
ICU						0.65	0.73	
Level of Service (LOS)						B	C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM	
1		1,600	103	88	0.06	0.05	*
2		3,200	549	513	0.17	0.16	*
1	0	1,600	217	319	0.00	0.00	
1		1,600	66	92	0.04	0.06	*
2		3,200	380	578	0.12	0.18	*
1	0	1,600	122	138	0.00	0.00	
1		1,600	119	93	0.07	0.06	*
3		4,800	964	1,732	0.22	0.39	*
0		0	87	117	0.00	0.00	
1		1,600	237	169	0.15	0.11	*
3		4,800	1,466	810	0.33	0.20	*
0		0	140	149	0.00	0.00	
					0.21	0.23	
					0.40	0.50	
					0.00	0.00	
					0.10	0.10	
ICU					0.71	0.83	
Level of Service (LOS)					C	D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM	
NBL	1		1,600	103	88	0.06	0.05	*
NBT	2		3,200	549	513	0.17	0.16	*
NBR	1	0	1,600	217	319	0.00	0.00	
SBL	1		1,600	61	95	0.04	0.06	*
SBT	2		3,200	380	578	0.12	0.18	*
SBR	1	0	1,600	131	126	0.00	0.00	
EBL	1		1,600	114	101	0.07	0.06	*
EBT	3		4,800	964	1,732	0.22	0.39	*
EBR	0		0	87	117	0.00	0.00	
WBL	1		1,600	237	169	0.15	0.11	*
WBT	3		4,800	1,466	933	0.34	0.23	*
WBR	0		0	146	149	0.00	0.00	
N/S Critical Movements						0.21	0.23	
E/W Critical Movements						0.41	0.50	
Right Turn Critical Movement						0.00	0.00	
Clearance Interval						0.10	0.10	
ICU						0.72	0.83	
Level of Service (LOS)						C	D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM	
1		1,600	103	88	0.06	0.05	*
2		3,200	549	513	0.17	0.16	*
1	0	1,600	217	319	0.00	0.00	
1		1,600	61	95	0.04	0.06	*
2		3,200	380	578	0.12	0.18	*
1	0	1,600	131	126	0.00	0.00	
1		1,600	114	101	0.07	0.06	*
3		4,800	964	1,732	0.22	0.39	*
0		0	87	117	0.00	0.00	
1		1,600	237	169	0.15	0.11	*
3		4,800	1,466	933	0.34	0.23	*
0		0	146	149	0.00	0.00	
					0.21	0.23	
					0.41	0.50	
					0.00	0.00	
					0.10	0.10	
ICU					0.72	0.83	
Level of Service (LOS)					C	D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 53
North/South Roadway: Alamitos Avenue
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	75	69	0.05		0.04	
NBT	1		1,600	458	441	0.29	*	0.28	*
NBR	1	0	1,600	97	114	0.00		0.00	
SBL	1		1,600	57	67	0.04	*	0.04	*
SBT	1		1,600	376	433	0.24		0.27	
SBR	1	0	1,600	81	80	0.00		0.00	
EBL	1		1,600	61	99	0.04	*	0.06	
EBT	2		3,200	798	1,263	0.26		0.41	*
EBR	0		0	40	62	0.00		0.00	
WBL	1		1,600	98	80	0.06		0.05	*
WBT	2		3,200	1,128	875	0.37	*	0.30	
WBR	0		0	56	74	0.00		0.00	
N/S Critical Movements						0.33		0.32	
E/W Critical Movements						0.41		0.46	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.84		0.88	
Level of Service (LOS)						D		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	87	69	0.05		0.04	
1		1,600	529	510	0.33	*	0.32	*
1	0	1,600	112	132	0.00		0.00	
1		1,600	66	77	0.04	*	0.05	*
1		1,600	435	500	0.27		0.31	
1	0	1,600	94	92	0.00		0.00	
1		1,600	65	114	0.04	*	0.07	
2		3,200	922	1,460	0.30		0.48	*
0		0	41	64	0.00		0.00	
1		1,600	102	82	0.06		0.05	*
2		3,200	1,304	1,011	0.43	*	0.34	
0		0	60	86	0.00		0.00	
					0.37		0.37	
					0.47		0.53	
					0.00		0.00	
					0.10		0.10	
ICU					0.94		1.00	
Level of Service (LOS)					E		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	87	69	0.05		0.04	
NBT	1		1,600	529	510	0.33	*	0.32	*
NBR	1	0	1,600	112	132	0.00		0.00	
SBL	1		1,600	66	77	0.04	*	0.05	*
SBT	1		1,600	435	500	0.27		0.31	
SBR	1	0	1,600	94	92	0.00		0.00	
EBL	1		1,600	67	114	0.04	*	0.07	
EBT	2		3,200	922	1,460	0.30		0.48	*
EBR	0		0	42	70	0.00		0.00	
WBL	1		1,600	99	86	0.06		0.05	*
WBT	2		3,200	1,304	1,011	0.43	*	0.34	
WBR	0		0	60	86	0.00		0.00	
N/S Critical Movements						0.37		0.37	
E/W Critical Movements						0.47		0.53	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.94		1.00	
Level of Service (LOS)						E		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	87	69	0.05		0.04	
2		3,200	529	510	0.17	*	0.16	*
1	0	1,600	112	132	0.00		0.00	
1		1,600	66	77	0.04	*	0.05	*
2		3,200	435	500	0.14		0.16	
1	0	1,600	94	92	0.00		0.00	
1		1,600	67	114	0.04	*	0.07	
2		3,200	922	1,460	0.30		0.48	*
0		0	42	70	0.00		0.00	
1		1,600	99	86	0.06		0.05	*
2		3,200	1,304	1,011	0.43	*	0.34	
0		0	60	86	0.00		0.00	
					0.21		0.21	
					0.47		0.53	
					0.00		0.00	
					0.10		0.10	
ICU					0.78		0.84	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 54
North/South Roadway: Alamitos Ave
East/West Roadway: 7th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	101	100	0.06	*	0.06	
NBT	1		1,600	329	429	0.21		0.27	*
NBR	2	0	3,200	378	778	0.00		0.00	
SBL	1		1,600	58	60	0.04		0.04	*
SBT	1		1,600	351	340	0.22	*	0.21	
SBR	1	0	1,600	113	65	0.00		0.00	
EBL	1		1,600	23	39	0.01	*	0.02	
EBT	2		3,200	330	737	0.12		0.24	*
EBR	0		0	38	41	0.00		0.00	
WBL	1		1,600	211	134	0.13		0.08	*
WBT	2		3,200	1,264	724	0.41	*	0.25	
WBR	0		0	60	61	0.00		0.00	
N/S Critical Movements						0.28		0.31	
E/W Critical Movements						0.42		0.32	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.80		0.73	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	117	116	0.07	*	0.07	
1		1,600	334	496	0.21		0.31	*
1	0	1,600	419	809	0.00		0.00	
1		1,600	67	69	0.04		0.04	*
1		1,600	406	393	0.25	*	0.25	
1	0	1,600	131	75	0.00		0.00	
1		1,600	27	45	0.02	*	0.03	
2		3,200	381	852	0.13		0.28	*
0		0	44	47	0.00		0.00	
1		1,600	252	164	0.16		0.10	*
2		3,200	1,461	751	0.48	*	0.26	
0		0	60	71	0.00		0.00	
					0.32		0.35	
					0.50		0.38	
					0.00		0.00	
					0.10		0.10	
ICU					0.92		0.83	
Level of Service (LOS)					E		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	104	116	0.07	*	0.07	
NBT	1		1,600	338	496	0.21		0.31	*
NBR	1	0	1,600	442	802	0.00		0.00	
SBL	1		1,600	67	69	0.04		0.04	*
SBT	1		1,600	406	350	0.25	*	0.22	
SBR	1	0	1,600	131	75	0.00		0.00	
EBL	1		1,600	27	45	0.02	*	0.03	
EBT	2		3,200	381	852	0.13		0.28	*
EBR	0		0	44	42	0.00		0.00	
WBL	1		1,600	237	177	0.15		0.11	*
WBT	2		3,200	1,461	725	0.48	*	0.25	
WBR	0		0	69	71	0.00		0.00	
N/S Critical Movements						0.32		0.35	
E/W Critical Movements						0.50		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.92		0.84	
Level of Service (LOS)						E		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	104	116	0.07	*	0.07	
1		1,600	338	496	0.21		0.31	*
1	0	1,600	442	802	0.00		0.00	
1		1,600	67	69	0.04		0.04	*
1		1,600	406	350	0.25	*	0.22	
1	0	1,600	131	75	0.00		0.00	
1		1,600	27	45	0.02	*	0.03	
2		3,200	381	852	0.13		0.28	*
0		0	44	42	0.00		0.00	
1		1,600	237	177	0.15		0.11	*
2		3,200	1,461	725	0.46	*	0.23	
1	0	1,600	69	71	0.00		0.00	
					0.32		0.35	
					0.48		0.39	
					0.00		0.00	
					0.10		0.10	
ICU					0.90		0.84	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 55
North/South Roadway: Alamitos Ave
East/West Roadway: 6th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	52	52	0.03	0.03 *
NBT	1		1,600	885	167	0.55 *	0.10
NBR	1	0	1,600	10	10	0.00	0.00
SBL	1		1,600	6	9	0.00 *	0.01
SBT	2		3,200	982	1,184	0.37	0.43 *
SBR	0		0	188	192	0.00	0.00
EBL	1		1,600	156	128	0.10 *	0.08 *
EBT	1		1,600	15	24	0.04	0.05
EBR	0		0	51	58	0.00	0.00
WBL	0		0	11	52	0.01	0.03
WBT	1		1,600	6	1,198	0.03 *	0.79 *
WBR	0		0	27	10	0.00	0.00
N/S Critical Movements						0.55	0.46
E/W Critical Movements						0.13	0.87
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.78	1.43
Level of Service (LOS)						C	F

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	66	60	0.04 *	0.04 *
1		1,600	933	196	0.58	0.12
1	0	1,600	21	17	0.00	0.00
1		1,600	11	16	0.01	0.01
0.5		800	1,135	1,228	1.68 *	1.81 *
0		0	207	222	0.00	0.00
1		1,600	180	148	0.11 *	0.09 *
0.5		800	25	28	0.10	0.12
0		0	59	67	0.00	0.00
0		0	21	65	0.01	0.04
1		1,600	13	1,385	0.05 *	0.92 *
0		0	47	15	0.00	0.00
					1.72	1.85
					0.16	1.01
					0.00	0.00
					0.10	0.10
					1.98	2.96
					F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	66	60	0.04 *	0.04 *
NBT	1		1,600	973	192	0.61	0.12
NBR	1	0	1,600	30	16	0.00	0.00
SBL	1		1,600	15	16	0.01	0.01
SBT	0.5		800	1,135	1,261	1.67 *	1.85 *
SBR	0		0	203	222	0.00	0.00
EBL	1		1,600	180	148	0.11 *	0.09 *
EBT	0.5		800	33	28	0.11	0.12
EBR	0		0	59	67	0.00	0.00
WBL	0		0	19	64	0.01	0.04
WBT	1		1,600	11	1,385	0.05 *	0.91 *
WBR	0		0	45	15	0.00	0.00
N/S Critical Movements						1.71	1.89
E/W Critical Movements						0.16	1.00
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.97	2.99
Level of Service (LOS)						F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	66	60	0.04	0.04 *
1		1,600	973	192	0.61 *	0.12
1	0	1,600	30	16	0.00	0.00
1		1,600	15	16	0.01 *	0.01
3		4,800	1,135	1,261	0.28	0.31 *
0		0	203	222	0.00	0.00
1		1,600	180	148	0.11 *	0.09 *
1		1,600	33	28	0.06	0.06
0		0	59	67	0.00	0.00
0		0	19	64	0.01	0.04
3		4,800	11	1,385	0.02 *	0.30 *
0		0	45	15	0.00	0.00
					0.62	0.35
					0.13	0.39
					0.00	0.00
					0.10	0.10
					0.85	0.84
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 56
North/South Roadway: Alamitos Ave
East/West Roadway: 3rd St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	324	128	0.20	*	0.08	
NBT	2		3,200	412	895	0.14		0.35	*
NBR	0		0	32	235	0.00		0.00	
SBL	1		1,600	23	115	0.01		0.07	*
SBT	1		1,600	570	483	0.36	*	0.30	
SBR	1	0	1,600	134	84	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	6	5	0.00		0.00	
WBT	2		3,200	547	193	0.20	*	0.07	*
WBR	0		0	73	37	0.00		0.00	
N/S Critical Movements						0.56		0.42	
E/W Critical Movements						0.20		0.07	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.86		0.59	
Level of Service (LOS)						D		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	374	148	0.23	*	0.09	
1		1,600	483	1,034	0.30		0.65	*
1	0	1,600	48	272	0.00		0.00	
1		1,600	27	133	0.02		0.08	*
0.5		800	634	575	0.40	*	0.36	
0.5	0	800	155	97	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	16	10	0.01		0.01	
2		3,200	632	223	0.23	*	0.09	*
0		0	76	50	0.00		0.00	
					0.63		0.73	
					0.23		0.09	
					0.00		0.00	
					0.10		0.10	
ICU					0.96		0.92	
Level of Service (LOS)					E		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	374	148	0.23	*	0.09	
NBT	1		1,600	531	1,034	0.33		0.65	*
NBR	1	0	1,600	49	272	0.00		0.00	
SBL	1		1,600	27	133	0.02		0.08	*
SBT	0.5		800	630	570	0.39	*	0.36	
SBR	0.5	0	800	155	88	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	25	6	0.02		0.00	
WBT	2		3,200	632	223	0.23	*	0.08	*
WBR	0		0	82	43	0.00		0.00	
N/S Critical Movements						0.62		0.73	
E/W Critical Movements						0.23		0.08	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.95		0.91	
Level of Service (LOS)						E		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	374	148	0.23	*	0.09	
2		3,200	531	1,034	0.18		0.41	*
0		0	49	272	0.00		0.00	
1		1,600	27	133	0.02		0.08	*
2		3,200	630	570	0.25	*	0.21	
0		0	155	88	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	25	6	0.02		0.00	
2		3,200	632	223	0.23	*	0.08	*
0		0	82	43	0.00		0.00	
					0.48		0.49	
					0.23		0.08	
					0.00		0.00	
					0.10		0.10	
ICU					0.81		0.67	
Level of Service (LOS)					D		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 57
North/South Roadway: Alamitos Ave
East/West Roadway: Broadway
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00	*	0.00	
NBT	2		3,200	292	760	0.10		0.31	*
NBR	0		0	39	230	0.00		0.00	
SBL	1		1,600	40	90	0.03		0.06	*
SBT	1		1,600	443	293	0.28	*	0.18	
SBR	0		0	0	0	0.00		0.00	
EBL	2		2,880	78	377	0.03		0.13	
EBT	2		3,200	231	875	0.07	*	0.27	*
EBR	1	0	1,600	30	52	0.00		0.00	
WBL	1		1,600	371	130	0.23	*	0.08	*
WBT	0		0	0	0	0.00		0.00	
WBR	1	0	1,600	324	161	0.00		0.00	
N/S Critical Movements						0.28		0.37	
E/W Critical Movements						0.30		0.35	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.68		0.82	
Level of Service (LOS)						B		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
1		1,600	497	878	0.31	*	0.55	*
1	0	1,600	143	266	0.00		0.00	
1		1,600	113	130	0.07	*	0.08	*
1		1,600	443	349	0.28		0.22	
0		0	0	0	0.00		0.00	
1		1,600	90	436	0.06		0.27	
2		3,200	282	1,011	0.09	*	0.32	*
1	0	1,600	35	60	0.00		0.00	
1		1,600	429	150	0.27	*	0.09	*
0		0	0	0	0.00		0.00	
1	0	1,600	374	186	0.00		0.00	
					0.38		0.63	
					0.36		0.41	
					0.00		0.00	
					0.10		0.10	
ICU					0.84		1.14	
Level of Service (LOS)					D		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	1		1,600	545	878	0.34	*	0.55	*
NBR	1	0	1,600	147	266	0.00		0.00	
SBL	1		1,600	112	121	0.07	*	0.08	*
SBT	1		1,600	449	348	0.28		0.22	
SBR	0		0	0	0	0.00		0.00	
EBL	1		1,600	90	436	0.06		0.27	
EBT	2		3,200	280	1,011	0.09	*	0.32	*
EBR	1	0	1,600	35	60	0.00		0.00	
WBL	1		1,600	429	150	0.27	*	0.09	*
WBT	0		0	0	0	0.00		0.00	
WBR	1	0	1,600	374	186	0.00		0.00	
N/S Critical Movements						0.41		0.63	
E/W Critical Movements						0.36		0.41	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.87		1.14	
Level of Service (LOS)						D		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00	*	0.00	
2		3,200	545	878	0.17		0.27	*
1	0	1,600	147	266	0.00		0.00	
1		1,600	112	121	0.07		0.08	*
1		1,600	449	348	0.28	*	0.22	
0		0	0	0	0.00		0.00	
2		2,880	90	436	0.03		0.15	
2		3,200	280	1,011	0.09	*	0.32	*
1	0	1,600	35	60	0.00		0.00	
1		1,600	429	150	0.27	*	0.09	*
0		0	0	0	0.00		0.00	
1	0	1,600	374	186	0.00		0.00	
					0.28		0.35	
					0.36		0.41	
					0.00		0.00	
					0.10		0.10	
ICU					0.74		0.86	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 58
North/South Roadway: Alamitos Ave
East/West Roadway: Shoreline Ave-Ocean Blvd
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	33	44	0.02	*	0.03	
NBT	2		3,200	72	467	0.02		0.15	*
NBR	1	0	1,600	144	435	0.00		0.00	
SBL	1		1,600	44	67	0.03		0.04	*
SBT	3		4,800	286	126	0.14	*	0.07	
SBR	0		0	395	213	0.00		0.00	
EBL	1		1,600	104	310	0.07	*	0.19	*
EBT	3		4,800	427	1,450	0.09		0.30	
EBR	1	0	1,600	40	53	0.00		0.00	
WBL	2		2,880	329	184	0.11		0.06	
WBT	2		3,200	1,434	714	0.46	*	0.25	*
WBR	0		0	52	90	0.00		0.00	
N/S Critical Movements						0.16		0.19	
E/W Critical Movements						0.53		0.44	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.79		0.73	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	45	51	0.03	*	0.03	
2		3,200	169	540	0.05		0.17	*
1	0	1,600	148	503	0.00		0.00	
1		1,600	51	77	0.03		0.05	*
2		3,200	331	146	0.07	*	0.03	
1	0	1,600	457	246	0.00		0.00	
1		1,600	277	325	0.17	*	0.20	*
3		4,800	497	1,533	0.10		0.32	
1	0	1,600	57	55	0.00		0.00	
2		2,880	380	213	0.13		0.07	
2		3,200	1,442	765	0.48	*	0.27	*
0		0	91	104	0.00		0.00	
					0.10		0.22	
					0.65		0.47	
					0.00		0.00	
					0.10		0.10	
ICU					0.85		0.79	
Level of Service (LOS)					D		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	55	51	0.03	*	0.03	
NBT	2		3,200	198	540	0.06		0.17	*
NBR	1	0	1,600	159	503	0.00		0.00	
SBL	1		1,600	51	77	0.03		0.05	*
SBT	2		3,200	331	133	0.07	*	0.04	
SBR	1	0	1,600	457	246	0.00		0.00	
EBL	1		1,600	301	322	0.19	*	0.20	*
EBT	3		4,800	496	1,535	0.10		0.32	
EBR	1	0	1,600	57	69	0.00		0.00	
WBL	2		2,880	380	216	0.13		0.08	
WBT	2		3,200	1,465	756	0.49	*	0.27	*
WBR	0		0	89	104	0.00		0.00	
N/S Critical Movements						0.10		0.22	
E/W Critical Movements						0.68		0.47	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.88		0.79	
Level of Service (LOS)						D		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	55	51	0.03	*	0.03	
2		3,200	198	540	0.06		0.17	*
1	0	1,600	159	503	0.00		0.00	
1		1,600	51	77	0.03		0.05	*
2		3,200	331	133	0.07	*	0.04	
1	0	1,600	457	246	0.00		0.00	
1		1,600	301	322	0.19	*	0.20	*
3		4,800	496	1,535	0.10		0.32	
1	0	1,600	57	69	0.00		0.00	
2		2,880	380	216	0.13		0.08	
2		3,200	1,465	756	0.49	*	0.27	*
0		0	89	104	0.00		0.00	
					0.10		0.22	
					0.68		0.47	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.79	
Level of Service (LOS)					D		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 59
North/South Roadway: Cherry Avenue
East/West Roadway: Artesia Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	127	124	0.08 *	0.08 *
NBT	2		3,200	765	870	0.24	0.27
NBR	1	0	1,600	117	125	0.00	0.00
SBL	2		2,880	155	115	0.05	0.04
SBT	2		3,200	699	742	0.25 *	0.27 *
SBR	0		0	88	116	0.00	0.00
EBL	1		1,600	191	176	0.12 *	0.11
EBT	2		3,200	473	976	0.19	0.35 *
EBR	0		0	130	142	0.00	0.00
WBL	1		1,600	103	117	0.06	0.07 *
WBT	2		3,200	722	522	0.27 *	0.22
WBR	0		0	134	184	0.00	0.00
N/S Critical Movements						0.33	0.35
E/W Critical Movements						0.39	0.42
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.82	0.87
Level of Service (LOS)						D	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	147	165	0.09 *	0.10 *
2		3,200	884	1,006	0.28	0.31
1	0	1,600	122	144	0.00	0.00
2		2,880	178	133	0.06	0.05
2		3,200	808	858	0.28 *	0.31 *
0		0	89	134	0.00	0.00
1		1,600	221	203	0.14 *	0.13
2		3,200	534	1,128	0.21	0.41 *
0		0	150	194	0.00	0.00
1		1,600	119	118	0.07	0.07 *
2		3,200	834	554	0.31 *	0.24
0		0	155	213	0.00	0.00
					0.37	0.41
					0.45	0.48
					0.00	0.00
					0.10	0.10
ICU					0.92	0.99
Level of Service (LOS)					E	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	147	174	0.09	0.11 *
NBT	2		3,200	884	1,006	0.28 *	0.31
NBR	1	0	1,600	123	144	0.00	0.00
SBL	2		2,880	191	133	0.07 *	0.05
SBT	2		3,200	723	858	0.25	0.31 *
SBR	0		0	92	134	0.00	0.00
EBL	1		1,600	221	177	0.14 *	0.11
EBT	2		3,200	522	1,128	0.21	0.42 *
EBR	0		0	150	208	0.00	0.00
WBL	1		1,600	119	120	0.07	0.08 *
WBT	2		3,200	834	537	0.31 *	0.23
WBR	0		0	155	213	0.00	0.00
N/S Critical Movements						0.35	0.42
E/W Critical Movements						0.45	0.50
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.90	1.02
Level of Service (LOS)						D	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	147	174	0.09	0.11 *
2		3,200	884	1,006	0.28 *	0.31
1	0	1,600	123	144	0.00	0.00
2		2,880	191	133	0.07 *	0.05
2		3,200	723	858	0.23	0.27 *
0		0	92	134	0.00	0.00
1		1,600	221	177	0.14 *	0.11
3		4,800	522	1,128	0.14	0.28 *
0		0	150	208	0.00	0.00
1		1,600	119	120	0.07	0.08 *
2		3,200	834	537	0.31 *	0.23
0		0	155	213	0.00	0.00
					0.35	0.38
					0.45	0.36
					0.00	0.00
					0.10	0.10
ICU					0.90	0.84
Level of Service (LOS)					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 60
North/South Roadway: Cherry Avenue
East/West Roadway: Market Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	59	127	0.04	*	0.08	
NBT	2	3,200	692	1,092	0.25		0.43	*
NBR	0	0	102	282	0.00		0.00	
SBL	1	1,600	129	160	0.08		0.10	*
SBT	2	3,200	1,146	794	0.38	*	0.27	
SBR	0	0	56	79	0.00		0.00	
EBL	1	1,600	82	113	0.05		0.07	
EBT	2	3,200	370	558	0.16	*	0.20	*
EBR	0	0	154	79	0.00		0.00	
WBL	1	1,600	119	107	0.07	*	0.07	*
WBT	2	3,200	392	396	0.15		0.16	
WBR	0	0	96	117	0.00		0.00	
N/S Critical Movements					0.42		0.53	
E/W Critical Movements					0.23		0.27	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.75		0.90	
Level of Service (LOS)					C		D	

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	81	147	0.05	*	0.09	
2	3,200	800	1,262	0.29		0.50	*
0	0	118	326	0.00		0.00	
1	1,600	149	224	0.09		0.14	*
2	3,200	1,325	918	0.45	*	0.32	
0	0	115	112	0.00		0.00	
1	1,600	87	126	0.05		0.08	
2	3,200	428	645	0.19	*	0.23	*
0	0	178	91	0.00		0.00	
1	1,600	138	124	0.09	*	0.08	*
2	3,200	453	458	0.18		0.18	
0	0	111	134	0.00		0.00	
				0.50		0.64	
				0.28		0.31	
				0.00		0.00	
				0.10		0.10	
				0.88		1.05	
				D		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	80	147	0.05	*	0.09	
NBT	2	3,200	800	1,262	0.29		0.50	*
NBR	0	0	118	326	0.00		0.00	
SBL	1	1,600	149	222	0.09		0.14	*
SBT	2	3,200	1,155	918	0.39	*	0.32	
SBR	0	0	101	115	0.00		0.00	
EBL	1	1,600	95	117	0.06		0.07	
EBT	2	3,200	428	645	0.19	*	0.23	*
EBR	0	0	178	91	0.00		0.00	
WBL	1	1,600	138	124	0.09	*	0.08	*
WBT	2	3,200	453	458	0.18		0.18	
WBR	0	0	111	119	0.00		0.00	
N/S Critical Movements					0.44		0.64	
E/W Critical Movements					0.28		0.31	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.82		1.05	
Level of Service (LOS)					D		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	80	147	0.05	*	0.09	
2	3,200	800	1,262	0.25		0.39	*
1 0	1,600	118	326	0.00		0.00	
1	1,600	149	222	0.09		0.14	*
2	3,200	1,155	918	0.39	*	0.32	
0	0	101	115	0.00		0.00	
1	1,600	95	117	0.06	*	0.07	*
3	4,800	428	645	0.13		0.15	
0	0	178	91	0.00		0.00	
1	1,600	138	124	0.09		0.08	
2	3,200	453	458	0.18	*	0.18	*
0	0	111	119	0.00		0.00	
				0.44		0.53	
				0.24		0.25	
				0.00		0.00	
				0.10		0.10	
				0.78		0.88	
				C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 61
North/South Roadway: Cherry Avenue
East/West Roadway: Del Amo Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	113	188	0.07	*	0.12	
NBT	3		4,800	607	1,248	0.13		0.26	*
NBR	1	0	1,600	205	340	0.00		0.00	
SBL	1		1,600	131	100	0.08		0.06	*
SBT	3		4,800	1,262	794	0.26	*	0.17	
SBR	1	0	1,600	145	88	0.00		0.00	
EBL	1		1,600	104	199	0.07	*	0.12	
EBT	3		4,800	611	1,078	0.13		0.22	*
EBR	1	0	1,600	193	235	0.00		0.00	
WBL	1		1,600	326	329	0.20		0.21	*
WBT	3		4,800	1,222	719	0.27	*	0.17	
WBR	0		0	68	120	0.00		0.00	
N/S Critical Movements						0.33		0.32	
E/W Critical Movements						0.34		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.77		0.85	
Level of Service (LOS)						C		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	131	217	0.08	*	0.14	
3		4,800	702	1,442	0.15		0.30	*
1	0	1,600	212	393	0.00		0.00	
1		1,600	151	116	0.09		0.07	*
3		4,800	1,459	918	0.30	*	0.19	
1	0	1,600	168	102	0.00		0.00	
1		1,600	120	230	0.08	*	0.14	
3		4,800	706	1,246	0.15		0.26	*
1	0	1,600	223	272	0.00		0.00	
1		1,600	372	380	0.23		0.24	*
3		4,800	1,412	831	0.31	*	0.20	
0		0	79	139	0.00		0.00	
					0.38		0.37	
					0.39		0.50	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.97	
Level of Service (LOS)					D		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	131	140	0.08	*	0.09	
NBT	3		4,800	702	1,123	0.15		0.23	*
NBR	1	0	1,600	206	303	0.00		0.00	
SBL	1		1,600	151	370	0.09		0.23	*
SBT	3		4,800	1,459	752	0.30	*	0.16	
SBR	1	0	1,600	168	55	0.00		0.00	
EBL	1		1,600	120	137	0.08	*	0.09	
EBT	3		4,800	706	1,062	0.15		0.22	*
EBR	1	0	1,600	196	72	0.00		0.00	
WBL	1		1,600	389	312	0.24		0.20	*
WBT	3		4,800	1,412	653	0.31	*	0.19	
WBR	0		0	79	266	0.00		0.00	
N/S Critical Movements						0.38		0.46	
E/W Critical Movements						0.39		0.42	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.87		0.98	
Level of Service (LOS)						D		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	131	140	0.08	*	0.09	
3		4,800	702	1,123	0.15		0.23	*
1	0	1,600	206	303	0.00		0.00	
2		2,880	151	370	0.05		0.13	*
3		4,800	1,459	752	0.30	*	0.16	
1	0	1,600	168	55	0.00		0.00	
1		1,600	120	137	0.08	*	0.09	
3		4,800	706	1,062	0.15		0.22	*
1	0	1,600	196	72	0.00		0.00	
1		1,600	389	312	0.24		0.20	*
3		4,800	1,412	653	0.31	*	0.19	
0		0	79	266	0.00		0.00	
					0.38		0.36	
					0.39		0.42	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.88	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 62
North/South Roadway: Cherry Avenue
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	104	140	0.07	*	0.09	
NBT	3		4,800	579	1,123	0.12		0.23	*
NBR	1	0	1,600	176	303	0.00		0.00	
SBL	2		2,880	310	370	0.11		0.13	*
SBT	4		6,400	1,270	752	0.20	*	0.12	
SBR	1	0	1,600	67	55	0.00		0.00	
EBL	2		2,880	58	137	0.02		0.05	
EBT	3		4,800	604	1,062	0.15	*	0.24	*
EBR	0		0	99	72	0.00		0.00	
WBL	2		2,880	373	312	0.13	*	0.11	*
WBT	3		4,800	754	653	0.19		0.19	
WBR	0		0	170	266	0.00		0.00	
N/S Critical Movements						0.27		0.36	
E/W Critical Movements						0.28		0.35	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.65		0.81	
Level of Service (LOS)						B		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	120	162	0.08	*	0.10	
3		4,800	669	1,298	0.14		0.27	*
1	0	1,600	203	350	0.00		0.00	
2		2,880	358	428	0.12		0.15	*
4		6,400	1,468	869	0.23	*	0.14	
1	0	1,600	77	58	0.00		0.00	
2		2,880	67	139	0.02		0.05	
3		4,800	698	1,227	0.17	*	0.27	*
0		0	114	83	0.00		0.00	
2		2,880	431	361	0.15	*	0.13	*
3		4,800	871	755	0.22		0.22	
0		0	196	307	0.00		0.00	
					0.31		0.42	
					0.32		0.40	
					0.00		0.00	
					0.10		0.10	
ICU					0.73		0.92	
Level of Service (LOS)					C		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	120	162	0.08	*	0.10	
NBT	3		4,800	669	1,298	0.14		0.27	*
NBR	1	0	1,600	203	350	0.00		0.00	
SBL	2		2,880	358	428	0.12		0.15	*
SBT	4		6,400	1,325	869	0.21	*	0.14	
SBR	1	0	1,600	77	64	0.00		0.00	
EBL	2		2,880	67	140	0.02		0.05	
EBT	3		4,800	698	1,227	0.17	*	0.27	*
EBR	0		0	114	83	0.00		0.00	
WBL	2		2,880	383	361	0.13	*	0.13	*
WBT	3		4,800	871	755	0.22		0.22	
WBR	0		0	196	307	0.00		0.00	
N/S Critical Movements						0.29		0.42	
E/W Critical Movements						0.30		0.40	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.69		0.92	
Level of Service (LOS)						B		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	120	162	0.08	*	0.10	
4		6,400	669	1,298	0.10		0.20	*
1	0	1,600	203	350	0.00		0.00	
2		2,880	358	428	0.12		0.15	*
4		6,400	1,325	869	0.21	*	0.14	
1	0	1,600	77	64	0.00		0.00	
2		2,880	67	140	0.02		0.05	
3		4,800	698	1,227	0.17	*	0.27	*
0		0	114	83	0.00		0.00	
2		2,880	383	361	0.13	*	0.13	*
3		4,800	871	755	0.22		0.22	
0		0	196	307	0.00		0.00	
					0.29		0.35	
					0.30		0.40	
					0.00		0.00	
					0.10		0.10	
ICU					0.69		0.85	
Level of Service (LOS)					B		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 63
North/South Roadway: Cherry Avenue
East/West Roadway: Wardlow Road
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	183	147	0.11	*	0.09	
NBT	2		3,200	1,213	1,689	0.38		0.53	*
NBR	1	0	1,600	42	50	0.00		0.00	
SBL	1		1,600	47	34	0.03		0.02	*
SBT	3		4,800	1,851	1,555	0.44	*	0.37	
SBR	0		0	249	226	0.00		0.00	
EBL	2		2,400	262	505	0.11	*	0.21	*
EBT	2		2,400	23	26	0.06		0.07	
EBR	0		0	131	148	0.00		0.00	
WBL	2		2,400	39	68	0.02		0.03	
WBT	2		2,400	17	22	0.02	*	0.03	*
WBR	0		0	23	48	0.00		0.00	
N/S Critical Movements						0.55		0.55	
E/W Critical Movements						0.13		0.24	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.78		0.89	
Level of Service (LOS)						C		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	183	170	0.11	*	0.11	
2		3,200	1,402	1,952	0.44		0.61	*
1	0	1,600	42	58	0.00		0.00	
1		1,600	47	39	0.03		0.02	*
3		4,800	2,139	1,797	0.50	*	0.43	
0		0	249	261	0.00		0.00	
2		2,400	303	512	0.13	*	0.21	*
2		2,400	23	28	0.07		0.08	
0		0	151	154	0.00		0.00	
2		2,400	45	68	0.02		0.03	
2		2,400	17	23	0.02	*	0.03	*
0		0	23	55	0.00		0.00	
					0.61		0.63	
					0.15		0.24	
					0.00		0.00	
					0.10		0.10	
ICU					0.86		0.97	
Level of Service (LOS)					D		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	212	153	0.13	*	0.10	
NBT	2		3,200	1,402	1,691	0.44		0.53	*
NBR	1	0	1,600	49	51	0.00		0.00	
SBL	1		1,600	48	39	0.03		0.02	*
SBT	3		4,800	1,906	1,797	0.45	*	0.43	
SBR	0		0	253	261	0.00		0.00	
EBL	2		2,400	303	515	0.13	*	0.21	*
EBT	2		2,400	23	27	0.06		0.08	
EBR	0		0	132	154	0.00		0.00	
WBL	2		2,400	39	68	0.02		0.03	
WBT	2		2,400	17	22	0.02	*	0.03	*
WBR	0		0	23	55	0.00		0.00	
N/S Critical Movements						0.58		0.55	
E/W Critical Movements						0.15		0.24	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.83		0.89	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	212	153	0.13	*	0.10	
2		3,200	1,402	1,691	0.44		0.53	*
1	0	1,600	49	51	0.00		0.00	
1		1,600	48	39	0.03		0.02	*
3		4,800	1,906	1,797	0.45	*	0.43	
0		0	253	261	0.00		0.00	
2		2,400	303	515	0.13	*	0.21	*
2		2,400	23	27	0.06		0.08	
0		0	132	154	0.00		0.00	
2		2,400	39	68	0.02		0.03	
2		2,400	17	22	0.02	*	0.03	*
0		0	23	55	0.00		0.00	
					0.58		0.55	
					0.15		0.24	
					0.00		0.00	
					0.10		0.10	
ICU					0.83		0.89	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 64
North/South Roadway: Cherry Avenue
East/West Roadway: Willow Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	193	150	0.12 *	0.09 *
NBT	3		4,800	1,050	745	0.22	0.16
NBR	1	0	1,600	222	217	0.00	0.00
SBL	2		2,880	182	308	0.06	0.11
SBT	3		4,800	752	911	0.18 *	0.22 *
SBR	0		0	128	158	0.00	0.00
EBL	2		2,880	186	197	0.06	0.07
EBT	3		4,800	972	1,251	0.22 *	0.29 *
EBR	0		0	88	134	0.00	0.00
WBL	2		2,880	249	311	0.09 *	0.11 *
WBT	3		4,800	1,030	962	0.24	0.24
WBR	0		0	116	213	0.00	0.00
N/S Critical Movements						0.30	0.31
E/W Critical Movements						0.31	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.71	0.81
Level of Service (LOS)						C	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	223	173	0.14 *	0.11 *
3		4,800	1,214	861	0.25	0.18
1	0	1,600	257	251	0.00	0.00
2		2,880	210	356	0.07	0.12
3		4,800	869	1,053	0.21 *	0.26 *
0		0	148	183	0.00	0.00
2		2,880	188	228	0.07	0.08
3		4,800	1,123	1,446	0.26 *	0.33 *
0		0	102	155	0.00	0.00
2		2,880	288	359	0.10 *	0.12 *
3		4,800	1,190	1,112	0.27	0.28
0		0	116	246	0.00	0.00
					0.35	0.37
					0.36	0.45
					0.00	0.00
					0.10	0.10
ICU					0.81	0.92
Level of Service (LOS)					D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	223	160	0.14 *	0.10 *
NBT	3		4,800	1,214	861	0.25	0.18
NBR	1	0	1,600	257	251	0.00	0.00
SBL	2		2,880	210	356	0.07	0.12
SBT	3		4,800	792	1,053	0.19 *	0.25 *
SBR	0		0	130	160	0.00	0.00
EBL	2		2,880	192	228	0.07 *	0.08
EBT	3		4,800	1,123	1,446	0.25	0.33 *
EBR	0		0	90	155	0.00	0.00
WBL	2		2,880	288	359	0.10	0.12 *
WBT	3		4,800	1,190	974	0.28 *	0.25
WBR	0		0	134	246	0.00	0.00
N/S Critical Movements						0.33	0.35
E/W Critical Movements						0.35	0.45
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.78	0.90
Level of Service (LOS)						C	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	223	160	0.14 *	0.10 *
3		4,800	1,214	861	0.25	0.18
1	0	1,600	257	251	0.00	0.00
2		2,880	210	356	0.07	0.12
3		4,800	792	1,053	0.19 *	0.25 *
0		0	130	160	0.00	0.00
2		2,880	192	228	0.07 *	0.08
3		4,800	1,123	1,446	0.25	0.33 *
0		0	90	155	0.00	0.00
2		2,880	288	359	0.10	0.12 *
3		4,800	1,190	974	0.28 *	0.25
0		0	134	246	0.00	0.00
					0.33	0.35
					0.35	0.45
					0.00	0.00
					0.10	0.10
ICU					0.78	0.90
Level of Service (LOS)					C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 65
North/South Roadway: Cherry Avenue
East/West Roadway: PCH
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	86	60	0.05		0.04	
NBT	2		3,200	530	409	0.17	*	0.14	*
NBR	0		0	22	32	0.00		0.00	
SBL	1		1,600	142	193	0.09	*	0.12	*
SBT	2		3,200	365	585	0.11		0.18	
SBR	1	0	1,600	264	213	0.00		0.00	
EBL	1		1,600	174	209	0.11	*	0.13	
EBT	3		4,800	883	1,496	0.20		0.33	*
EBR	0		0	77	87	0.00		0.00	
WBL	1		1,600	35	72	0.02		0.05	*
WBT	3		4,800	1,255	948	0.30	*	0.23	
WBR	0		0	181	164	0.00		0.00	
N/S Critical Movements						0.26		0.26	
E/W Critical Movements						0.41		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.77		0.74	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	89	61	0.06		0.04	
2		3,200	613	473	0.20	*	0.16	*
0		0	25	37	0.00		0.00	
1		1,600	164	223	0.10	*	0.14	*
2		3,200	422	676	0.13		0.21	
1	0	1,600	269	246	0.00		0.00	
1		1,600	201	242	0.13	*	0.15	
3		4,800	1,021	1,729	0.23		0.38	*
0		0	89	87	0.00		0.00	
1		1,600	40	83	0.03		0.05	*
3		4,800	1,450	1,096	0.35	*	0.27	
0		0	209	190	0.00		0.00	
					0.30		0.30	
					0.48		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.83	
Level of Service (LOS)					D		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	92	64	0.06		0.04	
NBT	2		3,200	613	473	0.20	*	0.16	*
NBR	0		0	25	37	0.00		0.00	
SBL	1		1,600	164	223	0.10	*	0.14	*
SBT	2		3,200	422	676	0.13		0.21	
SBR	1	0	1,600	281	246	0.00		0.00	
EBL	1		1,600	201	242	0.13	*	0.15	
EBT	3		4,800	1,021	1,729	0.23		0.38	*
EBR	0		0	89	91	0.00		0.00	
WBL	1		1,600	40	83	0.03		0.05	*
WBT	3		4,800	1,450	1,096	0.35	*	0.27	
WBR	0		0	209	190	0.00		0.00	
N/S Critical Movements						0.30		0.30	
E/W Critical Movements						0.48		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.88		0.83	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	92	64	0.06		0.04	
2		3,200	613	473	0.20	*	0.16	*
0		0	25	37	0.00		0.00	
1		1,600	164	223	0.10	*	0.14	*
2		3,200	422	676	0.13		0.21	
1	0	1,600	281	246	0.00		0.00	
1		1,600	201	242	0.13	*	0.15	
3		4,800	1,021	1,729	0.23		0.38	*
0		0	89	91	0.00		0.00	
1		1,600	40	83	0.03		0.05	*
3		4,800	1,450	1,096	0.35	*	0.27	
0		0	209	190	0.00		0.00	
					0.30		0.30	
					0.48		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.83	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 66
North/South Roadway: Cherry Avenue
East/West Roadway: 7th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	47	40	0.03	0.03 *
NBT	1	1,600	229	221	0.20 *	0.18
NBR	0	0	91	74	0.00	0.00
SBL	1	1,600	100	79	0.06 *	0.05
SBT	1	1,600	200	273	0.15	0.20 *
SBR	0	0	33	51	0.00	0.00
EBL	1	1,600	39	73	0.02 *	0.05
EBT	2	3,200	916	1,336	0.29	0.43 *
EBR	0	0	21	33	0.00	0.00
WBL	1	1,600	63	67	0.04	0.04 *
WBT	2	3,200	1,295	937	0.42 *	0.31
WBR	0	0	59	55	0.00	0.00
N/S Critical Movements					0.26	0.23
E/W Critical Movements					0.44	0.47
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.80	0.80
Level of Service (LOS)					C	C

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	47	42	0.03	0.03
1	1,600	265	255	0.23 *	0.21 *
0	0	105	86	0.00	0.00
1	1,600	116	91	0.07 *	0.06 *
1	1,600	231	316	0.17	0.23
0	0	38	59	0.00	0.00
1	1,600	45	84	0.03 *	0.05
2	3,200	1,059	1,544	0.34	0.49 *
0	0	24	35	0.00	0.00
1	1,600	73	67	0.05	0.04 *
2	3,200	1,497	1,083	0.49 *	0.36
0	0	68	64	0.00	0.00
				0.30	0.27
				0.52	0.53
				0.00	0.00
				0.10	0.10
				0.92	0.90
				E	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	54	42	0.03	0.03
NBT	1	1,600	265	255	0.23 *	0.21 *
NBR	0	0	105	86	0.00	0.00
SBL	1	1,600	116	91	0.07 *	0.06 *
SBT	1	1,600	231	316	0.17	0.23
SBR	0	0	38	59	0.00	0.00
EBL	1	1,600	45	73	0.03 *	0.05
EBT	2	3,200	1,059	1,544	0.34	0.49 *
EBR	0	0	24	36	0.00	0.00
WBL	1	1,600	73	77	0.05	0.05 *
WBT	2	3,200	1,299	1,083	0.42 *	0.36
WBR	0	0	59	64	0.00	0.00
N/S Critical Movements					0.30	0.27
E/W Critical Movements					0.45	0.54
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.85	0.91
Level of Service (LOS)					D	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	54	42	0.03	0.03
1	1,600	265	255	0.23 *	0.21 *
0	0	105	86	0.00	0.00
1	1,600	116	91	0.07 *	0.06 *
1	1,600	231	316	0.17	0.23
0	0	38	59	0.00	0.00
1	1,600	45	73	0.03 *	0.05
2	3,200	1,059	1,544	0.33	0.48 *
1 0	1,600	24	36	0.00	0.00
1	1,600	73	77	0.05	0.05 *
2	3,200	1,299	1,083	0.42 *	0.36
0	0	59	64	0.00	0.00
				0.30	0.27
				0.45	0.53
				0.00	0.00
				0.10	0.10
				0.85	0.90
				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 67
North/South Roadway: Paramount Boulevard
East/West Roadway: Artesia Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	167	126	0.10	*	0.08	
NBT	2		3,200	695	854	0.22		0.27	*
NBR	1	0	1,600	59	103	0.00		0.00	
SBL	2		2,880	74	116	0.03		0.04	*
SBT	2		3,200	750	575	0.23	*	0.18	
SBR	1	0	1,600	103	84	0.00		0.00	
EBL	1		1,600	108	201	0.07	*	0.13	*
EBT	3		4,800	429	863	0.12		0.21	
EBR	0		0	133	153	0.00		0.00	
WBL	1		1,600	115	84	0.07		0.05	
WBT	3		4,800	706	488	0.17	*	0.13	*
WBR	0		0	131	153	0.00		0.00	
N/S Critical Movements						0.33		0.31	
E/W Critical Movements						0.24		0.26	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.67		0.67	
Level of Service (LOS)						B		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	173	146	0.11	*	0.09	
2		3,200	803	987	0.25		0.31	*
1	0	1,600	64	119	0.00		0.00	
2		2,880	84	134	0.03		0.05	*
2		3,200	867	665	0.27	*	0.21	
1	0	1,600	113	97	0.00		0.00	
1		1,600	125	232	0.08	*	0.15	*
3		4,800	515	997	0.14		0.24	
0		0	140	177	0.00		0.00	
1		1,600	133	84	0.08		0.05	
3		4,800	816	489	0.20	*	0.14	*
0		0	151	177	0.00		0.00	
					0.38		0.36	
					0.28		0.29	
					0.00		0.00	
					0.10		0.10	
					0.76		0.75	
					C		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	193	146	0.12	*	0.09	
NBT	2		3,200	803	987	0.25		0.31	*
NBR	1	0	1,600	67	119	0.00		0.00	
SBL	2		2,880	97	134	0.03		0.05	*
SBT	2		3,200	793	665	0.25	*	0.21	
SBR	1	0	1,600	114	97	0.00		0.00	
EBL	1		1,600	125	232	0.08	*	0.15	*
EBT	3		4,800	532	997	0.14		0.24	
EBR	0		0	133	177	0.00		0.00	
WBL	1		1,600	133	85	0.08		0.05	
WBT	3		4,800	816	564	0.20	*	0.15	*
WBR	0		0	151	154	0.00		0.00	
N/S Critical Movements						0.37		0.36	
E/W Critical Movements						0.28		0.30	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.75		0.76	
Level of Service (LOS)						C		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	193	146	0.12	*	0.09	
2		3,200	803	987	0.25		0.31	*
1	0	1,600	67	119	0.00		0.00	
2		2,880	97	134	0.03		0.05	*
2		3,200	793	665	0.25	*	0.21	
1	0	1,600	114	97	0.00		0.00	
1		1,600	125	232	0.08	*	0.15	*
3		4,800	532	997	0.14		0.24	
0		0	133	177	0.00		0.00	
1		1,600	133	85	0.08		0.05	
3		4,800	816	564	0.20	*	0.15	*
0		0	151	154	0.00		0.00	
					0.37		0.36	
					0.28		0.30	
					0.00		0.00	
					0.10		0.10	
					0.75		0.76	
					C		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 68
North/South Roadway: Paramount Boulevard
East/West Roadway: South Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	99	135	0.06 *	0.08 *
NBT	3	4,800	587	657	0.15	0.18
NBR	0	0	156	191	0.00	0.00
SBL	1	1,600	113	131	0.07	0.08
SBT	2	3,200	531	571	0.20 *	0.22 *
SBR	0	0	114	126	0.00	0.00
EBL	1	1,600	92	114	0.06	0.07
EBT	2	3,200	588	860	0.22 *	0.32 *
EBR	0	0	103	168	0.00	0.00
WBL	1	1,600	125	185	0.08 *	0.12 *
WBT	2	3,200	604	713	0.23	0.25
WBR	0	0	137	101	0.00	0.00
N/S Critical Movements					0.26	0.30
E/W Critical Movements					0.30	0.44
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.66	0.84
Level of Service (LOS)					B	D

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	114	156	0.07 *	0.10 *
3	4,800	678	759	0.18	0.20
0	0	180	216	0.00	0.00
1	1,600	172	148	0.11	0.09
2	3,200	614	660	0.23 *	0.25 *
0	0	132	146	0.00	0.00
1	1,600	106	132	0.07	0.08
2	3,200	667	994	0.25 *	0.37 *
0	0	119	194	0.00	0.00
1	1,600	175	217	0.11 *	0.14 *
2	3,200	654	824	0.27	0.30
0	0	221	125	0.00	0.00
				0.30	0.35
				0.36	0.51
				0.00	0.00
				0.10	0.10
ICU				0.76	0.96
Level of Service (LOS)				C	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	114	156	0.07	0.10 *
NBT	3	4,800	678	759	0.18 *	0.21
NBR	0	0	189	228	0.00	0.00
SBL	1	1,600	174	152	0.11 *	0.10
SBT	2	3,200	541	660	0.21	0.25 *
SBR	0	0	132	146	0.00	0.00
EBL	1	1,600	106	132	0.07	0.08
EBT	2	3,200	603	994	0.23 *	0.37 *
EBR	0	0	119	194	0.00	0.00
WBL	1	1,600	193	228	0.12 *	0.14 *
WBT	2	3,200	653	824	0.27	0.30
WBR	0	0	210	129	0.00	0.00
N/S Critical Movements					0.29	0.35
E/W Critical Movements					0.35	0.51
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.74	0.96
Level of Service (LOS)					C	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	114	156	0.07	0.10 *
3	4,800	678	759	0.18 *	0.21
0	0	189	228	0.00	0.00
1	1,600	174	152	0.11 *	0.10
2	3,200	541	660	0.21	0.25 *
0	0	132	146	0.00	0.00
1	1,600	106	132	0.07 *	0.08
2	3,200	603	994	0.19	0.31 *
1 0	1,600	119	194	0.00	0.00
1	1,600	193	228	0.12	0.14 *
2	3,200	653	824	0.27 *	0.30
0	0	210	129	0.00	0.00
				0.29	0.35
				0.34	0.45
				0.00	0.00
				0.10	0.10
ICU				0.73	0.90
Level of Service (LOS)				C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 69
North/South Roadway: Paramount Boulevard
East/West Roadway: Del Amo Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	119	167	0.07	*	0.10	
NBT	2		3,200	428	803	0.16		0.31	*
NBR	0		0	88	179	0.00		0.00	
SBL	1		1,600	137	149	0.09		0.09	*
SBT	2		3,200	650	547	0.20	*	0.17	
SBR	1	0	1,600	186	172	0.00		0.00	
EBL	1		1,600	72	102	0.05	*	0.06	
EBT	2		3,200	868	1,088	0.27		0.34	*
EBR	1	0	1,600	109	130	0.00		0.00	
WBL	1		1,600	120	126	0.08		0.08	*
WBT	2		3,200	1,339	970	0.42	*	0.30	
WBR	1	0	1,600	71	118	0.00		0.00	
N/S Critical Movements						0.27		0.40	
E/W Critical Movements						0.47		0.42	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.84		0.92	
Level of Service (LOS)						D		E	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	138	178	0.09	*	0.11	
2		3,200	495	928	0.19		0.35	*
0		0	102	207	0.00		0.00	
1		1,600	138	172	0.09		0.11	*
2		3,200	751	632	0.23	*	0.20	
1	0	1,600	248	184	0.00		0.00	
1		1,600	92	118	0.06	*	0.07	
2		3,200	1,003	1,257	0.31		0.39	*
1	0	1,600	126	150	0.00		0.00	
1		1,600	139	146	0.09		0.09	*
2		3,200	1,548	1,121	0.48	*	0.35	
1	0	1,600	82	136	0.00		0.00	
					0.32		0.46	
					0.54		0.48	
					0.00		0.00	
					0.10		0.10	
ICU					0.96		1.04	
Level of Service (LOS)					E		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	138	180	0.09	*	0.11	
NBT	2		3,200	495	928	0.19		0.35	*
NBR	0		0	102	207	0.00		0.00	
SBL	1		1,600	138	172	0.09		0.11	*
SBT	2		3,200	668	632	0.21	*	0.20	
SBR	1	0	1,600	242	187	0.00		0.00	
EBL	1		1,600	89	118	0.06	*	0.07	
EBT	2		3,200	1,003	1,257	0.31		0.39	*
EBR	1	0	1,600	126	150	0.00		0.00	
WBL	1		1,600	139	146	0.09		0.09	*
WBT	2		3,200	1,548	1,121	0.48	*	0.35	
WBR	1	0	1,600	82	136	0.00		0.00	
N/S Critical Movements						0.30		0.46	
E/W Critical Movements						0.54		0.48	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.94		1.04	
Level of Service (LOS)						E		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	138	180	0.09	*	0.11	
2		3,200	495	928	0.15		0.29	*
1	0	1,600	102	207	0.00		0.00	
1		1,600	138	172	0.09		0.11	*
2		3,200	668	632	0.21	*	0.20	
1	0	1,600	242	187	0.00		0.00	
1		1,600	89	118	0.06	*	0.07	
3		4,800	1,003	1,257	0.21		0.26	*
1	0	1,600	126	150	0.00		0.00	
1		1,600	139	146	0.09		0.09	*
3		4,800	1,548	1,121	0.32	*	0.23	
1	0	1,600	82	136	0.00		0.00	
					0.30		0.40	
					0.38		0.35	
					0.00		0.00	
					0.10		0.10	
ICU					0.78		0.85	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 70
North/South Roadway: Paramount Boulevard
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	45	112	0.03		0.07	
NBT	2		3,200	178	592	0.06	*	0.19	*
NBR	1	0	1,600	86	157	0.00		0.00	
SBL	1		1,600	249	208	0.16	*	0.13	*
SBT	2		3,200	466	345	0.15		0.11	
SBR	1	0	1,600	220	164	0.00		0.00	
EBL	1		1,600	148	290	0.09	*	0.18	*
EBT	3		4,800	888	1,372	0.20		0.30	
EBR	0		0	57	59	0.00		0.00	
WBL	1		1,600	133	120	0.08		0.08	
WBT	3		4,800	976	934	0.23	*	0.26	*
WBR	0		0	105	302	0.00		0.00	
N/S Critical Movements						0.22		0.32	
E/W Critical Movements						0.32		0.44	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.64		0.86	
Level of Service (LOS)						B		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	60	119	0.04		0.07	
2		3,200	206	596	0.06	*	0.19	*
1	0	1,600	99	181	0.00		0.00	
1		1,600	288	240	0.18	*	0.15	*
2		3,200	539	399	0.17		0.12	
1	0	1,600	254	190	0.00		0.00	
1		1,600	171	335	0.11	*	0.21	*
3		4,800	1,026	1,586	0.23		0.35	
0		0	80	72	0.00		0.00	
1		1,600	154	140	0.10		0.09	
3		4,800	1,128	1,079	0.26	*	0.30	*
0		0	121	349	0.00		0.00	
					0.24		0.34	
					0.37		0.51	
					0.00		0.00	
					0.10		0.10	
ICU					0.71		0.95	
Level of Service (LOS)					C		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	68	116	0.04		0.07	
NBT	2		3,200	206	607	0.06	*	0.19	*
NBR	1	0	1,600	99	181	0.00		0.00	
SBL	1		1,600	288	240	0.18	*	0.15	*
SBT	2		3,200	470	399	0.15		0.12	
SBR	1	0	1,600	222	190	0.00		0.00	
EBL	1		1,600	171	335	0.11	*	0.21	*
EBT	3		4,800	1,026	1,586	0.23		0.35	
EBR	0		0	77	76	0.00		0.00	
WBL	1		1,600	154	137	0.10		0.09	
WBT	3		4,800	1,128	1,079	0.26	*	0.30	*
WBR	0		0	121	349	0.00		0.00	
N/S Critical Movements						0.24		0.34	
E/W Critical Movements						0.37		0.51	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.71		0.95	
Level of Service (LOS)						C		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	68	116	0.04		0.07	
2		3,200	206	607	0.06	*	0.19	*
1	0	1,600	99	181	0.00		0.00	
1		1,600	288	240	0.18	*	0.15	*
2		3,200	470	399	0.15		0.12	
1	0	1,600	222	190	0.00		0.00	
1		1,600	171	335	0.11	*	0.21	
3		4,800	1,026	1,586	0.23		0.35	*
0		0	77	76	0.00		0.00	
1		1,600	154	137	0.10		0.09	*
3		4,800	1,128	1,079	0.24	*	0.22	
1	0	1,600	121	349	0.00		0.00	
					0.24		0.34	
					0.35		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.69		0.88	
Level of Service (LOS)					B		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 71
North/South Roadway: Downey Avenue
East/West Roadway: Aloandra Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	108	129	0.07 *	0.08
NBT	2	3,200	565	564	0.21	0.22 *
NBR	0	0	108	137	0.00	0.00
SBL	1	1,600	150	190	0.09	0.12 *
SBT	2	3,200	662	578	0.24 *	0.20
SBR	0	0	113	74	0.00	0.00
EBL	1	1,600	114	123	0.07 *	0.08
EBT	2	3,200	450	857	0.17	0.30 *
EBR	0	0	88	109	0.00	0.00
WBL	1	1,600	197	133	0.12	0.08 *
WBT	2	3,200	774	633	0.29 *	0.24
WBR	0	0	157	144	0.00	0.00
N/S Critical Movements					0.31	0.34
E/W Critical Movements					0.36	0.38
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.77	0.82
Level of Service (LOS)					C	D

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	125	149	0.08 *	0.09
2	3,200	653	652	0.24	0.25 *
0	0	125	158	0.00	0.00
1	1,600	173	194	0.11	0.12 *
2	3,200	765	668	0.28 *	0.23
0	0	131	80	0.00	0.00
1	1,600	121	142	0.08 *	0.09
2	3,200	520	990	0.19	0.35 *
0	0	91	126	0.00	0.00
1	1,600	228	154	0.14	0.10 *
2	3,200	895	732	0.34 *	0.28
0	0	181	166	0.00	0.00
				0.36	0.37
				0.42	0.45
				0.00	0.00
				0.10	0.10
ICU				0.88	0.92
Level of Service (LOS)				D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	125	149	0.08 *	0.09
NBT	2	3,200	653	652	0.24	0.25 *
NBR	0	0	125	158	0.00	0.00
SBL	1	1,600	173	200	0.11	0.13 *
SBT	2	3,200	765	668	0.28 *	0.23
SBR	0	0	131	81	0.00	0.00
EBL	1	1,600	132	142	0.08 *	0.09
EBT	2	3,200	520	990	0.19	0.35 *
EBR	0	0	102	126	0.00	0.00
WBL	1	1,600	228	154	0.14	0.10 *
WBT	2	3,200	895	732	0.34 *	0.28
WBR	0	0	181	166	0.00	0.00
N/S Critical Movements					0.36	0.38
E/W Critical Movements					0.42	0.45
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.88	0.93
Level of Service (LOS)					D	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	125	149	0.08 *	0.09
2	3,200	653	652	0.24	0.25 *
0	0	125	158	0.00	0.00
1	1,600	173	200	0.11	0.13 *
2	3,200	765	668	0.28 *	0.23
0	0	131	81	0.00	0.00
1	1,600	132	142	0.08 *	0.09
2	3,200	520	990	0.16	0.31 *
1 0	1,600	102	126	0.00	0.00
1	1,600	228	154	0.14	0.10 *
2	3,200	895	732	0.34 *	0.28
0	0	181	166	0.00	0.00
				0.36	0.38
				0.42	0.41
				0.00	0.00
				0.10	0.10
ICU				0.88	0.89
Level of Service (LOS)				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 72
North/South Roadway: Redonda Ave
East/West Roadway: Spring St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	544	564	0.19	*	0.20	*
NBT	1		800	3	0	0.00		0.00	
NBR	2	0	2,400	291	385	0.00		0.00	
SBL	1		1,600	6	6	0.00		0.00	
SBT	2		3,200	3	4	0.00	*	0.00	*
SBR	0		0	2	4	0.00		0.00	
EBL	1		1,600	4	10	0.00		0.01	
EBT	3		4,800	741	1,102	0.23	*	0.31	*
EBR	0		0	344	394	0.00		0.00	
WBL	2		2,880	319	241	0.11	*	0.08	*
WBT	3		4,800	1,316	908	0.28		0.19	
WBR	0		0	11	6	0.00		0.00	
N/S Critical Movements						0.19		0.20	
E/W Critical Movements						0.34		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.63		0.69	
Level of Service (LOS)						B		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	634	701	0.22	*	0.24	*
1		800	3	0	0.00		0.00	
2	0	2,400	336	401	0.00		0.00	
1		1,600	6	7	0.00		0.00	
2		3,200	3	5	0.00	*	0.00	*
0		0	2	4	0.00		0.00	
1		1,600	5	10	0.00		0.01	
3		4,800	856	1,274	0.25	*	0.36	*
0		0	365	458	0.00		0.00	
2		2,880	369	246	0.13	*	0.09	*
3		4,800	1,521	1,049	0.32		0.22	
0		0	13	6	0.00		0.00	
					0.22		0.24	
					0.38		0.45	
					0.00		0.00	
					0.10		0.10	
ICU					0.70		0.79	
Level of Service (LOS)					B		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	962	1,265	0.33	*	0.44	*
NBT	1		800	5	0	0.01		0.00	
NBR	2	0	2,400	341	636	0.00		0.00	
SBL	1		1,600	7	7	0.00		0.00	
SBT	2		3,200	6	7	0.00	*	0.00	*
SBR	0		0	2	5	0.00		0.00	
EBL	1		1,600	4	11	0.00		0.01	
EBT	3		4,800	856	1,274	0.36	*	0.42	*
EBR	0		0	857	758	0.00		0.00	
WBL	2		2,880	534	324	0.19	*	0.11	*
WBT	3		4,800	1,521	1,049	0.32		0.22	
WBR	0		0	13	7	0.00		0.00	
N/S Critical Movements						0.33		0.44	
E/W Critical Movements						0.55		0.53	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.98		1.07	
Level of Service (LOS)						E		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	962	1,265	0.33	*	0.44	*
1		800	5	0	0.01		0.00	
2	0	2,400	341	636	0.00		0.00	
1		1,600	7	7	0.00		0.00	
2		3,200	6	7	0.00	*	0.00	*
0		0	2	5	0.00		0.00	
1		1,600	4	11	0.00	*	0.01	
4		6,400	856	1,274	0.13		0.20	*
1	0	1,600	857	758	0.00		0.00	
2		2,880	534	324	0.19		0.11	*
3		4,800	1,521	1,049	0.32	*	0.22	
0		0	13	7	0.00		0.00	
					0.33		0.44	
					0.32		0.31	
					0.00		0.00	
					0.10		0.10	
ICU					0.75		0.85	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 73
North/South Roadway: Redondo Ave
East/West Roadway: Willow St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	258	213	0.09	0.07 *
NBT	3		4,800	944	592	0.20 *	0.12
NBR	1	0	1,600	473	415	0.00	0.00
SBL	2		2,880	110	276	0.04 *	0.10
SBT	3		4,800	364	651	0.09	0.16 *
SBR	0		0	49	126	0.00	0.00
EBL	1		1,600	120	70	0.08 *	0.04
EBT	3		4,800	1,036	1,545	0.22	0.32 *
EBR	1	0	1,600	162	290	0.00	0.00
WBL	2		2,880	199	251	0.07	0.09 *
WBT	3		4,800	1,343	1,046	0.28 *	0.22
WBR	1	0	1,600	280	124	0.00	0.00
N/S Critical Movements						0.24	0.23
E/W Critical Movements						0.36	0.41
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.70	0.74
Level of Service (LOS)						B	C

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	298	230	0.10	0.08 *
3		4,800	1,091	652	0.23 *	0.14
1	0	1,600	523	480	0.00	0.00
2		2,880	127	319	0.04 *	0.11
3		4,800	421	752	0.10	0.19 *
0		0	57	142	0.00	0.00
1		1,600	139	79	0.09 *	0.05
3		4,800	1,197	1,786	0.25	0.37 *
1	0	1,600	170	335	0.00	0.00
2		2,880	249	290	0.09	0.10 *
3		4,800	1,552	1,088	0.32 *	0.23
1	0	1,600	281	131	0.00	0.00
					0.27	0.27
					0.41	0.47
					0.00	0.00
					0.10	0.10
					0.78	0.84
					C	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	298	214	0.10	0.07
NBT	3		4,800	1,122	790	0.23 *	0.16 *
NBR	1	0	1,600	547	480	0.00	0.00
SBL	2		2,880	118	298	0.04 *	0.10 *
SBT	3		4,800	424	710	0.10	0.18
SBR	0		0	57	173	0.00	0.00
EBL	1		1,600	134	109	0.08 *	0.07
EBT	3		4,800	1,197	1,786	0.25	0.37 *
EBR	1	0	1,600	187	335	0.00	0.00
WBL	2		2,880	214	290	0.07	0.10 *
WBT	3		4,800	1,552	1,209	0.32 *	0.25
WBR	1	0	1,600	344	159	0.00	0.00
N/S Critical Movements						0.27	0.26
E/W Critical Movements						0.40	0.47
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.77	0.83
Level of Service (LOS)						C	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	298	214	0.10	0.07
3		4,800	1,122	790	0.23 *	0.16 *
1	0	1,600	547	480	0.00	0.00
2		2,880	118	298	0.04 *	0.10 *
3		4,800	424	710	0.10	0.18
0		0	57	173	0.00	0.00
1		1,600	134	109	0.08 *	0.07
3		4,800	1,197	1,786	0.25	0.37 *
1	0	1,600	187	335	0.00	0.00
2		2,880	214	290	0.07	0.10 *
3		4,800	1,552	1,209	0.32 *	0.25
1	0	1,600	344	159	0.00	0.00
					0.27	0.26
					0.40	0.47
					0.00	0.00
					0.10	0.10
					0.77	0.83
					C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 74
North/South Roadway: Redondo Ave
East/West Roadway: Pacific Coast Hwy
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	130	142	0.08		0.09	
NBT	2		3,200	973	716	0.38	*	0.32	*
NBR	0		0	239	295	0.00		0.00	
SBL	1		1,600	90	172	0.06	*	0.11	*
SBT	2		3,200	433	826	0.14		0.26	
SBR	1	0	1,600	153	199	0.00		0.00	
EBL	1		1,600	225	215	0.14	*	0.13	
EBT	3		4,800	1,048	1,265	0.22		0.27	*
EBR	0		0	11	18	0.00		0.00	
WBL	1		1,600	235	289	0.15		0.18	*
WBT	3		4,800	1,339	1,200	0.29	*	0.26	
WBR	0		0	63	43	0.00		0.00	
N/S Critical Movements						0.44		0.43	
E/W Critical Movements						0.43		0.45	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.97		0.98	
Level of Service (LOS)						E		E	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	150	164	0.09		0.10	
2		3,200	1,125	828	0.43	*	0.36	*
0		0	258	315	0.00		0.00	
1		1,600	92	199	0.06	*	0.12	*
2		3,200	500	955	0.16		0.30	
1	0	1,600	177	230	0.00		0.00	
1		1,600	260	248	0.16	*	0.16	
3		4,800	1,211	1,462	0.25		0.31	*
0		0	13	21	0.00		0.00	
1		1,600	272	312	0.17		0.20	*
3		4,800	1,548	1,387	0.34	*	0.30	
0		0	73	50	0.00		0.00	
					0.49		0.48	
					0.50		0.51	
					0.00		0.00	
					0.10		0.10	
ICU					1.09		1.09	
Level of Service (LOS)					F		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	150	164	0.09		0.10	
NBT	2		3,200	995	828	0.40	*	0.35	*
NBR	0		0	276	298	0.00		0.00	
SBL	1		1,600	92	199	0.06	*	0.12	*
SBT	2		3,200	500	955	0.16		0.30	
SBR	1	0	1,600	177	230	0.00		0.00	
EBL	1		1,600	260	248	0.16	*	0.16	
EBT	3		4,800	1,211	1,462	0.25		0.31	*
EBR	0		0	13	21	0.00		0.00	
WBL	1		1,600	272	294	0.17		0.18	*
WBT	3		4,800	1,548	1,387	0.34	*	0.30	
WBR	0		0	66	50	0.00		0.00	
N/S Critical Movements						0.46		0.47	
E/W Critical Movements						0.50		0.49	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						1.06		1.06	
Level of Service (LOS)						F		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	150	164	0.09		0.10	
2		3,200	995	828	0.31	*	0.26	*
1	0	1,600	276	298	0.00		0.00	
1		1,600	92	199	0.06	*	0.12	*
3		4,800	500	955	0.14		0.25	
0		0	177	230	0.00		0.00	
1		1,600	260	248	0.16	*	0.16	
4		6,400	1,211	1,462	0.19		0.23	*
0		0	13	21	0.00		0.00	
1		1,600	272	294	0.17		0.18	*
4		6,400	1,548	1,387	0.25	*	0.22	
0		0	66	50	0.00		0.00	
					0.37		0.38	
					0.41		0.41	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		0.89	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 75
North/South Roadway: Redondo Avenue
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	56	70	0.04	0.04 *
NBT	2	3,200	1,011	852	0.34 *	0.30
NBR	0	0	73	111	0.00	0.00
SBL	1	1,600	49	68	0.03 *	0.04
SBT	2	3,200	569	963	0.20	0.32 *
SBR	0	0	85	76	0.00	0.00
EBL	1	1,600	165	155	0.10 *	0.10
EBT	2	3,200	982	1,062	0.34	0.37 *
EBR	0	0	101	121	0.00	0.00
WBL	1	1,600	91	173	0.06	0.11 *
WBT	2	3,200	871	958	0.30 *	0.32
WBR	0	0	79	80	0.00	0.00
N/S Critical Movements					0.37	0.36
E/W Critical Movements					0.40	0.48
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.87	0.94
Level of Service (LOS)					D	E

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	65	81	0.04	0.05 *
2	3,200	1,168	985	0.39 *	0.35
0	0	84	128	0.00	0.00
1	1,600	57	79	0.04 *	0.05
2	3,200	658	1,113	0.23	0.38 *
0	0	88	88	0.00	0.00
1	1,600	178	179	0.11	0.11
2	3,200	1,135	1,227	0.39 *	0.43 *
0	0	117	140	0.00	0.00
1	1,600	105	200	0.07 *	0.12 *
2	3,200	1,007	1,107	0.34	0.37
0	0	79	92	0.00	0.00
				0.43	0.43
				0.46	0.55
				0.00	0.00
				0.10	0.10
				0.99	1.08
				E	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	65	81	0.04	0.05 *
NBT	2	3,200	1,168	985	0.39 *	0.35
NBR	0	0	84	128	0.00	0.00
SBL	1	1,600	57	79	0.04 *	0.05
SBT	2	3,200	658	1,113	0.23	0.38 *
SBR	0	0	92	88	0.00	0.00
EBL	1	1,600	184	179	0.12	0.11
EBT	2	3,200	1,135	1,227	0.39 *	0.42 *
EBR	0	0	117	123	0.00	0.00
WBL	1	1,600	105	200	0.07 *	0.12 *
WBT	2	3,200	880	1,107	0.30	0.37
WBR	0	0	81	92	0.00	0.00
N/S Critical Movements					0.43	0.43
E/W Critical Movements					0.46	0.54
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.99	1.07
Level of Service (LOS)					E	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	65	81	0.04	0.05 *
3		4,800	1,168	985	0.26 *	0.23
0		0	84	128	0.00	0.00
1		1,600	57	79	0.04 *	0.05
3		4,800	658	1,113	0.21	0.23 *
1	0	1,600	92	88	0.00	0.00
1		1,600	184	179	0.12 *	0.11
2		3,200	1,135	1,227	0.35	0.38 *
1	0	1,600	117	123	0.00	0.00
1		1,600	105	200	0.07	0.12 *
2		3,200	880	1,107	0.30 *	0.37
0		0	81	92	0.00	0.00
					0.30	0.28
					0.42	0.50
					0.00	0.00
					0.10	0.10
					0.82	0.88
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 76
North/South Roadway: Redondo Avenue
East/West Roadway: 7th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	53	50	0.03	0.03 *
NBT	2	3,200	820	738	0.31 *	0.28
NBR	0	0	174	157	0.00	0.00
SBL	1	1,600	65	65	0.04 *	0.04
SBT	2	3,200	558	874	0.22	0.32 *
SBR	0	0	130	142	0.00	0.00
EBL	1	1,600	164	190	0.10 *	0.12 *
EBT	2	3,200	1,151	1,096	0.38	0.36
EBR	0	0	50	64	0.00	0.00
WBL	1	1,600	119	156	0.07	0.10
WBT	2	3,200	1,267	1,016	0.42 *	0.34 *
WBR	0	0	70	65	0.00	0.00
N/S Critical Movements					0.35	0.35
E/W Critical Movements					0.52	0.46
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.97	0.91
Level of Service (LOS)					E	E

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	57	58	0.04	0.04 *
2	3,200	948	853	0.35 *	0.32
0	0	174	181	0.00	0.00
1	1,600	75	75	0.05 *	0.05
2	3,200	645	1,010	0.24	0.37 *
0	0	134	164	0.00	0.00
1	1,600	190	220	0.12 *	0.14 *
2	3,200	1,330	1,267	0.43	0.42
0	0	58	74	0.00	0.00
1	1,600	138	180	0.09	0.11
2	3,200	1,464	1,174	0.48 *	0.39 *
0	0	81	75	0.00	0.00
				0.40	0.41
				0.60	0.53
				0.00	0.00
				0.10	0.10
				1.10	1.04
				F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	69	58	0.04	0.04 *
NBT	2	3,200	820	853	0.31 *	0.32
NBR	0	0	184	181	0.00	0.00
SBL	1	1,600	75	75	0.05 *	0.05
SBT	2	3,200	645	1,010	0.25	0.37 *
SBR	0	0	150	164	0.00	0.00
EBL	1	1,600	190	220	0.12 *	0.14 *
EBT	2	3,200	1,330	1,267	0.43	0.42
EBR	0	0	55	74	0.00	0.00
WBL	1	1,600	138	180	0.09	0.11
WBT	2	3,200	1,283	1,174	0.43 *	0.39 *
WBR	0	0	81	75	0.00	0.00
N/S Critical Movements					0.36	0.41
E/W Critical Movements					0.55	0.53
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					1.01	1.04
Level of Service (LOS)					F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	69	58	0.04	0.04 *
2		3,200	820	853	0.31 *	0.32
0		0	184	181	0.00	0.00
1		1,600	75	75	0.05 *	0.05
2		3,200	645	1,010	0.25	0.37 *
0		0	150	164	0.00	0.00
1		1,600	190	220	0.12 *	0.14 *
3		4,800	1,330	1,267	0.28	0.26
1	0	1,600	55	74	0.00	0.00
1		1,600	138	180	0.09	0.11
3		4,800	1,283	1,174	0.27 *	0.24 *
1	0	1,600	81	75	0.00	0.00
					0.36	0.41
					0.39	0.38
					0.00	0.00
					0.10	0.10
					0.85	0.89
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 77
North/South Roadway: Redondo Avenue
East/West Roadway: 3rd Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	21	29	0.01	0.02 *
NBT	2	3,200	565	582	0.18 *	0.18
NBR	0	0	13	8	0.00	0.00
SBL	1	1,600	39	53	0.02 *	0.03
SBT	2	3,200	434	656	0.16	0.24 *
SBR	0	0	91	105	0.00	0.00
EBL	0	0	142	92	0.09 *	0.06 *
EBT	1	1,600	83	108	0.16	0.14
EBR	0	0	37	23	0.00	0.00
WBL	0	0	8	14	0.01	0.01
WBT	1	1,600	81	98	0.09 *	0.10 *
WBR	0	0	51	55	0.00	0.00
N/S Critical Movements					0.20	0.26
E/W Critical Movements					0.18	0.16
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.48	0.52
Level of Service (LOS)					A	A

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	24	29	0.02	0.02 *
2	3,200	653	673	0.21 *	0.21
0	0	14	9	0.00	0.00
1	1,600	45	61	0.03 *	0.04
2	3,200	502	758	0.19	0.27 *
0	0	105	121	0.00	0.00
0	0	164	106	0.10 *	0.07 *
1	1,600	83	125	0.18	0.16
0	0	38	27	0.00	0.00
0	0	9	16	0.01	0.01
1	1,600	94	112	0.10 *	0.12 *
0	0	52	64	0.00	0.00
				0.24	0.29
				0.20	0.19
				0.00	0.00
				0.10	0.10
				0.54	0.58
				A	A

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	24	29	0.02	0.02 *
NBT	2	3,200	653	673	0.21 *	0.21
NBR	0	0	14	9	0.00	0.00
SBL	1	1,600	45	61	0.03 *	0.04
SBT	2	3,200	502	671	0.19	0.25 *
SBR	0	0	105	113	0.00	0.00
EBL	0	0	164	106	0.10 *	0.07 *
EBT	1	1,600	83	125	0.18	0.16
EBR	0	0	38	27	0.00	0.00
WBL	0	0	8	14	0.01	0.01
WBT	1	1,600	94	105	0.10 *	0.11 *
WBR	0	0	59	60	0.00	0.00
N/S Critical Movements					0.24	0.27
E/W Critical Movements					0.20	0.18
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.54	0.55
Level of Service (LOS)					A	A

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	24	29	0.02	0.02 *
2	3,200	653	673	0.21 *	0.21
0	0	14	9	0.00	0.00
1	1,600	45	61	0.03 *	0.04
2	3,200	502	671	0.19	0.25 *
0	0	105	113	0.00	0.00
0	0	164	106	0.10 *	0.07 *
1	1,600	83	125	0.18	0.16
0	0	38	27	0.00	0.00
0	0	8	14	0.01	0.01
1	1,600	94	105	0.10 *	0.11 *
0	0	59	60	0.00	0.00
				0.24	0.27
				0.20	0.18
				0.00	0.00
				0.10	0.10
				0.54	0.55
				A	A

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 78
North/South Roadway: Redondo Avenue
East/West Roadway: Ocean Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	1		1,600	108	209	0.07	*	0.13	*
SBT	0		0	0	0	0.00		0.00	
SBR	1	0	1,600	82	91	0.00		0.00	
EBL	1		1,600	61	117	0.04	*	0.07	
EBT	2		3,200	706	1,431	0.22		0.45	*
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	2		3,200	1,056	780	0.37	*	0.28	
WBR	0		0	116	106	0.00		0.00	
N/S Critical Movements						0.07		0.13	
E/W Critical Movements						0.41		0.45	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.58		0.68	
Level of Service (LOS)						A		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1		1,600	113	242	0.07	*	0.15	*
0		0	0	0	0.00		0.00	
1	0	1,600	121	104	0.00		0.00	
1		1,600	80	121	0.05	*	0.08	
2		3,200	716	1,654	0.22		0.52	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
2		3,200	1,068	822	0.38	*	0.30	
0		0	134	123	0.00		0.00	
					0.07		0.15	
					0.43		0.52	
					0.00		0.00	
					0.10		0.10	
ICU					0.60		0.77	
Level of Service (LOS)					A		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	1		1,600	125	213	0.08	*	0.13	*
SBT	0		0	0	0	0.00		0.00	
SBR	1	0	1,600	118	110	0.00		0.00	
EBL	1		1,600	82	121	0.05	*	0.08	
EBT	2		3,200	816	1,437	0.25		0.45	*
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	2		3,200	1,080	815	0.38	*	0.29	
WBR	0		0	134	123	0.00		0.00	
N/S Critical Movements						0.08		0.13	
E/W Critical Movements						0.43		0.45	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.61		0.68	
Level of Service (LOS)						B		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1		1,600	125	213	0.08	*	0.13	*
0		0	0	0	0.00		0.00	
1	0	1,600	118	110	0.00		0.00	
1		1,600	82	121	0.05	*	0.08	
2		3,200	816	1,437	0.25		0.45	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
2		3,200	1,080	815	0.38	*	0.29	
0		0	134	123	0.00		0.00	
					0.08		0.13	
					0.43		0.45	
					0.00		0.00	
					0.10		0.10	
ICU					0.61		0.68	
Level of Service (LOS)					B		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 79
North/South Roadway: Lakewood Boulevard
East/West Roadway: Del Amo Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	175	283	0.11	*	0.18	
NBT	3		4,800	555	1,088	0.13		0.28	*
NBR	0		0	86	264	0.00		0.00	
SBL	1		1,600	196	248	0.12		0.16	*
SBT	2		3,200	931	697	0.29	*	0.22	
SBR	1	0	1,600	131	180	0.00		0.00	
EBL	1		1,600	118	221	0.07	*	0.14	*
EBT	3		4,800	864	1,103	0.22		0.26	
EBR	0		0	214	147	0.00		0.00	
WBL	1		1,600	176	231	0.11		0.14	
WBT	2		3,200	1,020	938	0.32	*	0.29	*
WBR	1	0	1,600	208	300	0.00		0.00	
N/S Critical Movements						0.40		0.44	
E/W Critical Movements						0.39		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.89		0.97	
Level of Service (LOS)						D		E	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	202	327	0.13	*	0.20	
3		4,800	641	1,257	0.15		0.33	*
0		0	99	305	0.00		0.00	
1		1,600	227	287	0.14		0.18	*
2		3,200	1,076	806	0.34	*	0.25	
1	0	1,600	151	208	0.00		0.00	
1		1,600	136	226	0.09	*	0.14	*
3		4,800	999	1,275	0.25		0.30	
0		0	214	157	0.00		0.00	
1		1,600	203	267	0.13		0.17	
2		3,200	1,179	1,084	0.37	*	0.34	*
1	0	1,600	240	347	0.00		0.00	
					0.47		0.51	
					0.46		0.48	
					0.00		0.00	
					0.10		0.10	
ICU					1.03		1.09	
Level of Service (LOS)					F		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	202	327	0.13	*	0.20	
NBT	3		4,800	641	1,257	0.15		0.33	*
NBR	0		0	99	305	0.00		0.00	
SBL	1		1,600	227	287	0.14		0.18	*
SBT	2		3,200	945	806	0.30	*	0.25	
SBR	1	0	1,600	151	208	0.00		0.00	
EBL	1		1,600	136	229	0.09	*	0.14	*
EBT	3		4,800	999	1,275	0.25		0.30	
EBR	0		0	223	160	0.00		0.00	
WBL	1		1,600	179	267	0.11		0.17	
WBT	2		3,200	1,179	1,084	0.37	*	0.34	*
WBR	1	0	1,600	240	347	0.00		0.00	
N/S Critical Movements						0.43		0.51	
E/W Critical Movements						0.46		0.48	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.99		1.09	
Level of Service (LOS)						E		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	202	327	0.07	*	0.11	*
3		4,800	641	1,257	0.13		0.26	
1	0	1,600	99	305	0.00		0.00	
2		2,880	227	287	0.08		0.10	
3		4,800	945	806	0.30	*	0.25	*
1	0	1,600	151	208	0.00		0.00	
1		1,600	136	229	0.09	*	0.14	*
4		6,400	999	1,275	0.19		0.22	
0		0	223	160	0.00		0.00	
1		1,600	179	267	0.11		0.17	
3		4,800	1,179	1,084	0.30	*	0.30	*
0		0	240	347	0.00		0.00	
					0.37		0.36	
					0.39		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.86		0.90	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 80
North/South Roadway: Lakewood Boulevard
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	294	327	0.10	*	0.11	
NBT	3		4,800	641	1,352	0.13		0.28	*
NBR	1	0	1,600	209	374	0.00		0.00	
SBL	1		1,600	108	102	0.07		0.06	*
SBT	4		6,400	1,173	838	0.21	*	0.15	
SBR	0		0	153	107	0.00		0.00	
EBL	2		2,880	86	278	0.03	*	0.10	
EBT	3		4,800	687	1,191	0.14		0.25	*
EBR	1	0	1,600	247	287	0.00		0.00	
WBL	2		2,880	227	221	0.08		0.08	*
WBT	3		4,800	886	706	0.19	*	0.16	
WBR	0		0	30	71	0.00		0.00	
N/S Critical Movements						0.31		0.34	
E/W Critical Movements						0.22		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.63		0.77	
Level of Service (LOS)						B		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	340	365	0.12	*	0.13	
3		4,800	741	1,563	0.15		0.33	*
1	0	1,600	242	432	0.00		0.00	
1		1,600	121	118	0.08		0.07	*
4		6,400	1,356	969	0.24	*	0.17	
0		0	177	124	0.00		0.00	
2		2,880	99	321	0.03		0.11	
3		4,800	794	1,377	0.17	*	0.29	*
1	0	1,600	285	296	0.00		0.00	
2		2,880	262	255	0.09	*	0.09	*
3		4,800	1,024	816	0.22		0.19	
0		0	35	82	0.00		0.00	
					0.36		0.40	
					0.26		0.38	
					0.00		0.00	
					0.10		0.10	
					0.72		0.88	
					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	340	378	0.12	*	0.13	
NBT	3		4,800	741	1,369	0.15		0.29	*
NBR	1	0	1,600	242	432	0.00		0.00	
SBL	1		1,600	139	118	0.09		0.07	*
SBT	4		6,400	1,246	969	0.22	*	0.17	
SBR	0		0	177	124	0.00		0.00	
EBL	2		2,880	99	321	0.03		0.11	
EBT	3		4,800	794	1,377	0.17	*	0.29	*
EBR	1	0	1,600	285	332	0.00		0.00	
WBL	2		2,880	262	255	0.09	*	0.09	*
WBT	3		4,800	1,024	816	0.22		0.19	
WBR	0		0	33	82	0.00		0.00	
N/S Critical Movements						0.34		0.36	
E/W Critical Movements						0.26		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.70		0.84	
Level of Service (LOS)						B		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	340	378	0.12	*	0.13	
3		4,800	741	1,369	0.15		0.29	*
1	0	1,600	242	432	0.00		0.00	
1		1,600	139	118	0.09		0.07	*
4		6,400	1,246	969	0.22	*	0.17	
0		0	177	124	0.00		0.00	
2		2,880	99	321	0.03		0.11	
3		4,800	794	1,377	0.17	*	0.29	*
1	0	1,600	285	332	0.00		0.00	
2		2,880	262	255	0.09	*	0.09	*
3		4,800	1,024	816	0.22		0.19	
0		0	33	82	0.00		0.00	
					0.34		0.36	
					0.26		0.38	
					0.00		0.00	
					0.10		0.10	
					0.70		0.84	
					B		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 81
North/South Roadway: Lakewood Boulevard
East/West Roadway: Spring Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	148	47	0.05 *	0.02 *
NBT	4		6,400	1,277	1,480	0.20	0.23
NBR	1	0	1,600	275	204	0.00	0.00
SBL	2		2,880	249	258	0.09	0.09
SBT	3		4,800	1,304	1,586	0.27 *	0.33 *
SBR	2	0	3,200	571	406	0.00	0.00
EBL	2		2,880	312	672	0.11 *	0.23
EBT	3		4,800	416	1,277	0.09	0.27 *
EBR	2	0	3,200	22	182	0.00	0.00
WBL	2		2,880	208	246	0.07	0.09 *
WBT	3		4,800	1,377	529	0.29 *	0.11
WBR	1	0	1,600	200	271	0.00	0.00
N/S Critical Movements						0.32	0.35
E/W Critical Movements						0.40	0.36
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.82	0.81
Level of Service (LOS)						D	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	171	50	0.06 *	0.02 *
4		6,400	1,476	1,711	0.23	0.27
1	0	1,600	318	236	0.00	0.00
2		2,880	288	298	0.10	0.10
3		4,800	1,507	1,833	0.31 *	0.38 *
2	0	3,200	660	412	0.00	0.00
2		2,880	361	692	0.13 *	0.24
3		4,800	418	1,476	0.09	0.31 *
2	0	3,200	25	203	0.00	0.00
2		2,880	240	284	0.08	0.10 *
3		4,800	1,591	556	0.33 *	0.12
1	0	1,600	231	313	0.00	0.00
					0.37	0.40
					0.46	0.41
					0.00	0.00
					0.10	0.10
					0.93	0.91
					E	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	239	63	0.08 *	0.02 *
NBT	4		6,400	1,476	1,711	0.23	0.27
NBR	1	0	1,600	318	236	0.00	0.00
SBL	2		2,880	288	298	0.10	0.10
SBT	3		4,800	1,507	1,833	0.31 *	0.38 *
SBR	2	0	3,200	888	514	0.00	0.00
EBL	2		2,880	333	1,050	0.12 *	0.36 *
EBT	3		4,800	481	1,438	0.10	0.30
EBR	2	0	3,200	26	302	0.00	0.00
WBL	2		2,880	240	284	0.08	0.10
WBT	3		4,800	1,604	543	0.33 *	0.11 *
WBR	1	0	1,600	231	313	0.00	0.00
N/S Critical Movements						0.39	0.40
E/W Critical Movements						0.45	0.47
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.94	0.97
Level of Service (LOS)						E	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	239	63	0.08 *	0.02
4		6,400	1,476	1,711	0.23	0.27 *
1	0	1,600	318	236	0.00	0.00
3		4,800	288	298	0.06	0.06 *
4		6,400	1,507	1,833	0.24 *	0.29
2	0	3,200	888	514	0.00	0.00
2		2,880	333	1,050	0.12 *	0.36 *
3		4,800	481	1,438	0.10	0.30
2	0	3,200	26	302	0.00	0.00
2		2,880	240	284	0.08	0.10
3		4,800	1,604	543	0.33 *	0.11 *
1	0	1,600	231	313	0.00	0.00
					0.32	0.33
					0.45	0.47
					0.00	0.00
					0.10	0.10
					0.87	0.90
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 82
North/South Roadway: Lakewood Boulevard
East/West Roadway: I-405 WB Ramps
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	*
NBT	3		4,000	1,236	1,390	0.31	*	0.35	
NBR	2	0	2,400	949	644	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	
SBT	3		4,000	1,009	1,421	0.25		0.36	*
SBR	2	0	2,400	468	528	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	221	277	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	1	0	1,600	475	441	0.00		0.00	
N/S Critical Movements						0.31		0.36	
E/W Critical Movements						0.00		0.00	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.41		0.46	
Level of Service (LOS)						A		A	

2040 NO BUILD

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	*
NBT	3		4,000	1,429	1,607	0.36	*	0.40	
NBR	2	0	2,400	1,097	744	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	
SBT	3		4,000	1,009	1,642	0.25		0.41	*
SBR	2	0	2,400	541	610	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	241	293	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	1	0	1,600	549	510	0.00		0.00	
						0.36		0.41	
						0.00		0.00	
						0.00		0.00	
						0.10		0.10	
ICU						0.46		0.51	
Level of Service (LOS)						A		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	3		4,000	1,429	1,607	0.36	*	0.40	*
NBR	2	0	2,400	1,097	744	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	*
SBT	3		4,000	1,039	1,465	0.26		0.37	
SBR	2	0	2,400	541	610	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	240	303	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	1	0	1,600	480	510	0.00		0.00	
N/S Critical Movements						0.36		0.40	
E/W Critical Movements						0.00		0.00	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.46		0.50	
Level of Service (LOS)						A		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	3		4,000	1,429	1,607	0.36	*	0.40	*
NBR	2	0	2,400	1,097	744	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	*
SBT	3		4,000	1,039	1,465	0.26		0.37	
SBR	2	0	2,400	541	610	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	0		0	240	303	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	0		0	0	0	0.00	*	0.00	*
WBR	1	0	1,600	480	510	0.00		0.00	
						0.36		0.40	
						0.00		0.00	
						0.00		0.00	
						0.10		0.10	
ICU						0.46		0.50	
Level of Service (LOS)						A		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 83
North/South Roadway: Lakewood Boulevard
East/West Roadway: I-405 EB Ramps with Lakewood Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	4		6,400	2,176	2,023	0.34	*	0.32	*
NBR	0		0	12	20	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	*
SBT	3		4,000	919	1,204	0.23		0.30	
SBR	2	0	2,400	311	494	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	1	0	1,600	781	620	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	1		1,600	0	0	0.01	*	0.01	*
WBR	0		0	9	11	0.00		0.00	
N/S Critical Movements						0.34		0.32	
E/W Critical Movements						0.01		0.01	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.45		0.43	
Level of Service (LOS)						A		A	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
4		6,400	2,515	2,338	0.39	*	0.37	*
0		0	12	20	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
3		4,000	972	1,392	0.24		0.35	
2	0	2,400	359	571	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1	0	1,600	903	717	0.00		0.00	
0		0	0	0	0.00		0.00	
1		1,600	0	0	0.01	*	0.01	*
0		0	9	11	0.00		0.00	
					0.39		0.37	
					0.01		0.01	
					0.00		0.00	
					0.10		0.10	
					0.50		0.48	
					A		A	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	4		6,400	2,515	2,038	0.39	*	0.32	*
NBR	0		0	12	20	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	*
SBT	3		4,000	1,000	1,255	0.25		0.31	
SBR	2	0	2,400	359	513	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	*
EBT	0		0	0	0	0.00		0.00	
EBR	1	0	1,600	831	717	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	1		1,600	0	0	0.01	*	0.01	*
WBR	0		0	9	11	0.00		0.00	
N/S Critical Movements						0.39		0.32	
E/W Critical Movements						0.01		0.01	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.50		0.43	
Level of Service (LOS)						A		A	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
4		6,400	2,515	2,038	0.39	*	0.32	*
0		0	12	20	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
3		4,000	1,000	1,255	0.25		0.31	
2	0	2,400	359	513	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1	0	1,600	831	717	0.00		0.00	
0		0	0	0	0.00		0.00	
1		1,600	0	0	0.01	*	0.01	*
0		0	9	11	0.00		0.00	
					0.39		0.32	
					0.01		0.01	
					0.00		0.00	
					0.10		0.10	
					0.50		0.43	
					A		A	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 84
North/South Roadway: Lakewood Blvd
East/West Roadway: Willow St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	239	194	0.08 *	0.07 *
NBT	4		6,400	1,325	1,231	0.24	0.22
NBR	0		0	183	159	0.00	0.00
SBL	2		2,880	131	112	0.05	0.04
SBT	3		4,800	1,135	1,432	0.33 *	0.36 *
SBR	0		0	434	280	0.00	0.00
EBL	2		2,880	156	299	0.05 *	0.10
EBT	3		4,800	1,050	1,728	0.22	0.36 *
EBR	1	0	1,600	146	298	0.00	0.00
WBL	2		2,880	89	167	0.03	0.06 *
WBT	2.5		4,000	1,467	954	0.37 *	0.24
WBR	1.5	0	2,400	707	514	0.00	0.00
N/S Critical Movements						0.41	0.43
E/W Critical Movements						0.42	0.42
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.93	0.95
Level of Service (LOS)						E	E

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	276	212	0.10 *	0.07 *
4		6,400	1,531	1,423	0.27	0.25
0		0	212	184	0.00	0.00
2		2,880	151	129	0.05	0.04
3		4,800	1,312	1,655	0.36 *	0.41 *
0		0	438	324	0.00	0.00
2		2,880	163	346	0.06 *	0.12
3		4,800	1,214	1,997	0.25	0.42 *
1	0	1,600	169	326	0.00	0.00
2		2,880	103	185	0.04	0.06 *
2.5		4,000	1,695	971	0.42 *	0.24
1.5	0	2,400	817	594	0.00	0.00
					0.46	0.48
					0.48	0.48
					0.00	0.00
					0.10	0.10
ICU					1.04	1.06
Level of Service (LOS)					F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	261	223	0.09 *	0.08 *
NBT	4		6,400	1,328	1,244	0.24	0.22
NBR	0		0	212	184	0.00	0.00
SBL	2		2,880	151	129	0.05	0.04
SBT	3		4,800	1,312	1,655	0.39 *	0.41 *
SBR	0		0	572	298	0.00	0.00
EBL	2		2,880	176	356	0.06 *	0.12
EBT	3		4,800	1,214	1,729	0.25	0.36 *
EBR	1	0	1,600	169	368	0.00	0.00
WBL	2		2,880	103	193	0.04	0.07 *
WBT	2.5		4,000	1,539	969	0.38 *	0.24
WBR	1.5	0	2,400	817	594	0.00	0.00
N/S Critical Movements						0.48	0.49
E/W Critical Movements						0.44	0.43
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.02	1.02
Level of Service (LOS)						F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	261	223	0.09 *	0.08 *
4		6,400	1,328	1,244	0.24	0.22
0		0	212	184	0.00	0.00
2		2,880	151	129	0.05	0.04
3		4,800	1,312	1,655	0.27 *	0.34 *
1	0	1,600	572	298	0.00	0.00
2		2,880	176	356	0.06 *	0.12 *
4		6,400	1,214	1,729	0.19	0.27
1	0	1,600	169	368	0.00	0.00
2		2,880	103	193	0.04	0.07
2.5		4,000	1,539	969	0.38 *	0.24 *
1.5	0	2,400	817	594	0.00	0.00
					0.36	0.42
					0.44	0.36
					0.00	0.00
					0.10	0.10
ICU					0.90	0.88
Level of Service (LOS)					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 85
North/South Roadway: Ximeno Avenue
East/West Roadway: PCH
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	378	366	0.13	*	0.13	*
NBT	2		3,200	400	510	0.14		0.18	
NBR	0		0	37	66	0.00		0.00	
SBL	1		1,600	69	106	0.04		0.07	
SBT	2		3,200	377	564	0.13	*	0.19	*
SBR	0		0	24	44	0.00		0.00	
EBL	1		1,600	80	108	0.05	*	0.07	
EBT	2		3,200	640	1,071	0.20		0.33	*
EBR	1	0	1,600	352	376	0.00		0.00	
WBL	1		1,600	79	83	0.05		0.05	*
WBT	2		3,200	959	681	0.30	*	0.21	
WBR	1	0	1,600	82	140	0.00		0.00	
N/S Critical Movements						0.26		0.32	
E/W Critical Movements						0.35		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.71		0.80	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	437	423	0.15	*	0.15	*
2		3,200	462	589	0.16		0.21	
0		0	42	68	0.00		0.00	
1		1,600	80	123	0.05		0.08	
2		3,200	436	652	0.14	*	0.22	*
0		0	28	51	0.00		0.00	
1		1,600	92	125	0.06	*	0.08	
2		3,200	740	1,238	0.23		0.39	*
1	0	1,600	407	435	0.00		0.00	
1		1,600	89	93	0.06		0.06	*
2		3,200	1,108	725	0.35	*	0.23	
1	0	1,600	95	162	0.00		0.00	
					0.29		0.37	
					0.41		0.45	
					0.00		0.00	
					0.10		0.10	
					0.80		0.92	
					C		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	2		2,880	385	423	0.13	*	0.15	*
NBT	2		3,200	462	589	0.16		0.21	
NBR	0		0	39	70	0.00		0.00	
SBL	1		1,600	80	123	0.05		0.08	
SBT	2		3,200	436	652	0.14	*	0.22	*
SBR	0		0	28	51	0.00		0.00	
EBL	1		1,600	92	125	0.06	*	0.08	
EBT	2		3,200	740	1,075	0.23		0.34	*
EBR	1	0	1,600	407	435	0.00		0.00	
WBL	1		1,600	79	96	0.05		0.06	*
WBT	2		3,200	1,108	719	0.35	*	0.22	
WBR	1	0	1,600	95	162	0.00		0.00	
N/S Critical Movements						0.27		0.37	
E/W Critical Movements						0.41		0.40	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.78		0.87	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	385	423	0.13	*	0.15	*
2		3,200	462	589	0.16		0.21	
0		0	39	70	0.00		0.00	
1		1,600	80	123	0.05		0.08	
2		3,200	436	652	0.14	*	0.22	*
0		0	28	51	0.00		0.00	
1		1,600	92	125	0.06	*	0.08	
2		3,200	740	1,075	0.23		0.34	*
1	0	1,600	407	435	0.00		0.00	
1		1,600	79	96	0.05		0.06	*
2		3,200	1,108	719	0.35	*	0.22	
1	0	1,600	95	162	0.00		0.00	
					0.27		0.37	
					0.41		0.40	
					0.00		0.00	
					0.10		0.10	
					0.78		0.87	
					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 86
North/South Roadway: Ximeno Avenue
East/West Roadway: 7th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	53	33	0.03		0.02	
NBT	1		1,600	320	307	0.26	*	0.25	*
NBR	0		0	97	90	0.00		0.00	
SBL	1		1,600	77	46	0.05	*	0.03	*
SBT	1		1,600	186	384	0.12		0.24	
SBR	1	0	1,600	152	103	0.00		0.00	
EBL	1		1,600	128	95	0.08		0.06	*
EBT	2		3,200	1,499	1,242	0.48	*	0.40	
EBR	0		0	31	28	0.00		0.00	
WBL	1		1,600	45	74	0.03	*	0.05	
WBT	2		3,200	1,269	1,289	0.41		0.41	*
WBR	0		0	39	28	0.00		0.00	
N/S Critical Movements						0.31		0.28	
E/W Critical Movements						0.51		0.47	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.92		0.85	
Level of Service (LOS)						E		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	61	34	0.04		0.02	
1		1,600	370	355	0.30	*	0.28	*
0		0	112	90	0.00		0.00	
1		1,600	89	53	0.06	*	0.03	*
1		1,600	215	444	0.13		0.28	
1	0	1,600	176	119	0.00		0.00	
1		1,600	128	110	0.08		0.07	*
2		3,200	1,732	1,435	0.55	*	0.46	
0		0	36	28	0.00		0.00	
1		1,600	47	75	0.03	*	0.05	
2		3,200	1,467	1,490	0.47		0.48	*
0		0	44	32	0.00		0.00	
					0.36		0.31	
					0.58		0.55	
					0.00		0.00	
					0.10		0.10	
ICU					1.04		0.96	
Level of Service (LOS)					F		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	61	38	0.04		0.02	
NBT	1		1,600	370	355	0.30	*	0.28	*
NBR	0		0	112	91	0.00		0.00	
SBL	1		1,600	89	53	0.06	*	0.03	*
SBT	1		1,600	215	444	0.13		0.28	
SBR	1	0	1,600	176	119	0.00		0.00	
EBL	1		1,600	128	110	0.08		0.07	*
EBT	2		3,200	1,732	1,435	0.55	*	0.46	
EBR	0		0	36	32	0.00		0.00	
WBL	1		1,600	49	75	0.03	*	0.05	
WBT	2		3,200	1,288	1,490	0.42		0.48	*
WBR	0		0	47	32	0.00		0.00	
N/S Critical Movements						0.36		0.31	
E/W Critical Movements						0.58		0.55	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						1.04		0.96	
Level of Service (LOS)						F		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	61	38	0.04		0.02	
1		1,600	370	355	0.30	*	0.28	*
0		0	112	91	0.00		0.00	
1		1,600	89	53	0.06	*	0.03	*
1		1,600	215	444	0.13		0.28	
1	0	1,600	176	119	0.00		0.00	
1		1,600	128	110	0.08		0.07	*
3		4,800	1,732	1,435	0.37	*	0.31	
0		0	36	32	0.00		0.00	
1		1,600	49	75	0.03	*	0.05	
3		4,800	1,288	1,490	0.28		0.32	*
0		0	47	32	0.00		0.00	
					0.36		0.31	
					0.40		0.39	
					0.00		0.00	
					0.10		0.10	
ICU					0.86		0.80	
Level of Service (LOS)					D		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 87
North/South Roadway: Ximeno Avenue
East/West Roadway: 4th Street
Scenario: 0

	EXISTING CONDITION						2040 NO BUILD					
			Volume		V/C Ratio				Volume		V/C Ratio	
Move-ment	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM
NBL	0	0	20	18	0.01	0.01 *	0	0	23	21	0.01	0.01 *
NBT	1	1,600	269	242	0.19 *	0.17	1	1,600	311	280	0.22 *	0.20
NBR	0	0	20	18	0.00	0.00	0	0	25	21	0.00	0.00
SBL	0	0	56	57	0.04 *	0.04	0	0	60	57	0.04 *	0.04
SBT	1	1,600	181	291	0.19	0.27 *	1	1,600	209	336	0.21	0.30 *
SBR	0	0	61	78	0.00	0.00	0	0	71	90	0.00	0.00
EBL	1	1,600	77	76	0.05	0.05 *	1	1,600	89	77	0.06	0.05 *
EBT	1	1,600	452	493	0.30 *	0.32	1	1,600	522	570	0.35 *	0.37
EBR	0	0	29	21	0.00	0.00	0	0	34	24	0.00	0.00
WBL	1	1,600	11	19	0.01 *	0.01	1	1,600	11	22	0.01 *	0.01
WBT	1	1,600	245	432	0.19	0.31 *	1	1,600	251	499	0.20	0.35 *
WBR	0	0	53	59	0.00	0.00	0	0	61	65	0.00	0.00
N/S Critical Movements					0.23	0.28					0.26	0.31
E/W Critical Movements					0.31	0.36					0.36	0.40
Right Turn Critical Movement					0.00	0.00					0.00	0.00
Clearance Interval					0.10	0.10					0.10	0.10
ICU					0.64	0.74	ICU				0.72	0.81
Level of Service (LOS)					B	C	Level of Service (LOS)				C	D

	PROPOSED LAND USE ELEMENT						PROPOSED LAND USE ELEMENT w/ MITIGATION					
			Volume		V/C Ratio				Volume		V/C Ratio	
Move-ment	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM	Wkday. PM
NBL	0	0	24	21	0.02	0.01 *	0	0	24	21	0.02	0.01 *
NBT	1	1,600	269	280	0.20 *	0.20	1	1,600	269	280	0.20 *	0.20
NBR	0	0	22	21	0.00	0.00	0	0	22	21	0.00	0.00
SBL	0	0	56	60	0.04 *	0.04	0	0	56	60	0.04 *	0.04
SBT	1	1,600	209	336	0.21	0.30 *	1	1,600	209	336	0.21	0.30 *
SBR	0	0	66	90	0.00	0.00	0	0	66	90	0.00	0.00
EBL	1	1,600	89	88	0.06	0.05 *	1	1,600	89	88	0.06	0.05 *
EBT	1	1,600	522	570	0.35 *	0.37	1	1,600	522	570	0.35 *	0.37
EBR	0	0	34	24	0.00	0.00	0	0	34	24	0.00	0.00
WBL	1	1,600	11	22	0.01 *	0.01	1	1,600	11	22	0.01 *	0.01
WBT	1	1,600	285	499	0.22	0.35 *	1	1,600	285	499	0.22	0.35 *
WBR	0	0	61	62	0.00	0.00	0	0	61	62	0.00	0.00
N/S Critical Movements					0.24	0.31					0.24	0.31
E/W Critical Movements					0.36	0.40					0.36	0.40
Right Turn Critical Movement					0.00	0.00					0.00	0.00
Clearance Interval					0.10	0.10					0.10	0.10
ICU					0.70	0.81	ICU				0.70	0.81
Level of Service (LOS)					B	D	Level of Service (LOS)				B	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 88
North/South Roadway: Park Ave
East/West Roadway: 7th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	20	33	0.01		0.02	
NBT	1		1,600	314	284	0.20	*	0.18	*
NBR	1	0	1,600	354	250	0.00		0.00	
SBL	1		1,600	99	79	0.06	*	0.05	*
SBT	1		1,600	177	301	0.11		0.19	
SBR	1	0	1,600	75	30	0.00		0.00	
EBL	1		1,600	54	38	0.03		0.02	
EBT	2		3,200	1,576	1,396	0.50	*	0.46	*
EBR	0		0	37	60	0.00		0.00	
WBL	1		1,600	116	169	0.07	*	0.11	*
WBT	2		3,200	1,175	1,453	0.39		0.48	
WBR	0		0	66	86	0.00		0.00	
N/S Critical Movements						0.26		0.23	
E/W Critical Movements						0.57		0.57	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.93		0.90	
Level of Service (LOS)						E		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	23	38	0.01		0.02	
1		1,600	363	328	0.23	*	0.21	*
1	0	1,600	428	289	0.00		0.00	
1		1,600	144	88	0.09	*	0.06	*
1		1,600	205	348	0.13		0.22	
1	0	1,600	87	30	0.00		0.00	
1		1,600	62	44	0.04		0.03	
2		3,200	1,821	1,613	0.58	*	0.53	*
0		0	43	69	0.00		0.00	
1		1,600	140	195	0.09	*	0.12	*
2		3,200	1,358	1,679	0.45		0.55	
0		0	93	94	0.00		0.00	
					0.32		0.27	
					0.67		0.65	
					0.00		0.00	
					0.10		0.10	
ICU					1.09		1.02	
Level of Service (LOS)					F		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	23	38	0.01		0.02	
NBT	1		1,600	363	328	0.23	*	0.21	*
NBR	1	0	1,600	422	289	0.00		0.00	
SBL	1		1,600	139	91	0.09	*	0.06	*
SBT	1		1,600	205	348	0.13		0.22	
SBR	1	0	1,600	87	35	0.00		0.00	
EBL	1		1,600	62	38	0.04		0.02	
EBT	2		3,200	1,821	1,613	0.58	*	0.53	*
EBR	0		0	43	69	0.00		0.00	
WBL	1		1,600	140	195	0.09	*	0.12	*
WBT	2		3,200	1,358	1,679	0.45		0.56	
WBR	0		0	93	98	0.00		0.00	
N/S Critical Movements						0.32		0.27	
E/W Critical Movements						0.67		0.65	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						1.09		1.02	
Level of Service (LOS)						F		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	23	38	0.01		0.02	
1		1,600	363	328	0.23	*	0.21	*
1	0	1,600	422	289	0.00		0.00	
1		1,600	139	91	0.09	*	0.06	*
1		1,600	205	348	0.13		0.22	
1	0	1,600	87	35	0.00		0.00	
1		1,600	62	38	0.04		0.02	
3		4,800	1,821	1,613	0.39	*	0.35	*
0		0	43	69	0.00		0.00	
1		1,600	140	195	0.09	*	0.12	*
3		4,800	1,358	1,679	0.30		0.37	
0		0	93	98	0.00		0.00	
					0.32		0.27	
					0.48		0.47	
					0.00		0.00	
					0.10		0.10	
ICU					0.90		0.84	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 89
North/South Roadway: Park Avenue
East/West Roadway: 4st Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	21	17	0.01	0.01 *
NBT	1	1,600	364	239	0.23 *	0.15
NBR	0	0	6	5	0.00	0.00
SBL	1	1,600	115	141	0.07 *	0.09
SBT	1	1,600	154	269	0.14	0.24 *
SBR	0	0	68	115	0.00	0.00
EBL	1	1,600	211	142	0.13 *	0.09 *
EBT	1	1,600	340	403	0.22	0.27
EBR	0	0	13	36	0.00	0.00
WBL	1	1,600	2	9	0.00	0.01
WBT	1	1,600	198	409	0.21 *	0.32 *
WBR	0	0	140	101	0.00	0.00
N/S Critical Movements					0.30	0.25
E/W Critical Movements					0.34	0.41
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.74	0.76
Level of Service (LOS)					C	C

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	24	20	0.02	0.01 *
1	1,600	421	276	0.27 *	0.18
0	0	6	6	0.00	0.00
1	1,600	116	155	0.07 *	0.10
1	1,600	178	311	0.16	0.28 *
0	0	79	133	0.00	0.00
1	1,600	212	142	0.13 *	0.09 *
1	1,600	393	466	0.25	0.32
0	0	15	42	0.00	0.00
1	1,600	2	10	0.00	0.01
1	1,600	202	473	0.22 *	0.37 *
0	0	157	120	0.00	0.00
				0.34	0.29
				0.35	0.46
				0.00	0.00
				0.10	0.10
				0.79	0.85
				C	D

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	22	20	0.01	0.01 *
NBT	1	1,600	364	276	0.23 *	0.18
NBR	0	0	7	6	0.00	0.00
SBL	1	1,600	133	154	0.08 *	0.10
SBT	1	1,600	178	311	0.16	0.28 *
SBR	0	0	74	133	0.00	0.00
EBL	1	1,600	244	146	0.15 *	0.09 *
EBT	1	1,600	393	466	0.25	0.32
EBR	0	0	15	42	0.00	0.00
WBL	1	1,600	2	10	0.00	0.01
WBT	1	1,600	229	473	0.24 *	0.37 *
WBR	0	0	157	119	0.00	0.00
N/S Critical Movements					0.31	0.29
E/W Critical Movements					0.39	0.46
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.80	0.85
Level of Service (LOS)					C	D

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	22	20	0.01	0.01 *
1	1,600	364	276	0.23 *	0.18
0	0	7	6	0.00	0.00
1	1,600	133	154	0.08 *	0.10
1	1,600	178	311	0.16	0.28 *
0	0	74	133	0.00	0.00
1	1,600	244	146	0.15 *	0.09 *
1	1,600	393	466	0.25	0.32
0	0	15	42	0.00	0.00
1	1,600	2	10	0.00	0.01
1	1,600	229	473	0.24 *	0.37 *
0	0	157	119	0.00	0.00
				0.31	0.29
				0.39	0.46
				0.00	0.00
				0.10	0.10
				0.80	0.85
				C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 90
North/South Roadway: Livingston Dr
East/West Roadway: 2nd St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	1		1,600	95	158	0.06	*	0.10	*
NBR	2	0	3,200	664	1,041	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	*
SBT	1		1,600	66	108	0.05		0.09	
SBR	0		0	9	37	0.00		0.00	
EBL	0		0	16	36	0.01		0.02	
EBT	1		1,600	160	178	0.11	*	0.13	*
EBR	0		0	0	0	0.00		0.00	
WBL	2		2,400	1,034	705	0.43	*	0.29	*
WBT	1		800	166	194	0.21		0.24	
WBR	1	0	1,600	3	15	0.00		0.00	
N/S Critical Movements						0.06		0.10	
E/W Critical Movements						0.54		0.42	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.70		0.62	
Level of Service (LOS)						B		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	*
1		1,600	116	183	0.07	*	0.11	
2	0	3,200	767	1,053	0.00		0.00	
0		0	0	0	0.00	*	0.00	
1		1,600	76	137	0.05		0.11	*
0		0	9	45	0.00		0.00	
0		0	21	42	0.01		0.03	
1		1,600	185	184	0.13	*	0.14	*
0		0	0	0	0.00		0.00	
2		2,400	1,195	712	0.50	*	0.30	*
1		800	166	224	0.21		0.28	
1	0	1,600	4	17	0.00		0.00	
					0.07		0.11	
					0.63		0.44	
					0.00		0.00	
					0.10		0.10	
					0.80		0.65	
					C		B	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	*
NBT	1		1,600	114	183	0.07	*	0.11	
NBR	2	0	3,200	767	1,057	0.00		0.00	
SBL	0		0	0	0	0.00	*	0.00	
SBT	1		1,600	76	133	0.05		0.11	*
SBR	0		0	10	44	0.00		0.00	
EBL	0		0	22	42	0.01		0.03	
EBT	1		1,600	185	183	0.13	*	0.14	*
EBR	0		0	0	0	0.00		0.00	
WBL	2		2,400	1,195	815	0.50	*	0.34	*
WBT	1		800	167	224	0.21		0.28	
WBR	1	0	1,600	4	17	0.00		0.00	
N/S Critical Movements						0.07		0.11	
E/W Critical Movements						0.63		0.48	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.80		0.69	
Level of Service (LOS)						C		B	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	*
1		1,600	114	183	0.07	*	0.11	
2	0	3,200	767	1,057	0.00		0.00	
0		0	0	0	0.00	*	0.00	
1		1,600	76	133	0.05		0.11	*
0		0	10	44	0.00		0.00	
0		0	22	42	0.01		0.03	
1		1,600	185	183	0.13	*	0.14	*
0		0	0	0	0.00		0.00	
2		2,400	1,195	815	0.50	*	0.34	*
1		800	167	224	0.21		0.28	
1	0	1,600	4	17	0.00		0.00	
					0.07		0.11	
					0.63		0.48	
					0.00		0.00	
					0.10		0.10	
					0.80		0.69	
					C		B	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 91
North/South Roadway: Pacific Coast Hwy
East/West Roadway: Anaheim St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	403	400	0.25	*	0.25	*
NBT	3		4,800	1,366	886	0.30		0.20	
NBR	0		0	51	66	0.00		0.00	
SBL	1		1,600	89	55	0.06		0.03	
SBT	2		3,200	779	1,074	0.25	*	0.34	*
SBR	0		0	21	27	0.00		0.00	
EBL	0		0	24	58	0.02		0.04	*
EBT	2		3,200	212	190	0.07	*	0.06	
EBR	1	0	1,600	571	520	0.00		0.00	
WBL	0		0	40	51	0.03	*	0.03	
WBT	2		3,200	113	225	0.04		0.07	*
WBR	1	0	1,600	58	87	0.00		0.00	
N/S Critical Movements						0.50		0.59	
E/W Critical Movements						0.10		0.11	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.70		0.80	
Level of Service (LOS)						B		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	546	462	0.34	*	0.29	*
3		4,800	1,579	926	0.38		0.21	
0		0	262	76	0.00		0.00	
1		1,600	103	64	0.06		0.04	
2		3,200	900	1,241	0.29	*	0.40	*
0		0	24	31	0.00		0.00	
0		0	28	67	0.02		0.04	*
2		3,200	245	220	0.08	*	0.07	
1	0	1,600	1,087	520	0.00		0.00	
0		0	294	54	0.18	*	0.03	
2		3,200	131	260	0.04		0.08	*
1	0	1,600	67	90	0.00		0.00	
					0.63		0.69	
					0.26		0.12	
					0.00		0.00	
					0.10		0.10	
ICU					0.99		0.91	
Level of Service (LOS)					E		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	594	462	0.37	*	0.29	*
NBT	3		4,800	1,579	928	0.38		0.21	
NBR	0		0	229	76	0.00		0.00	
SBL	1		1,600	103	64	0.06		0.04	
SBT	2		3,200	900	1,241	0.29	*	0.40	*
SBR	0		0	24	31	0.00		0.00	
EBL	0		0	28	67	0.02		0.04	*
EBT	2		3,200	245	220	0.08	*	0.07	
EBR	1	0	1,600	1,060	521	0.00		0.00	
WBL	0		0	305	59	0.19	*	0.04	
WBT	2		3,200	131	260	0.04		0.08	*
WBR	1	0	1,600	67	101	0.00		0.00	
N/S Critical Movements						0.66		0.69	
E/W Critical Movements						0.27		0.12	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						1.03		0.91	
Level of Service (LOS)						F		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
2		2,880	594	462	0.21	*	0.16	*
3		4,800	1,579	928	0.38		0.21	
0		0	229	76	0.00		0.00	
1		1,600	103	64	0.06		0.04	
2		3,200	900	1,241	0.29	*	0.40	*
0		0	24	31	0.00		0.00	
0		0	28	67	0.02		0.04	*
2		3,200	245	220	0.08	*	0.07	
1	0	1,600	1,060	521	0.00		0.00	
0		0	305	59	0.19	*	0.04	
2		3,200	131	260	0.04		0.08	*
1	0	1,600	67	101	0.00		0.00	
					0.50		0.56	
					0.27		0.12	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.78	
Level of Service (LOS)					D		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 92
North/South Roadway: Pacific Coast Hwy
East/West Roadway: 7th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	129	211	0.08	0.13
NBT	3		4,800	1,165	926	0.24 *	0.20 *
NBR	0		0	4	10	0.00	0.00
SBL	2		2,880	538	550	0.19 *	0.19 *
SBT	3		4,800	883	941	0.19	0.20
SBR	0		0	5	10	0.00	0.00
EBL	0		0	0	0	0.00	0.00 *
EBT	3		4,800	1,856	1,431	0.42 *	0.32
EBR	0		0	183	122	0.00	0.00
WBL	0		0	0	0	0.00 *	0.00
WBT	2		3,200	1,247	1,504	0.39	0.47 *
WBR	1	0	1,600	477	422	0.00	0.00
N/S Critical Movements						0.43	0.39
E/W Critical Movements						0.42	0.47
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.95	0.96
Level of Service (LOS)						E	E

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	149	214	0.09	0.13
3		4,800	1,346	932	0.28 *	0.20 *
0		0	4	11	0.00	0.00
2		2,880	553	589	0.19 *	0.20 *
3		4,800	1,021	1,088	0.21	0.23
0		0	5	10	0.00	0.00
0		0	0	0	0.00	0.00 *
3		4,800	2,145	1,654	0.49 *	0.37
0		0	212	141	0.00	0.00
0		0	0	0	0.00 *	0.00
2		3,200	1,441	1,738	0.45	0.54 *
1	0	1,600	494	488	0.00	0.00
					0.47	0.40
					0.49	0.54
					0.00	0.00
					0.10	0.10
ICU					1.06	1.04
Level of Service (LOS)					F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	149	244	0.09	0.15
NBT	3		4,800	1,346	1,070	0.28 *	0.23 *
NBR	0		0	4	10	0.00	0.00
SBL	2		2,880	552	565	0.19 *	0.20 *
SBT	3		4,800	1,021	1,088	0.21	0.23
SBR	0		0	5	10	0.00	0.00
EBL	0		0	0	0	0.00	0.00 *
EBT	3		4,800	2,145	1,654	0.49 *	0.37
EBR	0		0	212	141	0.00	0.00
WBL	0		0	0	0	0.00 *	0.00
WBT	2		3,200	1,441	1,738	0.45	0.54 *
WBR	1	0	1,600	485	488	0.00	0.00
N/S Critical Movements						0.47	0.43
E/W Critical Movements						0.49	0.54
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.06	1.07
Level of Service (LOS)						F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	149	244	0.09	0.15 *
3		4,800	1,346	1,070	0.28 *	0.23
0		0	4	10	0.00	0.00
3		4,800	552	565	0.12 *	0.12
3		4,800	1,021	1,088	0.21	0.23 *
0		0	5	10	0.00	0.00
0		0	0	0	0.00	0.00 *
4		6,400	2,145	1,654	0.37 *	0.28
0		0	212	141	0.00	0.00
0		0	0	0	0.00 *	0.00
3		4,800	1,441	1,738	0.30	0.36 *
1	0	1,600	485	488	0.00	0.00
					0.40	0.38
					0.37	0.36
					0.00	0.00
					0.10	0.10
ICU					0.87	0.84
Level of Service (LOS)					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 93
North/South Roadway: Belflower Boulevard
East/West Roadway: Del Amo Boulevard
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	185	238	0.12	*	0.15	
NBT	2		3,200	498	817	0.19		0.33	*
NBR	0		0	122	236	0.00		0.00	
SBL	1		1,600	153	196	0.10		0.12	*
SBT	2		3,200	646	485	0.20	*	0.15	
SBR	1	0	1,600	77	90	0.00		0.00	
EBL	1		1,600	64	96	0.04	*	0.06	
EBT	2		3,200	827	1,219	0.26		0.38	*
EBR	1	0	1,600	257	165	0.00		0.00	
WBL	1		1,600	165	168	0.10		0.11	*
WBT	2		3,200	1,155	1,005	0.36	*	0.31	
WBR	1	0	1,600	108	156	0.00		0.00	
N/S Critical Movements						0.32		0.45	
E/W Critical Movements						0.40		0.49	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.82		1.04	
Level of Service (LOS)						D		F	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	214	275	0.13	*	0.17	
2		3,200	576	944	0.22		0.38	*
0		0	141	273	0.00		0.00	
1		1,600	177	227	0.11		0.14	*
2		3,200	747	561	0.23	*	0.18	
1	0	1,600	89	104	0.00		0.00	
1		1,600	74	111	0.05	*	0.07	
2		3,200	956	1,409	0.30		0.44	*
1	0	1,600	262	191	0.00		0.00	
1		1,600	196	194	0.12		0.12	*
2		3,200	1,335	1,162	0.42	*	0.36	
1	0	1,600	125	180	0.00		0.00	
					0.36		0.52	
					0.47		0.56	
					0.00		0.00	
					0.10		0.10	
ICU					0.93		1.18	
Level of Service (LOS)					E		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	214	275	0.13	*	0.17	
NBT	2		3,200	576	944	0.22		0.38	*
NBR	0		0	141	259	0.00		0.00	
SBL	1		1,600	177	227	0.11		0.14	*
SBT	2		3,200	747	561	0.23	*	0.18	
SBR	1	0	1,600	89	104	0.00		0.00	
EBL	1		1,600	74	111	0.05	*	0.07	
EBT	2		3,200	956	1,409	0.30		0.44	*
EBR	1	0	1,600	272	191	0.00		0.00	
WBL	1		1,600	232	194	0.15		0.12	*
WBT	2		3,200	1,335	1,162	0.42	*	0.36	
WBR	1	0	1,600	125	180	0.00		0.00	
N/S Critical Movements						0.36		0.52	
E/W Critical Movements						0.47		0.56	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.93		1.18	
Level of Service (LOS)						E		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	214	275	0.13	*	0.17	
3		4,800	576	944	0.15		0.25	*
0		0	141	259	0.00		0.00	
1		1,600	177	227	0.11		0.14	*
2		3,200	747	561	0.23	*	0.18	
1	0	1,600	89	104	0.00		0.00	
1		1,600	74	111	0.05	*	0.07	
3		4,800	956	1,409	0.20		0.29	*
1	0	1,600	272	191	0.00		0.00	
1		1,600	232	194	0.15		0.12	*
3		4,800	1,335	1,162	0.30	*	0.28	
0		0	125	180	0.00		0.00	
					0.36		0.39	
					0.35		0.41	
					0.00		0.00	
					0.10		0.10	
ICU					0.81		0.90	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 94
North/South Roadway: Belflower Boulevard
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	129	155	0.08	*	0.10	
NBT	2		3,200	561	935	0.18		0.29	*
NBR	1	0	1,600	112	179	0.00		0.00	
SBL	1		1,600	122	176	0.08		0.11	*
SBT	2		3,200	771	543	0.27	*	0.20	
SBR	0		0	87	84	0.00		0.00	
EBL	1		1,600	93	168	0.06	*	0.11	
EBT	3		4,800	591	1,419	0.15		0.33	*
EBR	0		0	142	146	0.00		0.00	
WBL	1		1,600	185	167	0.12		0.10	*
WBT	3		4,800	1,185	844	0.28	*	0.22	
WBR	0		0	140	221	0.00		0.00	
N/S Critical Movements						0.35		0.40	
E/W Critical Movements						0.34		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.79		0.93	
Level of Service (LOS)						C		E	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	149	179	0.09	*	0.11	
2		3,200	648	1,081	0.20		0.34	*
1	0	1,600	129	181	0.00		0.00	
1		1,600	147	226	0.09		0.14	*
2		3,200	891	628	0.31	*	0.23	
0		0	101	97	0.00		0.00	
1		1,600	107	194	0.07	*	0.12	
3		4,800	683	1,640	0.18		0.38	*
0		0	164	169	0.00		0.00	
1		1,600	214	193	0.13		0.12	*
3		4,800	1,370	975	0.31	*	0.26	
0		0	142	270	0.00		0.00	
					0.40		0.48	
					0.38		0.50	
					0.00		0.00	
					0.10		0.10	
ICU					0.88		1.08	
Level of Service (LOS)					D		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	149	179	0.09	*	0.11	
NBT	2		3,200	648	1,081	0.20		0.34	*
NBR	1	0	1,600	129	207	0.00		0.00	
SBL	1		1,600	156	181	0.10		0.11	*
SBT	2		3,200	778	628	0.27	*	0.23	
SBR	0		0	92	97	0.00		0.00	
EBL	1		1,600	107	194	0.07	*	0.12	
EBT	3		4,800	683	1,640	0.18		0.38	*
EBR	0		0	164	169	0.00		0.00	
WBL	1		1,600	214	193	0.13		0.12	*
WBT	3		4,800	1,370	975	0.32	*	0.25	
WBR	0		0	162	238	0.00		0.00	
N/S Critical Movements						0.36		0.45	
E/W Critical Movements						0.39		0.50	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.85		1.05	
Level of Service (LOS)						D		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	149	179	0.09	*	0.11	*
3		4,800	648	1,081	0.14		0.23	
1	0	1,600	129	207	0.00		0.00	
1		1,600	156	181	0.10		0.11	
2		3,200	778	628	0.27	*	0.23	*
0		0	92	97	0.00		0.00	
1		1,600	107	194	0.07	*	0.12	
3		4,800	683	1,640	0.14		0.34	*
1	0	1,600	164	169	0.00		0.00	
1		1,600	214	193	0.13		0.12	*
3		4,800	1,370	975	0.32	*	0.25	
0		0	162	238	0.00		0.00	
					0.36		0.34	
					0.39		0.46	
					0.00		0.00	
					0.10		0.10	
ICU					0.85		0.90	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 95
North/South Roadway: Belflower Boulevard
East/West Roadway: Spring Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	195	142	0.12	*	0.09	
NBT	3		4,800	785	1,137	0.16		0.24	*
NBR	1	0	1,600	103	129	0.00		0.00	
SBL	1		1,600	84	101	0.05		0.06	*
SBT	4		6,400	1,059	650	0.19	*	0.11	
SBR	0		0	174	71	0.00		0.00	
EBL	1		1,600	77	159	0.05	*	0.10	
EBT	3		4,800	386	1,262	0.10		0.29	*
EBR	0		0	110	148	0.00		0.00	
WBL	1		1,600	159	159	0.10		0.10	*
WBT	3		4,800	1,461	615	0.30	*	0.13	
WBR	1	0	1,600	100	147	0.00		0.00	
N/S Critical Movements						0.31		0.30	
E/W Critical Movements						0.35		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.76		0.79	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	276	213	0.17	*	0.13	
3		4,800	907	1,314	0.19		0.27	*
1	0	1,600	119	149	0.00		0.00	
1		1,600	97	117	0.06		0.07	*
4		6,400	1,224	751	0.22	*	0.13	
0		0	201	82	0.00		0.00	
1		1,600	89	184	0.06	*	0.11	
3		4,800	446	1,459	0.13		0.35	*
0		0	185	198	0.00		0.00	
1		1,600	165	184	0.10		0.11	*
3		4,800	1,689	711	0.35	*	0.15	
1	0	1,600	116	170	0.00		0.00	
					0.39		0.34	
					0.41		0.46	
					0.00		0.00	
					0.10		0.10	
ICU					0.90		0.90	
Level of Service (LOS)					D		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	275	197	0.17	*	0.12	
NBT	3		4,800	907	1,141	0.19		0.24	*
NBR	1	0	1,600	111	149	0.00		0.00	
SBL	1		1,600	97	117	0.06		0.07	*
SBT	4		6,400	1,224	751	0.22	*	0.13	
SBR	0		0	201	82	0.00		0.00	
EBL	1		1,600	89	189	0.06	*	0.12	
EBT	3		4,800	446	1,459	0.12		0.35	*
EBR	0		0	124	245	0.00		0.00	
WBL	1		1,600	171	184	0.11		0.11	*
WBT	3		4,800	1,534	711	0.32	*	0.15	
WBR	1	0	1,600	116	170	0.00		0.00	
N/S Critical Movements						0.39		0.31	
E/W Critical Movements						0.38		0.46	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.87		0.87	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	275	197	0.17	*	0.12	
3		4,800	907	1,141	0.19		0.24	*
1	0	1,600	111	149	0.00		0.00	
1		1,600	97	117	0.06		0.07	*
4		6,400	1,224	751	0.22	*	0.13	
0		0	201	82	0.00		0.00	
1		1,600	89	189	0.06	*	0.12	
3		4,800	446	1,459	0.12		0.35	*
0		0	124	245	0.00		0.00	
1		1,600	171	184	0.11		0.11	*
3		4,800	1,534	711	0.32	*	0.15	
1	0	1,600	116	170	0.00		0.00	
					0.39		0.31	
					0.38		0.46	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.87	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 96
North/South Roadway: Belflower Boulevard
East/West Roadway: Los Coyotes Diagonal
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	18	34	0.01	*	0.02	
NBT	3		4,800	998	1,584	0.21		0.33	*
NBR	1	0	1,600	392	575	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	*
SBT	3		4,800	680	865	0.23	*	0.27	
SBR	0		0	410	409	0.00		0.00	
EBL	1		1,600	251	237	0.16	*	0.15	
EBT	3		4,000	819	1,084	0.20		0.27	*
EBR	2	0	2,400	515	372	0.00		0.00	
WBL	1		1,600	157	186	0.10		0.12	*
WBT	3		4,800	729	612	0.15	*	0.13	
WBR	0		0	2	6	0.00		0.00	
N/S Critical Movements						0.24		0.33	
E/W Critical Movements						0.31		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.65		0.82	
Level of Service (LOS)						B		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	21	35	0.01	*	0.02	
3		4,800	1,153	1,645	0.24		0.34	*
1	0	1,600	393	665	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	786	1,000	0.26	*	0.31	
0		0	474	473	0.00		0.00	
1		1,600	290	274	0.18	*	0.17	
3		4,000	896	1,253	0.22		0.31	*
2	0	2,400	595	386	0.00		0.00	
1		1,600	177	215	0.11		0.13	*
3		4,800	731	707	0.15	*	0.15	
0		0	2	7	0.00		0.00	
					0.27		0.34	
					0.33		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.70		0.88	
Level of Service (LOS)					B		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	18	39	0.01	*	0.02	
NBT	3		4,800	1,153	1,658	0.24		0.35	*
NBR	1	0	1,600	453	582	0.00		0.00	
SBL	0		0	0	0	0.00		0.00	*
SBT	3		4,800	786	908	0.26	*	0.29	
SBR	0		0	474	473	0.00		0.00	
EBL	1		1,600	290	248	0.18	*	0.16	
EBT	3		4,000	824	1,096	0.21		0.27	*
EBR	2	0	2,400	526	430	0.00		0.00	
WBL	1		1,600	181	215	0.11		0.13	*
WBT	3		4,800	752	707	0.16	*	0.15	
WBR	0		0	2	7	0.00		0.00	
N/S Critical Movements						0.27		0.35	
E/W Critical Movements						0.34		0.40	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.71		0.85	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	18	39	0.01	*	0.02	
3		4,800	1,153	1,658	0.24		0.35	*
1	0	1,600	453	582	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	786	908	0.26	*	0.29	
0		0	474	473	0.00		0.00	
1		1,600	290	248	0.18	*	0.16	
3		4,000	824	1,096	0.21		0.27	*
2	0	2,400	526	430	0.00		0.00	
1		1,600	181	215	0.11		0.13	*
3		4,800	752	707	0.16	*	0.15	
0		0	2	7	0.00		0.00	
					0.27		0.35	
					0.34		0.40	
					0.00		0.00	
					0.10		0.10	
ICU					0.71		0.85	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 97
North/South Roadway: Bellflower Blvd
East/West Roadway: Atherton St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	67	161	0.04	*	0.10	*
NBT	3		4,800	591	1,048	0.12		0.22	
NBR	1	0	1,600	230	214	0.00		0.00	
SBL	2		2,880	482	175	0.17		0.06	
SBT	3		4,800	1,197	868	0.27	*	0.22	*
SBR	0		0	107	169	0.00		0.00	
EBL	1		1,600	81	169	0.05		0.11	*
EBT	2		3,200	670	492	0.27	*	0.20	
EBR	0		0	179	154	0.00		0.00	
WBL	1		1,600	183	212	0.11	*	0.13	
WBT	2		3,200	352	609	0.14		0.27	*
WBR	0		0	95	254	0.00		0.00	
N/S Critical Movements						0.31		0.32	
E/W Critical Movements						0.38		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.79		0.80	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	77	186	0.05	*	0.12	*
3		4,800	683	1,211	0.14		0.25	
1	0	1,600	266	247	0.00		0.00	
2		2,880	557	212	0.19		0.07	
3		4,800	1,383	1,003	0.32	*	0.25	*
0		0	171	195	0.00		0.00	
1		1,600	127	195	0.08		0.12	*
2		3,200	774	569	0.31	*	0.23	
0		0	207	178	0.00		0.00	
1		1,600	212	245	0.13	*	0.15	
2		3,200	407	704	0.16		0.32	*
0		0	110	309	0.00		0.00	
					0.37		0.37	
					0.44		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.91		0.91	
Level of Service (LOS)					E		E	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	77	186	0.05	*	0.12	*
NBT	3		4,800	683	1,211	0.14		0.25	
NBR	1	0	1,600	266	247	0.00		0.00	
SBL	2		2,880	557	214	0.19		0.07	
SBT	3		4,800	1,383	1,003	0.31	*	0.25	*
SBR	0		0	124	195	0.00		0.00	
EBL	1		1,600	94	195	0.06		0.12	*
EBT	2		3,200	774	569	0.31	*	0.23	
EBR	0		0	207	178	0.00		0.00	
WBL	1		1,600	212	245	0.13	*	0.15	
WBT	2		3,200	356	704	0.15		0.31	*
WBR	0		0	110	302	0.00		0.00	
N/S Critical Movements						0.36		0.37	
E/W Critical Movements						0.44		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.90		0.90	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	77	186	0.05	*	0.12	*
3		4,800	683	1,211	0.14		0.25	
1	0	1,600	266	247	0.00		0.00	
2		2,880	557	214	0.19		0.07	
3		4,800	1,383	1,003	0.31	*	0.25	*
0		0	124	195	0.00		0.00	
1		1,600	94	195	0.06		0.12	*
2		3,200	774	569	0.31	*	0.23	
0		0	207	178	0.00		0.00	
1		1,600	212	245	0.13	*	0.15	
2		3,200	356	704	0.15		0.31	*
0		0	110	302	0.00		0.00	
					0.36		0.37	
					0.44		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.90		0.90	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 98
North/South Roadway: Bellflower Blvd
East/West Roadway: 7th St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	3		4,800	585	532	0.12	*	0.11	*
NBR	1	0	1,600	148	132	0.00		0.00	
SBL	2		2,880	215	332	0.07	*	0.12	*
SBT	2		3,200	311	628	0.10		0.20	
SBR	1	0	1,600	166	388	0.00		0.00	
EBL	1		1,600	279	154	0.17	*	0.10	*
EBT	3		4,800	2,049	1,795	0.43		0.38	
EBR	0		0	10	18	0.00		0.00	
WBL	1		1,600	30	43	0.02		0.03	
WBT	3		4,800	1,608	1,598	0.39	*	0.37	*
WBR	0		0	262	156	0.00		0.00	
N/S Critical Movements						0.19		0.23	
E/W Critical Movements						0.56		0.47	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.85		0.80	
Level of Service (LOS)						D		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
3		4,800	676	615	0.14	*	0.13	*
1	0	1,600	171	153	0.00		0.00	
2		2,880	248	384	0.09	*	0.13	*
2		3,200	359	726	0.11		0.23	
1	0	1,600	192	448	0.00		0.00	
1		1,600	322	165	0.20	*	0.10	*
3		4,800	2,050	2,075	0.43		0.44	
0		0	12	21	0.00		0.00	
1		1,600	35	50	0.02		0.03	
3		4,800	1,609	1,847	0.40	*	0.42	*
0		0	303	180	0.00		0.00	
					0.23		0.26	
					0.60		0.52	
					0.00		0.00	
					0.10		0.10	
ICU					0.93		0.88	
Level of Service (LOS)					E		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	3		4,800	676	615	0.14	*	0.13	*
NBR	1	0	1,600	171	153	0.00		0.00	
SBL	2		2,880	248	384	0.09	*	0.13	*
SBT	2		3,200	359	726	0.11		0.23	
SBR	1	0	1,600	192	448	0.00		0.00	
EBL	1		1,600	322	178	0.20	*	0.11	*
EBT	3		4,800	2,368	1,798	0.50		0.38	
EBR	0		0	12	21	0.00		0.00	
WBL	1		1,600	35	50	0.02		0.03	
WBT	3		4,800	1,631	1,847	0.40	*	0.42	*
WBR	0		0	303	180	0.00		0.00	
N/S Critical Movements						0.23		0.26	
E/W Critical Movements						0.60		0.53	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.93		0.89	
Level of Service (LOS)						E		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
3		4,800	676	615	0.14	*	0.13	*
1	0	1,600	171	153	0.00		0.00	
2		2,880	248	384	0.09	*	0.13	*
2		3,200	359	726	0.11		0.23	
1	0	1,600	192	448	0.00		0.00	
1		1,600	322	178	0.20	*	0.11	*
3		4,800	2,368	1,798	0.50		0.38	
0		0	12	21	0.00		0.00	
1		1,600	35	50	0.02		0.03	
3		4,800	1,631	1,847	0.34	*	0.38	*
1	0	1,600	303	180	0.00		0.00	
					0.23		0.26	
					0.54		0.49	
					0.00		0.00	
					0.10		0.10	
ICU					0.87		0.85	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 99
North/South Roadway: Bellflower Blvd
East/West Roadway: Pacific Coast Hwy
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	90	58	0.06		0.04	
NBT	3		4,800	422	352	0.09	*	0.07	*
NBR	1	0	1,600	73	108	0.00		0.00	
SBL	1		1,600	239	400	0.15	*	0.25	*
SBT	3		4,800	121	313	0.03		0.07	
SBR	0		0	0	6	0.00		0.00	
EBL	1		1,600	78	85	0.05	*	0.05	
EBT	2		3,200	959	1,005	0.31		0.33	*
EBR	0		0	36	56	0.00		0.00	
WBL	2		2,400	25	103	0.01		0.04	*
WBT	3		4,000	1,273	1,012	0.32	*	0.25	
WBR	1	0	1,600	314	296	0.00		0.00	
N/S Critical Movements						0.24		0.32	
E/W Critical Movements						0.37		0.37	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.71		0.79	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	119	78	0.07		0.05	
3		4,800	488	407	0.10	*	0.08	*
1	0	1,600	84	125	0.00		0.00	
1		1,600	276	462	0.17	*	0.29	*
3		4,800	140	362	0.03		0.08	
0		0	0	6	0.00		0.00	
1		1,600	90	98	0.06	*	0.06	
2		3,200	1,108	1,162	0.36		0.38	*
0		0	39	62	0.00		0.00	
2		2,400	29	119	0.01		0.05	*
3		4,000	1,471	1,170	0.37	*	0.29	
1	0	1,600	363	342	0.00		0.00	
					0.27		0.37	
					0.43		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.80		0.90	
Level of Service (LOS)					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	112	87	0.07		0.05	
NBT	3		4,800	488	407	0.10	*	0.08	*
NBR	1	0	1,600	84	125	0.00		0.00	
SBL	1		1,600	276	462	0.17	*	0.29	*
SBT	3		4,800	140	362	0.03		0.08	
SBR	0		0	0	6	0.00		0.00	
EBL	1		1,600	90	98	0.06	*	0.06	
EBT	2		3,200	1,108	1,162	0.36		0.38	*
EBR	0		0	43	69	0.00		0.00	
WBL	2		2,400	29	119	0.01		0.05	*
WBT	3		4,000	1,471	1,170	0.37	*	0.29	
WBR	1	0	1,600	363	342	0.00		0.00	
N/S Critical Movements						0.27		0.37	
E/W Critical Movements						0.43		0.43	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.80		0.90	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	112	87	0.07		0.05	
3		4,800	488	407	0.10	*	0.08	*
1	0	1,600	84	125	0.00		0.00	
1		1,600	276	462	0.17	*	0.29	*
3		4,800	140	362	0.03		0.08	
0		0	0	6	0.00		0.00	
1		1,600	90	98	0.06	*	0.06	
2		3,200	1,108	1,162	0.36		0.38	*
0		0	43	69	0.00		0.00	
2		2,400	29	119	0.01		0.05	*
3		4,000	1,471	1,170	0.37	*	0.29	
1	0	1,600	363	342	0.00		0.00	
					0.27		0.37	
					0.43		0.43	
					0.00		0.00	
					0.10		0.10	
ICU					0.80		0.90	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 100
North/South Roadway: Pacific Coast Hwy
East/West Roadway: 2nd St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	404	433	0.14	0.15
NBT	3		4,800	1,166	958	0.31 *	0.27 *
NBR	0		0	323	316	0.00	0.00
SBL	2		2,880	250	276	0.09 *	0.10 *
SBT	3		4,800	945	1,022	0.20	0.21
SBR	1	0	1,600	172	428	0.00	0.00
EBL	2		2,880	234	308	0.08	0.11
EBT	2.5		4,000	1,269	1,129	0.32 *	0.28 *
EBR	1.5	0	2,400	427	307	0.00	0.00
WBL	2		2,880	330	343	0.11 *	0.12 *
WBT	3		4,800	956	1,232	0.20	0.26
WBR	1	0	1,600	316	347	0.00	0.00
N/S Critical Movements						0.40	0.37
E/W Critical Movements						0.43	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.93	0.87
Level of Service (LOS)						E	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	467	537	0.16	0.19 *
3		4,800	1,348	1,107	0.36 *	0.31
0		0	373	365	0.00	0.00
2		2,880	289	319	0.10 *	0.11
3		4,800	1,092	1,181	0.23	0.25 *
1	0	1,600	199	467	0.00	0.00
2		2,880	290	333	0.10	0.12
2.5		4,000	1,467	1,305	0.37 *	0.33 *
1.5	0	2,400	531	357	0.00	0.00
2		2,880	381	396	0.13 *	0.14 *
3		4,800	1,105	1,424	0.23	0.30
1	0	1,600	365	401	0.00	0.00
					0.46	0.44
					0.50	0.47
					0.00	0.00
					0.10	0.10
ICU					1.06	1.01
Level of Service (LOS)					F	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	412	553	0.14	0.19 *
NBT	3		4,800	1,348	1,107	0.36 *	0.31
NBR	0		0	373	365	0.00	0.00
SBL	2		2,880	289	319	0.10 *	0.11
SBT	3		4,800	1,092	1,181	0.23	0.25 *
SBR	1	0	1,600	199	474	0.00	0.00
EBL	2		2,880	304	319	0.11	0.11
EBT	2.5		4,000	1,467	1,305	0.37 *	0.33 *
EBR	1.5	0	2,400	575	363	0.00	0.00
WBL	2		2,880	381	396	0.13 *	0.14 *
WBT	3		4,800	1,105	1,424	0.23	0.30
WBR	1	0	1,600	365	401	0.00	0.00
N/S Critical Movements						0.46	0.44
E/W Critical Movements						0.50	0.47
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.06	1.01
Level of Service (LOS)						F	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	412	553	0.14	0.19 *
3		4,800	1,348	1,107	0.28 *	0.23
1	0	1,600	373	365	0.00	0.00
2		2,880	289	319	0.10 *	0.11
3		4,800	1,092	1,181	0.23	0.25 *
1	0	1,600	199	474	0.00	0.00
2		2,880	304	319	0.11	0.11
4.0		6,400	1,467	1,305	0.23 *	0.20 *
1.0	0	1,600	575	363	0.00	0.00
2		2,880	381	396	0.13 *	0.14 *
4		6,400	1,105	1,424	0.17	0.22
1	0	1,600	365	401	0.00	0.00
					0.38	0.44
					0.36	0.34
					0.00	0.00
					0.10	0.10
ICU					0.84	0.88
Level of Service (LOS)					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 101
North/South Roadway: 1st Street
East/West Roadway: Marina Drive
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	44	44	0.03 *	0.03 *
NBT	2		3,200	29	36	0.01	0.01
NBR	1	0	1,600	10	4	0.00	0.00
SBL	1		1,600	29	21	0.02	0.01
SBT	2		3,200	9	13	0.00 *	0.00 *
SBR	1	0	1,600	11	23	0.00	0.00
EBL	1		1,600	2	16	0.00 *	0.01 *
EBT	1		1,600	65	122	0.07	0.11
EBR	0		0	40	60	0.00	0.00
WBL	1		1,600	6	9	0.00	0.01
WBT	1		1,600	89	146	0.09 *	0.13 *
WBR	0		0	60	61	0.00	0.00
N/S Critical Movements						0.03	0.03
E/W Critical Movements						0.09	0.14
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.22	0.27
Level of Service (LOS)						A	A

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	51	51	0.03 *	0.03 *
2		3,200	34	42	0.01	0.01
1	0	1,600	12	5	0.00	0.00
1		1,600	34	24	0.02	0.02
2		3,200	10	15	0.00 *	0.00 *
1	0	1,600	13	27	0.00	0.00
1		1,600	2	18	0.00 *	0.01 *
1		1,600	75	141	0.08	0.13
0		0	46	69	0.00	0.00
1		1,600	7	10	0.00	0.01
1		1,600	103	169	0.11 *	0.15 *
0		0	69	71	0.00	0.00
					0.03	0.03
					0.11	0.16
					0.00	0.00
					0.10	0.10
ICU					0.24	0.29
Level of Service (LOS)					A	A

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	51	51	0.03 *	0.03 *
NBT	2		3,200	34	42	0.01	0.01
NBR	1	0	1,600	12	5	0.00	0.00
SBL	1		1,600	34	24	0.02	0.02
SBT	2		3,200	10	15	0.00 *	0.00 *
SBR	1	0	1,600	13	27	0.00	0.00
EBL	1		1,600	2	18	0.00 *	0.01 *
EBT	1		1,600	75	141	0.08	0.13
EBR	0		0	46	69	0.00	0.00
WBL	1		1,600	7	10	0.00	0.01
WBT	1		1,600	103	169	0.11 *	0.15 *
WBR	0		0	69	71	0.00	0.00
N/S Critical Movements						0.03	0.03
E/W Critical Movements						0.11	0.16
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.24	0.29
Level of Service (LOS)						A	A

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	51	51	0.03 *	0.03 *
2		3,200	34	42	0.01	0.01
1	0	1,600	12	5	0.00	0.00
1		1,600	34	24	0.02	0.02
2		3,200	10	15	0.00 *	0.00 *
1	0	1,600	13	27	0.00	0.00
1		1,600	2	18	0.00 *	0.01 *
1		1,600	75	141	0.08	0.13
0		0	46	69	0.00	0.00
1		1,600	7	10	0.00	0.01
1		1,600	103	169	0.11 *	0.15 *
0		0	69	71	0.00	0.00
					0.03	0.03
					0.11	0.16
					0.00	0.00
					0.10	0.10
ICU					0.24	0.29
Level of Service (LOS)					A	A

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 102
North/South Roadway: Los Coyotes Diagonal
East/West Roadway: Spring Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	27	24	0.02	*	0.02	
NBT	2		3,200	500	868	0.16		0.27	*
NBR	1	0	1,600	212	155	0.00		0.00	
SBL	1		1,600	9	23	0.01		0.01	*
SBT	3		4,800	776	614	0.24	*	0.16	
SBR	0		0	359	160	0.00		0.00	
EBL	1		1,600	88	213	0.06	*	0.13	
EBT	3		4,800	499	1,238	0.11		0.26	*
EBR	0		0	9	27	0.00		0.00	
WBL	1		1,600	177	166	0.11		0.10	*
WBT	3		4,800	1,346	773	0.28	*	0.17	
WBR	0		0	14	29	0.00		0.00	
N/S Critical Movements						0.26		0.28	
E/W Critical Movements						0.34		0.36	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.70		0.74	
Level of Service (LOS)						B		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	27	28	0.02	*	0.02	
2		3,200	578	890	0.18		0.28	*
1	0	1,600	245	179	0.00		0.00	
1		1,600	9	27	0.01		0.02	*
3		4,800	777	619	0.24	*	0.17	
0		0	389	185	0.00		0.00	
1		1,600	102	246	0.06	*	0.15	
3		4,800	577	1,431	0.12		0.30	*
0		0	10	31	0.00		0.00	
1		1,600	205	192	0.13		0.12	*
3		4,800	1,556	893	0.33	*	0.19	
0		0	16	34	0.00		0.00	
					0.26		0.30	
					0.39		0.42	
					0.00		0.00	
					0.10		0.10	
					0.75		0.82	
					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	28	28	0.02	*	0.02	
NBT	2		3,200	578	891	0.18		0.28	*
NBR	1	0	1,600	218	179	0.00		0.00	
SBL	1		1,600	10	27	0.01		0.02	*
SBT	3		4,800	779	631	0.25	*	0.17	
SBR	0		0	421	185	0.00		0.00	
EBL	1		1,600	102	223	0.06	*	0.14	
EBT	3		4,800	577	1,431	0.12		0.30	*
EBR	0		0	10	27	0.00		0.00	
WBL	1		1,600	205	192	0.13		0.12	*
WBT	3		4,800	1,556	893	0.33	*	0.19	
WBR	0		0	16	34	0.00		0.00	
N/S Critical Movements						0.27		0.30	
E/W Critical Movements						0.39		0.42	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.76		0.82	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	28	28	0.02	*	0.02	
2		3,200	578	891	0.18		0.28	*
1	0	1,600	218	179	0.00		0.00	
1		1,600	10	27	0.01		0.02	*
3		4,800	779	631	0.25	*	0.17	
0		0	421	185	0.00		0.00	
1		1,600	102	223	0.06	*	0.14	
3		4,800	577	1,431	0.12		0.30	*
0		0	10	27	0.00		0.00	
1		1,600	205	192	0.13		0.12	*
3		4,800	1,556	893	0.33	*	0.19	
0		0	16	34	0.00		0.00	
					0.27		0.30	
					0.39		0.42	
					0.00		0.00	
					0.10		0.10	
					0.76		0.82	
					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 103
North/South Roadway: West Campus Drive
East/West Roadway: 7th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	2		2,400	20	291	0.01	*	0.12	*
SBT	0		0	0	0	0.00		0.00	
SBR	1	0	800	35	102	0.00		0.00	
EBL	1		1,600	103	130	0.06	*	0.08	
EBT	3		4,800	2,555	2,404	0.53		0.50	*
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	3		4,800	2,388	1,647	0.55	*	0.37	
WBR	0		0	245	151	0.00		0.00	
N/S Critical Movements						0.01		0.12	
E/W Critical Movements						0.61		0.50	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.72		0.72	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,400	23	336	0.01	*	0.14	*
0		0	0	0	0.00		0.00	
1	0	800	36	104	0.00		0.00	
1		1,600	103	133	0.06	*	0.08	
3		4,800	2,953	2,778	0.62		0.58	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	2,760	1,904	0.63	*	0.43	
0		0	283	175	0.00		0.00	
					0.01		0.14	
					0.69		0.58	
					0.00		0.00	
					0.10		0.10	
ICU					0.80		0.82	
Level of Service (LOS)					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	2		2,400	23	336	0.01	*	0.14	*
SBT	0		0	0	0	0.00		0.00	
SBR	1	0	800	36	103	0.00		0.00	
EBL	1		1,600	119	134	0.07	*	0.08	
EBT	3		4,800	2,953	2,778	0.62		0.58	*
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	3		4,800	2,760	1,904	0.63	*	0.43	
WBR	0		0	283	175	0.00		0.00	
N/S Critical Movements						0.01		0.14	
E/W Critical Movements						0.70		0.58	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.81		0.82	
Level of Service (LOS)						D		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,400	23	336	0.01	*	0.14	*
0		0	0	0	0.00		0.00	
1	0	800	36	103	0.00		0.00	
1		1,600	119	134	0.07	*	0.08	
3		4,800	2,953	2,778	0.62		0.58	*
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	2,760	1,904	0.63	*	0.43	
0		0	283	175	0.00		0.00	
					0.01		0.14	
					0.70		0.58	
					0.00		0.00	
					0.10		0.10	
ICU					0.81		0.82	
Level of Service (LOS)					D		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 104
North/South Roadway: East Campus Road
East/West Roadway: 7th Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	55	15	0.03	0.01
NBT	1	1,600	36	34	0.07 *	0.04 *
NBR	0	0	15	22	0.00	0.00
SBL	1	1,600	22	150	0.01 *	0.09 *
SBT	1	1,600	14	52	0.04	0.09
SBR	0	0	43	99	0.00	0.00
EBL	1	1,600	70	77	0.04 *	0.05
EBT	3	4,800	2,442	2,597	0.51	0.54 *
EBR	1 0	1,600	46	33	0.00	0.00
WBL	1	1,600	45	49	0.03	0.03 *
WBT	3	4,800	2,556	1,657	0.55 *	0.36
WBR	0	0	96	88	0.00	0.00
N/S Critical Movements					0.08	0.13
E/W Critical Movements					0.59	0.57
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.77	0.80
Level of Service (LOS)					C	C

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	64	16	0.04	0.01
1	1,600	42	37	0.08 *	0.05 *
0	0	17	25	0.00	0.00
1	1,600	25	173	0.02 *	0.11 *
1	1,600	16	55	0.04	0.11
0	0	50	125	0.00	0.00
1	1,600	81	98	0.05 *	0.06
3	4,800	2,822	3,002	0.59	0.63 *
1 0	1,600	48	34	0.00	0.00
1	1,600	52	57	0.03	0.04 *
3	4,800	2,954	1,915	0.64 *	0.42
0	0	111	88	0.00	0.00
				0.10	0.16
				0.69	0.67
				0.00	0.00
				0.10	0.10
				0.89	0.93
				D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	0	0	64	16	0.04	0.01
NBT	1	1,600	42	34	0.08 *	0.05 *
NBR	0	0	17	25	0.00	0.00
SBL	1	1,600	25	173	0.02 *	0.11 *
SBT	1	1,600	16	60	0.04	0.10
SBR	0	0	50	102	0.00	0.00
EBL	1	1,600	81	89	0.05 *	0.06
EBT	3	4,800	2,822	3,002	0.59	0.63 *
EBR	1 0	1,600	47	38	0.00	0.00
WBL	1	1,600	45	57	0.03	0.04 *
WBT	3	4,800	2,954	1,915	0.64 *	0.42
WBR	0	0	111	102	0.00	0.00
N/S Critical Movements					0.10	0.16
E/W Critical Movements					0.69	0.67
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.89	0.93
Level of Service (LOS)					D	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
0	0	64	16	0.04	0.01
1	1,600	42	34	0.08 *	0.05 *
0	0	17	25	0.00	0.00
1	1,600	25	173	0.02 *	0.11 *
1	1,600	16	60	0.04	0.10
0	0	50	102	0.00	0.00
1	1,600	81	89	0.05 *	0.06
4	6,400	2,822	3,002	0.45	0.47 *
0	0	47	38	0.00	0.00
1	1,600	45	57	0.03	0.04 *
3	4,800	2,954	1,915	0.64 *	0.42
0	0	111	102	0.00	0.00
				0.10	0.16
				0.69	0.51
				0.00	0.00
				0.10	0.10
				0.89	0.77
				D	C

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 105
North/South Roadway: Palo Verde Avenue
East/West Roadway: Wardlow Raod
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	88	86	0.06	*	0.05	
NBT	2	3,200	239	527	0.09		0.22	*
NBR	0	0	54	165	0.00		0.00	
SBL	1	1,600	110	89	0.07		0.06	*
SBT	2	3,200	341	285	0.11	*	0.09	
SBR	0	0	3	14	0.00		0.00	
EBL	1	1,600	7	13	0.00		0.01	
EBT	3	4,800	558	946	0.14	*	0.21	*
EBR	0	0	111	83	0.00		0.00	
WBL	1	1,600	143	102	0.09	*	0.06	*
WBT	3	4,800	924	703	0.21		0.17	
WBR	0	0	65	93	0.00		0.00	
N/S Critical Movements					0.17		0.28	
E/W Critical Movements					0.23		0.27	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.50		0.65	
Level of Service (LOS)					A		B	

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	102	99	0.06	*	0.06	
2	3,200	276	609	0.10		0.25	*
0	0	56	191	0.00		0.00	
1	1,600	127	103	0.08		0.06	*
2	3,200	394	329	0.12	*	0.11	
0	0	3	16	0.00		0.00	
1	1,600	8	15	0.01		0.01	
3	4,800	645	1,093	0.16	*	0.25	*
0	0	128	96	0.00		0.00	
1	1,600	165	118	0.10	*	0.07	*
3	4,800	1,068	812	0.24		0.19	
0	0	75	107	0.00		0.00	
				0.18		0.31	
				0.26		0.32	
				0.00		0.00	
				0.10		0.10	
ICU				0.54		0.73	
Level of Service (LOS)				A		C	

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1	1,600	102	99	0.06	*	0.06	
NBT	2	3,200	276	609	0.10		0.25	*
NBR	0	0	55	191	0.00		0.00	
SBL	1	1,600	127	103	0.08		0.06	*
SBT	2	3,200	394	329	0.12	*	0.11	
SBR	0	0	3	16	0.00		0.00	
EBL	1	1,600	8	15	0.01		0.01	
EBT	3	4,800	645	1,093	0.16	*	0.25	*
EBR	0	0	128	96	0.00		0.00	
WBL	1	1,600	165	118	0.10	*	0.07	*
WBT	3	4,800	1,068	812	0.24		0.19	
WBR	0	0	75	107	0.00		0.00	
N/S Critical Movements					0.18		0.31	
E/W Critical Movements					0.26		0.32	
Right Turn Critical Movement					0.00		0.00	
Clearance Interval					0.10		0.10	
ICU					0.54		0.73	
Level of Service (LOS)					A		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1	1,600	102	99	0.06	*	0.06	
2	3,200	276	609	0.10		0.25	*
0	0	55	191	0.00		0.00	
1	1,600	127	103	0.08		0.06	*
2	3,200	394	329	0.12	*	0.11	
0	0	3	16	0.00		0.00	
1	1,600	8	15	0.01		0.01	
3	4,800	645	1,093	0.16	*	0.25	*
0	0	128	96	0.00		0.00	
1	1,600	165	118	0.10	*	0.07	*
3	4,800	1,068	812	0.24		0.19	
0	0	75	107	0.00		0.00	
				0.18		0.31	
				0.26		0.32	
				0.00		0.00	
				0.10		0.10	
ICU				0.54		0.73	
Level of Service (LOS)				A		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 106
North/South Roadway: Palo Verde Avenue
East/West Roadway: Anahiem Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	111	262	0.07	*	0.16	
NBT	2		3,200	228	731	0.08		0.25	*
NBR	0		0	18	82	0.00		0.00	
SBL	1		1,600	99	119	0.06		0.07	*
SBT	2		3,200	569	474	0.18	*	0.15	
SBR	1	0	1,600	322	266	0.00		0.00	
EBL	2		2,400	110	605	0.05	*	0.25	*
EBT	2		2,400	151	433	0.06		0.18	
EBR	1	0	1,600	152	222	0.00		0.00	
WBL	1		1,600	84	53	0.05		0.03	
WBT	2		3,200	350	262	0.11	*	0.08	*
WBR	1	0	1,600	81	75	0.00		0.00	
N/S Critical Movements						0.25		0.32	
E/W Critical Movements						0.16		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.51		0.75	
Level of Service (LOS)						A		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	128	303	0.08	*	0.19	
2		3,200	264	845	0.09		0.29	*
0		0	21	92	0.00		0.00	
1		1,600	114	138	0.07		0.09	*
2		3,200	658	548	0.21	*	0.17	
1	0	1,600	372	307	0.00		0.00	
2		2,400	127	699	0.05	*	0.29	*
2		2,400	175	441	0.07		0.18	
1	0	1,600	176	225	0.00		0.00	
1		1,600	111	61	0.07		0.04	
2		3,200	370	271	0.12	*	0.08	*
1	0	1,600	85	78	0.00		0.00	
					0.29		0.38	
					0.17		0.37	
					0.00		0.00	
					0.10		0.10	
					0.56		0.85	
					A		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	128	263	0.08	*	0.16	
NBT	2		3,200	264	845	0.09		0.29	*
NBR	0		0	21	94	0.00		0.00	
SBL	1		1,600	114	119	0.07		0.07	*
SBT	2		3,200	658	548	0.21	*	0.17	
SBR	1	0	1,600	372	307	0.00		0.00	
EBL	2		2,400	127	699	0.05	*	0.29	*
EBT	2		2,400	175	460	0.07		0.19	
EBR	1	0	1,600	176	227	0.00		0.00	
WBL	1		1,600	113	63	0.07		0.04	
WBT	2		3,200	387	284	0.12	*	0.09	*
WBR	1	0	1,600	86	80	0.00		0.00	
N/S Critical Movements						0.29		0.36	
E/W Critical Movements						0.17		0.38	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.56		0.84	
Level of Service (LOS)						A		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	128	263	0.08	*	0.16	
2		3,200	264	845	0.09		0.29	*
0		0	21	94	0.00		0.00	
1		1,600	114	119	0.07		0.07	*
2		3,200	658	548	0.21	*	0.17	
1	0	1,600	372	307	0.00		0.00	
2		2,400	127	699	0.05	*	0.29	*
2		2,400	175	460	0.07		0.19	
1	0	1,600	176	227	0.00		0.00	
1		1,600	113	63	0.07		0.04	
2		3,200	387	284	0.12	*	0.09	*
1	0	1,600	86	80	0.00		0.00	
					0.29		0.36	
					0.17		0.38	
					0.00		0.00	
					0.10		0.10	
					0.56		0.84	
					A		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 107
North/South Roadway: Los Coyotes Diagonal
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	253	351	0.16	*	0.22	*
NBT	1		1,600	73	214	0.05		0.13	
NBR	1	0	1,600	391	618	0.00		0.00	
SBL	1		1,600	101	101	0.06		0.06	
SBT	2		3,200	212	157	0.07	*	0.05	*
SBR	1	0	1,600	20	35	0.00		0.00	
EBL	1		1,600	12	33	0.01	*	0.02	
EBT	3		4,800	500	1,023	0.16		0.25	*
EBR	0		0	276	178	0.00		0.00	
WBL	2		2,880	498	447	0.17		0.16	*
WBT	2		3,200	1,130	1,006	0.37	*	0.34	
WBR	0		0	42	91	0.00		0.00	
N/S Critical Movements						0.23		0.27	
E/W Critical Movements						0.38		0.41	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.71		0.78	
Level of Service (LOS)						C		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	292	406	0.18	*	0.25	*
1		1,600	84	247	0.05		0.15	
1	0	1,600	452	714	0.00		0.00	
1		1,600	157	125	0.10		0.08	
2		3,200	220	181	0.07	*	0.06	*
1	0	1,600	23	41	0.00		0.00	
1		1,600	14	38	0.01	*	0.02	
3		4,800	513	1,182	0.17		0.29	*
0		0	319	206	0.00		0.00	
2		2,880	576	517	0.20		0.18	*
2		3,200	1,306	1,024	0.42	*	0.35	
0		0	48	98	0.00		0.00	
					0.25		0.31	
					0.43		0.47	
					0.00		0.00	
					0.10		0.10	
ICU					0.78		0.88	
Level of Service (LOS)					C		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	292	406	0.18	*	0.25	*
NBT	1		1,600	84	247	0.05		0.15	
NBR	1	0	1,600	452	714	0.00		0.00	
SBL	1		1,600	135	119	0.08		0.07	
SBT	2		3,200	245	181	0.08	*	0.06	*
SBR	1	0	1,600	23	39	0.00		0.00	
EBL	1		1,600	14	38	0.01	*	0.02	
EBT	3		4,800	503	1,182	0.17		0.29	*
EBR	0		0	319	206	0.00		0.00	
WBL	2		2,880	576	517	0.20		0.18	*
WBT	2		3,200	1,306	1,163	0.42	*	0.39	
WBR	0		0	51	92	0.00		0.00	
N/S Critical Movements						0.26		0.31	
E/W Critical Movements						0.43		0.47	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.79		0.88	
Level of Service (LOS)						C		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	292	406	0.18	*	0.25	*
1		1,600	84	247	0.05		0.15	
1	0	1,600	452	714	0.00		0.00	
1		1,600	135	119	0.08		0.07	
2		3,200	245	181	0.08	*	0.06	*
1	0	1,600	23	39	0.00		0.00	
1		1,600	14	38	0.01	*	0.02	
3		4,800	503	1,182	0.17		0.29	*
0		0	319	206	0.00		0.00	
2		2,880	576	517	0.20		0.18	*
2		3,200	1,306	1,163	0.42	*	0.39	
0		0	51	92	0.00		0.00	
					0.26		0.31	
					0.43		0.47	
					0.00		0.00	
					0.10		0.10	
ICU					0.79		0.88	
Level of Service (LOS)					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 108
North/South Roadway: Studebaker Road
East/West Roadway: Spring Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	93	193	0.06	*	0.12	
NBT	2		3,200	195	837	0.06		0.26	*
NBR	1	0	1,600	121	223	0.00		0.00	
SBL	1		1,600	69	61	0.04		0.04	*
SBT	3		4,800	418	462	0.10	*	0.12	
SBR	0		0	68	103	0.00		0.00	
EBL	1		1,600	50	198	0.03	*	0.12	
EBT	3		4,800	337	829	0.09		0.22	*
EBR	0		0	93	213	0.00		0.00	
WBL	1		1,600	185	271	0.12		0.17	*
WBT	3		4,800	824	753	0.18	*	0.18	
WBR	0		0	28	107	0.00		0.00	
N/S Critical Movements						0.16		0.30	
E/W Critical Movements						0.21		0.39	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.47		0.79	
Level of Service (LOS)						A		C	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	107	223	0.07	*	0.14	
2		3,200	225	967	0.07		0.30	*
1	0	1,600	140	256	0.00		0.00	
1		1,600	80	71	0.05		0.04	*
3		4,800	483	534	0.12	*	0.14	
0		0	79	119	0.00		0.00	
1		1,600	69	229	0.04	*	0.14	
3		4,800	389	958	0.10		0.25	*
0		0	103	246	0.00		0.00	
1		1,600	214	313	0.13		0.20	*
3		4,800	952	870	0.21	*	0.21	
0		0	34	124	0.00		0.00	
					0.19		0.34	
					0.25		0.45	
					0.00		0.00	
					0.10		0.10	
					0.54		0.89	
					A		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	1		1,600	107	223	0.07	*	0.14	
NBT	2		3,200	225	967	0.07		0.30	*
NBR	1	0	1,600	140	241	0.00		0.00	
SBL	1		1,600	80	71	0.05		0.04	*
SBT	3		4,800	483	534	0.12	*	0.14	
SBR	0		0	74	119	0.00		0.00	
EBL	1		1,600	75	229	0.05	*	0.14	
EBT	3		4,800	389	958	0.10		0.25	*
EBR	0		0	102	246	0.00		0.00	
WBL	1		1,600	214	313	0.13		0.20	*
WBT	3		4,800	828	870	0.18	*	0.21	
WBR	0		0	29	124	0.00		0.00	
N/S Critical Movements						0.19		0.34	
E/W Critical Movements						0.23		0.45	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.52		0.89	
Level of Service (LOS)						A		D	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
1		1,600	107	223	0.07	*	0.14	
2		3,200	225	967	0.07		0.30	*
1	0	1,600	140	241	0.00		0.00	
1		1,600	80	71	0.05		0.04	*
3		4,800	483	534	0.12	*	0.14	
0		0	74	119	0.00		0.00	
1		1,600	75	229	0.05	*	0.14	
3		4,800	389	958	0.10		0.25	*
0		0	102	246	0.00		0.00	
1		1,600	214	313	0.13		0.20	*
3		4,800	828	870	0.18	*	0.21	
0		0	29	124	0.00		0.00	
					0.19		0.34	
					0.23		0.45	
					0.00		0.00	
					0.10		0.10	
					0.52		0.89	
					A		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 109
North/South Roadway: Studebaker Road
East/West Roadway: Willow Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	80	118	0.05 *	0.07
NBT	3	4,800	520	867	0.16	0.24 *
NBR	0	0	233	306	0.00	0.00
SBL	1	1,600	145	147	0.09	0.09 *
SBT	3	4,800	852	651	0.21 *	0.15
SBR	0	0	133	91	0.00	0.00
EBL	1	1,600	89	191	0.06 *	0.12 *
EBT	3	4,800	410	902	0.10	0.21
EBR	0	0	57	102	0.00	0.00
WBL	1	1,600	240	290	0.15	0.18
WBT	3	4,800	1,575	1,248	0.35 *	0.32 *
WBR	0	0	110	304	0.00	0.00
N/S Critical Movements					0.26	0.33
E/W Critical Movements					0.41	0.44
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.77	0.87
Level of Service (LOS)					C	D

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	92	136	0.06 *	0.09
3	4,800	601	1,002	0.19	0.28 *
0	0	326	330	0.00	0.00
1	1,600	151	170	0.09	0.11 *
3	4,800	985	752	0.24 *	0.18
0	0	154	105	0.00	0.00
1	1,600	103	221	0.06 *	0.14 *
3	4,800	454	928	0.11	0.22
0	0	66	118	0.00	0.00
1	1,600	288	335	0.18	0.21
3	4,800	1,820	1,442	0.41 *	0.37 *
0	0	127	351	0.00	0.00
				0.30	0.39
				0.47	0.51
				0.00	0.00
				0.10	0.10
				0.87	1.00
				D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	92	136	0.06 *	0.09
NBT	3	4,800	601	1,002	0.20	0.28 *
NBR	0	0	337	325	0.00	0.00
SBL	1	1,600	158	148	0.10	0.09 *
SBT	3	4,800	985	752	0.24 *	0.18
SBR	0	0	154	105	0.00	0.00
EBL	1	1,600	103	221	0.06 *	0.14 *
EBT	3	4,800	474	1,007	0.11	0.23
EBR	0	0	66	118	0.00	0.00
WBL	1	1,600	283	335	0.18	0.21
WBT	3	4,800	1,820	1,442	0.41 *	0.37 *
WBR	0	0	127	351	0.00	0.00
N/S Critical Movements					0.30	0.37
E/W Critical Movements					0.47	0.51
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.87	0.98
Level of Service (LOS)					D	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	92	136	0.06 *	0.09
3	4,800	601	1,002	0.13	0.21 *
1 0	1,600	337	325	0.00	0.00
1	1,600	158	148	0.10	0.09 *
3	4,800	985	752	0.24 *	0.18
0	0	154	105	0.00	0.00
1	1,600	103	221	0.06 *	0.14 *
3	4,800	474	1,007	0.11	0.23
0	0	66	118	0.00	0.00
1	1,600	283	335	0.18	0.21
3	4,800	1,820	1,442	0.38 *	0.30 *
1 0	1,600	127	351	0.00	0.00
				0.30	0.30
				0.44	0.44
				0.00	0.00
				0.10	0.10
				0.84	0.84
				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 110
North/South Roadway: 7th Street
East/West Roadway: College Park Drive
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	1		1,600	979	1,351	0.64	*	0.88	*
NBR	0		0	42	58	0.00		0.00	
SBL	1		1,600	24	48	0.02	*	0.03	*
SBT	1		1,600	38	43	0.02		0.03	
SBR	0		0	0	0	0.00		0.00	
EBL	0		0	0	0	0.00		0.00	*
EBT	0		0	0	0	0.00	*	0.00	
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	9	3	0.01	*	0.00	
WBT	0		0	0	0	0.00		0.00	*
WBR	1	0	1,600	96	97	0.00		0.00	
N/S Critical Movements						0.66		0.91	
E/W Critical Movements						0.01		0.00	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.77		1.01	
Level of Service (LOS)						C		F	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
1		1,600	1,131	1,561	0.73	*	1.01	*
0		0	42	58	0.00		0.00	
1		1,600	24	48	0.02	*	0.03	*
1		1,600	38	43	0.02		0.03	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	*
0		0	0	0	0.00	*	0.00	
0		0	0	0	0.00		0.00	
1		1,600	9	3	0.01	*	0.00	
0		0	0	0	0.00		0.00	*
1	0	1,600	96	97	0.00		0.00	
					0.75		1.04	
					0.01		0.00	
					0.00		0.00	
					0.10		0.10	
					0.86		1.14	
					D		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	1		1,600	1,000	1,561	0.65	*	1.04	*
NBR	0		0	42	106	0.00		0.00	
SBL	1		1,600	24	55	0.02	*	0.03	*
SBT	1		1,600	38	158	0.02		0.10	
SBR	0		0	0	0	0.00		0.00	
EBL	0		0	0	0	0.00		0.00	
EBT	0		0	0	0	0.00	*	0.00	*
EBR	0		0	0	0	0.00		0.00	
WBL	1		1,600	9	168	0.01	*	0.11	*
WBT	0		0	0	0	0.00		0.00	
WBR	1	0	1,600	96	112	0.00		0.00	
N/S Critical Movements						0.67		1.07	
E/W Critical Movements						0.01		0.11	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.78		1.28	
Level of Service (LOS)						C		F	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
2		3,200	1,000	1,561	0.33	*	0.52	*
0		0	42	106	0.00		0.00	
1		1,600	24	55	0.02	*	0.03	*
1		1,600	38	158	0.02		0.10	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
1		1,600	9	168	0.01	*	0.11	*
0		0	0	0	0.00		0.00	
1	0	1,600	96	112	0.00		0.00	
					0.35		0.55	
					0.01		0.11	
					0.00		0.00	
					0.10		0.10	
					0.46		0.76	
					A		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 111
North/South Roadway: Studebaker Rd
East/West Roadway: 2nd St
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	2		2,880	549	437	0.19	*	0.15	*
SBT	0		0	0	0	0.00		0.00	
SBR	2	0	3,200	688	961	0.00		0.00	
EBL	2		2,880	963	1,172	0.33	*	0.41	*
EBT	2		3,200	906	818	0.28		0.26	
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	3		4,800	979	1,058	0.20	*	0.22	*
WBR	1	0	1,600	502	664	0.00		0.00	
N/S Critical Movements						0.19		0.15	
E/W Critical Movements						0.53		0.63	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.82		0.88	
Level of Service (LOS)						D		D	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,880	635	640	0.22	*	0.22	*
0		0	0	0	0.00		0.00	
2	0	3,200	795	1,111	0.00		0.00	
2		2,880	1,113	1,355	0.39	*	0.47	*
2		3,200	1,047	1,400	0.33		0.44	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
3		4,800	1,131	1,561	0.24	*	0.33	*
1	0	1,600	580	767	0.00		0.00	
					0.22		0.22	
					0.63		0.80	
					0.00		0.00	
					0.10		0.10	
					0.95		1.12	
					E		F	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	0		0	0	0	0.00		0.00	
SBL	2		2,880	635	505	0.22	*	0.18	*
SBT	0		0	0	0	0.00		0.00	
SBR	2	0	3,200	795	1,111	0.00		0.00	
EBL	2		2,880	1,113	1,355	0.39	*	0.47	*
EBT	2		3,200	1,047	945	0.33		0.30	
EBR	0		0	0	0	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	
WBT	3		4,800	1,131	1,223	0.24	*	0.25	*
WBR	1	0	1,600	580	767	0.00		0.00	
N/S Critical Movements						0.22		0.18	
E/W Critical Movements						0.63		0.72	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.95		1.00	
Level of Service (LOS)						E		E	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
0		0	0	0	0.00		0.00	
2		2,880	635	505	0.22	*	0.18	*
0		0	0	0	0.00		0.00	
2	0	3,200	795	1,111	0.00		0.00	
3		4,800	1,113	1,355	0.23	*	0.28	*
2		3,200	1,047	945	0.33		0.30	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00		0.00	
3		4,800	1,131	1,223	0.24	*	0.25	*
1	0	1,600	580	767	0.00		0.00	
					0.22		0.18	
					0.47		0.53	
					0.00		0.00	
					0.10		0.10	
					0.79		0.81	
					C		D	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 112
North/South Roadway: I-605 SB Ramps
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	1	0	1,600	79	461	0.00		0.00	
SBL	2		2,880	472	869	0.16	*	0.30	*
SBT	2		2,400	92	235	0.04		0.10	
SBR	2	0	2,400	696	607	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	
EBT	4		6,400	939	1,605	0.16		0.28	*
EBR	0		0	80	160	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	3		4,800	1,077	1,015	0.30	*	0.26	
WBR	0		0	366	229	0.00		0.00	
N/S Critical Movements						0.16		0.30	
E/W Critical Movements						0.30		0.28	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.56		0.68	
Level of Service (LOS)						A		B	

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
1	0	1,600	91	786	0.00		0.00	
2		2,880	546	1,004	0.19	*	0.35	*
2		2,400	96	272	0.04		0.11	
2	0	2,400	804	702	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
4		6,400	1,085	1,833	0.19		0.32	
0		0	132	228	0.00		0.00	
0		0	0	0	0.00		0.00	
3		4,800	1,245	1,533	0.35	*	0.44	*
0		0	436	562	0.00		0.00	
					0.19		0.35	
					0.35		0.44	
					0.00		0.00	
					0.10		0.10	
ICU					0.64		0.89	
Level of Service (LOS)					B		D	

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
NBL	0		0	0	0	0.00		0.00	
NBT	0		0	0	0	0.00	*	0.00	*
NBR	1	0	1,600	91	533	0.00		0.00	
SBL	2		2,880	546	1,004	0.19	*	0.35	*
SBT	2		2,400	98	272	0.04		0.11	
SBR	2	0	2,400	804	702	0.00		0.00	
EBL	0		0	0	0	0.00	*	0.00	
EBT	4		6,400	1,085	1,855	0.19		0.33	*
EBR	0		0	134	255	0.00		0.00	
WBL	0		0	0	0	0.00		0.00	*
WBT	3		4,800	1,245	1,019	0.35	*	0.27	
WBR	0		0	449	298	0.00		0.00	
N/S Critical Movements						0.19		0.35	
E/W Critical Movements						0.35		0.33	
Right Turn Critical Movement						0.00		0.00	
Clearance Interval						0.10		0.10	
ICU						0.64		0.78	
Level of Service (LOS)						B		C	

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM		V/C Ratio Wkday. PM	
0		0	0	0	0.00		0.00	
0		0	0	0	0.00	*	0.00	*
1	0	1,600	91	533	0.00		0.00	
2		2,880	546	1,004	0.19	*	0.35	*
2		2,400	98	272	0.04		0.11	
2	0	2,400	804	702	0.00		0.00	
0		0	0	0	0.00	*	0.00	
4		6,400	1,085	1,855	0.19		0.33	*
0		0	134	255	0.00		0.00	
0		0	0	0	0.00		0.00	*
3		4,800	1,245	1,019	0.35	*	0.27	
0		0	449	298	0.00		0.00	
					0.19		0.35	
					0.35		0.33	
					0.00		0.00	
					0.10		0.10	
ICU					0.64		0.78	
Level of Service (LOS)					B		C	

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 113
North/South Roadway: I-605 NB Ramps
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	269	299	0.09 *	0.10 *
NBT	0		0	0	0	0.00	0.00
NBR	2	0	3,200	315	478	0.00	0.00
SBL	0		0	0	0	0.00	0.00
SBT	0		0	0	0	0.00 *	0.00 *
SBR	0		0	0	0	0.00	0.00
EBL	0		0	0	0	0.00 *	0.00
EBT	4		6,400	1,258	2,566	0.20	0.40 *
EBR	0		0	0	0	0.00	0.00
WBL	0		0	0	0	0.00	0.00 *
WBT	2		3,200	1,175	1,020	0.37 *	0.32
WBR	1	0	1,600	813	664	0.00	0.00
N/S Critical Movements						0.09	0.10
E/W Critical Movements						0.37	0.40
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.56	0.60
Level of Service (LOS)						A	A

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	459	524	0.16 *	0.18 *
0		0	0	0	0.00	0.00
2	0	3,200	364	552	0.00	0.00
0		0	0	0	0.00	0.00
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00 *	0.00
4		6,400	1,454	2,966	0.23	0.46 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00 *
2		3,200	1,358	1,179	0.42 *	0.37
1	0	1,600	940	767	0.00	0.00
					0.16	0.18
					0.42	0.46
					0.00	0.00
					0.10	0.10
ICU					0.68	0.74
Level of Service (LOS)					B	C

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	482	518	0.17 *	0.18 *
NBT	0		0	0	0	0.00	0.00
NBR	2	0	3,200	364	480	0.00	0.00
SBL	0		0	0	0	0.00	0.00
SBT	0		0	0	0	0.00 *	0.00 *
SBR	0		0	0	0	0.00	0.00
EBL	0		0	0	0	0.00 *	0.00
EBT	4		6,400	1,454	2,966	0.23	0.46 *
EBR	0		0	0	0	0.00	0.00
WBL	0		0	0	0	0.00	0.00 *
WBT	2		3,200	1,358	1,179	0.42 *	0.37
WBR	1	0	1,600	940	767	0.00	0.00
N/S Critical Movements						0.17	0.18
E/W Critical Movements						0.42	0.46
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.69	0.74
Level of Service (LOS)						B	C

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	482	518	0.17 *	0.18 *
0		0	0	0	0.00	0.00
2	0	3,200	364	480	0.00	0.00
0		0	0	0	0.00	0.00
0		0	0	0	0.00 *	0.00 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00 *	0.00
4		6,400	1,454	2,966	0.23	0.46 *
0		0	0	0	0.00	0.00
0		0	0	0	0.00	0.00 *
2		3,200	1,358	1,179	0.42 *	0.37
1	0	1,600	940	767	0.00	0.00
					0.17	0.18
					0.42	0.46
					0.00	0.00
					0.10	0.10
ICU					0.69	0.74
Level of Service (LOS)					B	C

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 114
North/South Roadway: Norwalk Boulevard
East/West Roadway: Carson Street
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	209	217	0.13 *	0.14 *
NBT	2		3,200	467	663	0.15	0.21
NBR	1	0	1,600	120	164	0.00	0.00
SBL	1		1,600	107	143	0.07	0.09
SBT	2		3,200	472	437	0.19 *	0.17 *
SBR	0		0	120	109	0.00	0.00
EBL	1		1,600	67	184	0.04 *	0.12
EBT	2		3,200	602	915	0.19	0.29 *
EBR	1	0	1,600	154	192	0.00	0.00
WBL	1		1,600	129	205	0.08	0.13 *
WBT	2		3,200	996	697	0.31 *	0.22
WBR	1	0	1,600	64	112	0.00	0.00
N/S Critical Movements						0.32	0.31
E/W Critical Movements						0.35	0.42
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.77	0.83
Level of Service (LOS)						C	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	242	251	0.15 *	0.16 *
2		3,200	540	766	0.17	0.24
1	0	1,600	128	190	0.00	0.00
1		1,600	124	165	0.08	0.10
2		3,200	546	505	0.21 *	0.20 *
0		0	139	126	0.00	0.00
1		1,600	77	213	0.05 *	0.13
2		3,200	607	1,058	0.19	0.33 *
1	0	1,600	178	209	0.00	0.00
1		1,600	149	237	0.09	0.15 *
2		3,200	1,151	806	0.36 *	0.25
1	0	1,600	74	129	0.00	0.00
					0.36	0.36
					0.41	0.48
					0.00	0.00
					0.10	0.10
					0.87	0.94
					D	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1		1,600	242	251	0.15 *	0.16 *
NBT	2		3,200	540	766	0.17	0.24
NBR	1	0	1,600	123	190	0.00	0.00
SBL	1		1,600	108	165	0.07	0.10
SBT	2		3,200	546	505	0.21 *	0.20 *
SBR	0		0	139	126	0.00	0.00
EBL	1		1,600	77	213	0.05 *	0.13
EBT	2		3,200	607	1,058	0.19	0.33 *
EBR	1	0	1,600	178	204	0.00	0.00
WBL	1		1,600	134	237	0.08	0.15 *
WBT	2		3,200	1,151	806	0.36 *	0.25
WBR	1	0	1,600	74	129	0.00	0.00
N/S Critical Movements						0.36	0.36
E/W Critical Movements						0.41	0.48
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.87	0.94
Level of Service (LOS)						D	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1		1,600	242	251	0.15 *	0.16 *
2		3,200	540	766	0.17	0.24
1	0	1,600	123	190	0.00	0.00
1		1,600	108	165	0.07	0.10
2		3,200	546	505	0.21 *	0.20 *
0		0	139	126	0.00	0.00
1		1,600	77	213	0.05 *	0.13
3		4,800	607	1,058	0.16	0.26 *
0		0	178	204	0.00	0.00
1		1,600	134	237	0.08	0.15 *
2		3,200	1,151	806	0.36 *	0.25
1	0	1,600	74	129	0.00	0.00
					0.36	0.36
					0.41	0.41
					0.00	0.00
					0.10	0.10
					0.87	0.87
					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 115
North/South Roadway: Norwalk Boulevard
East/West Roadway: Cerritos Avenue
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	155	263	0.05	0.09
NBT	3		4,800	629	912	0.20 *	0.27 *
NBR	0		0	324	371	0.00	0.00
SBL	1		1,600	109	105	0.07 *	0.07 *
SBT	3		4,800	820	663	0.19	0.15
SBR	0		0	86	79	0.00	0.00
EBL	1		1,600	120	177	0.08	0.11
EBT	2		3,200	853	896	0.27 *	0.28 *
EBR	1	0	1,600	141	219	0.00	0.00
WBL	1		1,600	231	288	0.14 *	0.18 *
WBT	2		3,200	820	944	0.26	0.30
WBR	1	0	1,600	144	155	0.00	0.00
N/S Critical Movements						0.27	0.34
E/W Critical Movements						0.41	0.46
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.78	0.90
Level of Service (LOS)						C	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	179	304	0.06	0.11
3		4,800	727	1,054	0.23 *	0.31 *
0		0	374	429	0.00	0.00
1		1,600	115	121	0.07 *	0.08 *
3		4,800	853	766	0.20	0.18
0		0	99	91	0.00	0.00
1		1,600	139	205	0.09	0.13
2		3,200	986	1,036	0.31 *	0.32 *
1	0	1,600	163	253	0.00	0.00
1		1,600	267	333	0.17 *	0.21 *
2		3,200	948	1,091	0.30	0.34
1	0	1,600	166	171	0.00	0.00
					0.30	0.39
					0.48	0.53
					0.00	0.00
					0.10	0.10
ICU					0.88	1.02
Level of Service (LOS)					D	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	179	304	0.06	0.11
NBT	3		4,800	636	1,054	0.20 *	0.31 *
NBR	0		0	325	429	0.00	0.00
SBL	1		1,600	119	121	0.07 *	0.08 *
SBT	3		4,800	844	766	0.20	0.18
SBR	0		0	99	91	0.00	0.00
EBL	1		1,600	139	205	0.09	0.13
EBT	2		3,200	986	1,036	0.31 *	0.32 *
EBR	1	0	1,600	163	253	0.00	0.00
WBL	1		1,600	267	333	0.17 *	0.21 *
WBT	2		3,200	948	1,091	0.30	0.34
WBR	1	0	1,600	166	173	0.00	0.00
N/S Critical Movements						0.27	0.39
E/W Critical Movements						0.48	0.53
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.85	1.02
Level of Service (LOS)						D	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	179	304	0.06 *	0.11
3		4,800	636	1,054	0.13	0.22 *
1	0	1,600	325	429	0.00	0.00
1		1,600	119	121	0.07	0.08 *
3		4,800	844	766	0.20 *	0.18
0		0	99	91	0.00	0.00
1		1,600	139	205	0.09	0.13
3		4,800	986	1,036	0.24 *	0.27 *
0		0	163	253	0.00	0.00
1		1,600	267	333	0.17 *	0.21 *
2		3,200	948	1,091	0.30	0.34
1	0	1,600	166	173	0.00	0.00
					0.26	0.30
					0.41	0.48
					0.00	0.00
					0.10	0.10
ICU					0.77	0.88
Level of Service (LOS)					C	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 116
North/South Roadway: Los Alamitos Boulevard
East/West Roadway: Katella Avenue
Scenario: 0

EXISTING CONDITION

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	461	428	0.16 *	0.15 *
NBT	3		4,800	987	931	0.21	0.19
NBR	1	0	1,600	448	368	0.00	0.00
SBL	2		2,880	190	143	0.07	0.05
SBT	3		4,800	852	1,021	0.18 *	0.21 *
SBR	1	0	1,600	178	177	0.00	0.00
EBL	2		2,880	184	275	0.06	0.10 *
EBT	3		4,800	1,644	1,397	0.34 *	0.29
EBR	1	0	1,600	248	505	0.00	0.00
WBL	2		2,880	294	337	0.10 *	0.12
WBT	3		4,800	1,258	1,550	0.26	0.32 *
WBR	1	0	1,600	91	115	0.00	0.00
N/S Critical Movements						0.34	0.36
E/W Critical Movements						0.44	0.42
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						0.88	0.88
Level of Service (LOS)						D	D

2040 NO BUILD

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	533	495	0.19 *	0.17 *
3		4,800	1,141	1,076	0.24	0.22
1	0	1,600	518	425	0.00	0.00
2		2,880	453	204	0.16	0.07
3		4,800	985	1,180	0.21 *	0.25 *
1	0	1,600	206	205	0.00	0.00
2		2,880	213	318	0.07	0.11 *
3		4,800	1,900	1,615	0.40 *	0.34
1	0	1,600	287	584	0.00	0.00
2		2,880	340	389	0.12 *	0.14
3		4,800	1,454	1,791	0.30	0.37 *
1	0	1,600	254	161	0.00	0.00
					0.40	0.42
					0.52	0.48
					0.00	0.00
					0.10	0.10
ICU					1.02	1.00
Level of Service (LOS)					F	E

PROPOSED LAND USE ELEMENT

Move-ment	Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	2		2,880	533	495	0.19	0.17 *
NBT	3		4,800	1,141	1,076	0.24 *	0.22
NBR	1	0	1,600	518	425	0.00	0.00
SBL	2		2,880	502	220	0.17 *	0.08
SBT	3		4,800	985	1,180	0.21	0.25 *
SBR	1	0	1,600	206	205	0.00	0.00
EBL	2		2,880	213	318	0.07	0.11 *
EBT	3		4,800	1,900	1,615	0.40 *	0.34
EBR	1	0	1,600	287	584	0.00	0.00
WBL	2		2,880	340	389	0.12 *	0.14
WBT	3		4,800	1,454	1,791	0.30	0.37 *
WBR	1	0	1,600	297	173	0.00	0.00
N/S Critical Movements						0.41	0.42
E/W Critical Movements						0.52	0.48
Right Turn Critical Movement						0.00	0.00
Clearance Interval						0.10	0.10
ICU						1.03	1.00
Level of Service (LOS)						F	E

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane		Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
2		2,880	533	495	0.19 *	0.17 *
4		6,400	1,141	1,076	0.18	0.17
1	0	1,600	518	425	0.00	0.00
2		2,880	502	220	0.17	0.08
4		6,400	985	1,180	0.19 *	0.22 *
0		0	206	205	0.00	0.00
2		2,880	213	318	0.07	0.11 *
4		6,400	1,900	1,615	0.30 *	0.25
1	0	1,600	287	584	0.00	0.00
2		2,880	340	389	0.12 *	0.14
4		6,400	1,454	1,791	0.23	0.28 *
1	0	1,600	297	173	0.00	0.00
					0.38	0.39
					0.42	0.39
					0.00	0.00
					0.10	0.10
ICU					0.90	0.88
Level of Service (LOS)					D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 117
North/South Roadway: Seal Beach Boulevard
East/West Roadway: Westminster Road
Scenario: 0

EXISTING CONDITION

Move-ment	Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
NBL	1	1,600	62	113	0.04	0.07
NBT	3	4,800	747	900	0.19 *	0.23 *
NBR	0	0	146	220	0.00	0.00
SBL	2	2,880	207	230	0.07 *	0.08 *
SBT	3	4,800	1,029	734	0.21	0.15
SBR	1 0	1,600	380	263	0.00	0.00
EBL	2	2,880	185	444	0.06 *	0.15 *
EBT	3	4,800	579	925	0.13	0.20
EBR	0	0	26	34	0.00	0.00
WBL	2	2,880	288	301	0.10	0.10
WBT	2	3,200	1,039	927	0.38 *	0.37 *
WBR	0	0	178	269	0.00	0.00
N/S Critical Movements					0.26	0.31
E/W Critical Movements					0.44	0.52
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.80	0.93
Level of Service (LOS)					C	E

2040 NO BUILD

Lane	Cap.	Volume Wkday. AM	Volume Wkday. PM	V/C Ratio Wkday. AM	V/C Ratio Wkday. PM
1	1,600	141	133	0.09 *	0.08
3	4,800	863	1,000	0.22	0.26 *
0	0	210	237	0.00	0.00
2	2,880	239	266	0.08	0.09 *
3	4,800	1,189	864	0.25 *	0.18
1 0	1,600	439	304	0.00	0.00
2	2,880	214	513	0.07 *	0.18 *
3	4,800	669	1,069	0.15	0.23
0	0	49	39	0.00	0.00
2	2,880	331	314	0.11	0.11
2	3,200	1,201	1,071	0.44 *	0.43 *
0	0	206	311	0.00	0.00
				0.34	0.35
				0.51	0.61
				0.00	0.00
				0.10	0.10
				0.95	1.06
				E	F

PROPOSED LAND USE ELEMENT

Move-ment	Lane	Cap.	Volume Wkday. PM	Volume Wkend. PM	V/C Ratio Wkday. PM	V/C Ratio Wkend. PM
NBL	1	1,600	168	135	0.11 *	0.08
NBT	3	4,800	863	1,022	0.23	0.26 *
NBR	0	0	232	236	0.00	0.00
SBL	2	2,880	239	266	0.08	0.09 *
SBT	3	4,800	1,189	854	0.25 *	0.18
SBR	1 0	1,600	439	304	0.00	0.00
EBL	2	2,880	214	513	0.07 *	0.18 *
EBT	3	4,800	669	1,069	0.15	0.23
EBR	0	0	45	42	0.00	0.00
WBL	2	2,880	336	312	0.12	0.11
WBT	2	3,200	1,201	1,071	0.44 *	0.43 *
WBR	0	0	206	311	0.00	0.00
N/S Critical Movements					0.36	0.35
E/W Critical Movements					0.51	0.61
Right Turn Critical Movement					0.00	0.00
Clearance Interval					0.10	0.10
ICU					0.97	1.06
Level of Service (LOS)					E	F

PROPOSED LAND USE ELEMENT w/ MITIGATION

Lane	Cap.	Volume Wkday. PM	Volume Wkend. PM	V/C Ratio Wkday. PM	V/C Ratio Wkend. PM
1	1,600	168	135	0.11 *	0.08
4	6,400	863	1,022	0.17	0.20 *
0	0	232	236	0.00	0.00
2	2,880	239	266	0.08	0.09 *
3	4,800	1,189	854	0.25 *	0.18
1 0	1,600	439	304	0.00	0.00
2	2,880	214	513	0.07 *	0.18 *
3	4,800	669	1,069	0.15	0.23
0	0	45	42	0.00	0.00
2	2,880	336	312	0.12	0.11
3	4,800	1,201	1,071	0.29 *	0.29 *
0	0	206	311	0.00	0.00
				0.36	0.29
				0.36	0.47
				0.00	0.00
				0.10	0.10
				0.82	0.86
				D	D

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

Intersection Capacity Utilization Analysis

Intersection Number: 118
North/South Roadway: Atlantic Avenue
East/West Roadway: I-405 WB Ramps
Scenario: 0

	EXISTING CONDITION							2040 NO BUILD						
			Volume		V/C Ratio					Volume		V/C Ratio		
Move-ment	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM		Wkday. PM	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM		Wkday. PM
NBL	1	1,600	0	0	0.00	*	0.00	1	1,600	0	0	0.00	*	0.00
NBT	3	4,800	647	1,103	0.18		0.29 *	3	4,800	704	1,107	0.20		0.30 *
NBR	0	0	220	289	0.00		0.00	0	0	254	310	0.00		0.00
SBL	1	1,600	0	0	0.00		0.00 *	1	1,600	0	0	0.00		0.00 *
SBT	3	4,800	1,022	900	0.21	*	0.19	3	4,800	1,052	1,040	0.22	*	0.22
SBR	0	0	0	0	0.00		0.00	0	0	0	0	0.00		0.00
EBL	1	1,600	0	0	0.00		0.00 *	1	1,600	0	0	0.00		0.00 *
EBT	3	4,800	0	0	0.06	*	0.05	3	4,800	0	0	0.06	*	0.05
EBR	0	0	270	244	0.00		0.00	0	0	270	244	0.00		0.00
WBL	1	1,600	0	0	0.00	*	0.00	1	1,600	0	0	0.00	*	0.00
WBT	3	4,800	0	0	0.04		0.09 *	3	4,800	0	0	0.05		0.10 *
WBR	0	0	194	422	0.00		0.00	0	0	224	488	0.00		0.00
N/S Critical Movements					0.21		0.29					0.22		0.30
E/W Critical Movements					0.06		0.09					0.06		0.10
Right Turn Critical Movement					0.00		0.00					0.00		0.00
Clearance Interval					0.10		0.10					0.10		0.10
ICU					0.37		0.48	ICU				0.38		0.50
Level of Service (LOS)					A		A	Level of Service (LOS)				A		A

	PROPOSED LAND USE ELEMENT							PROPOSED LAND USE ELEMENT w/ MITIGATION						
			Volume		V/C Ratio					Volume		V/C Ratio		
Move-ment	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM		Wkday. PM	Lane	Cap.	Wkday. AM	Wkday. PM	Wkday. AM		Wkday. PM
NBL	1	1,600	0	0	0.00	*	0.00	1	1,600	0	0	0.00	*	0.00
NBT	3	4,800	685	1,164	0.20		0.31 *	3	4,800	685	1,164	0.20		0.31 *
NBR	0	0	254	315	0.00		0.00	0	0	254	315	0.00		0.00
SBL	1	1,600	0	0	0.00		0.00 *	1	1,600	0	0	0.00		0.00 *
SBT	3	4,800	1,123	1,040	0.23	*	0.22	3	4,800	1,123	1,040	0.23	*	0.22
SBR	0	0	0	0	0.00		0.00	0	0	0	0	0.00		0.00
EBL	1	1,600	0	0	0.00		0.00 *	1	1,600	0	0	0.00		0.00 *
EBT	3	4,800	0	0	0.06	*	0.05	3	4,800	0	0	0.06	*	0.05
EBR	0	0	270	244	0.00		0.00	0	0	270	244	0.00		0.00
WBL	1	1,600	0	0	0.00	*	0.00	1	1,600	0	0	0.00	*	0.00
WBT	3	4,800	0	0	0.05		0.10 *	3	4,800	0	0	0.05		0.10 *
WBR	0	0	224	488	0.00		0.00	0	0	224	488	0.00		0.00
N/S Critical Movements					0.23		0.31					0.23		0.31
E/W Critical Movements					0.06		0.10					0.06		0.10
Right Turn Critical Movement					0.00		0.00					0.00		0.00
Clearance Interval					0.10		0.10					0.10		0.10
ICU					0.39		0.51	ICU				0.39		0.51
Level of Service (LOS)					A		A	Level of Service (LOS)				A		A

Right Turn Conditions:

P - Protected right turn movement
U - Unprotected right turn movement
N - No right turn on red
F - Free right turn lane

APPENDIX C

CALTRANS FACILITY ANALYSIS WORKSHEETS

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APPENDIX C

CALTRANS FACILITY ANALYSIS WORKSHEETS

Merge/Diverge Analysis Worksheets

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	SR-91: Atlantic Ave On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10141	571
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	11151	628
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	1.00	0.30

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	32.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.482
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2596
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.139	Outer Lanes Freeway Speed (SO), mi/h	56.7
Flow in Lanes 1 and 2 (v12), pc/h	3460	Ramp Junction Speed (S), mi/h	55.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	4088	Average Density (D), pc/mi/ln	42.5
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	SR-91: Atlantic Ave On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10080	700
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	11084	770
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	1.01	0.37

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	33.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2575
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.122	Outer Lanes Freeway Speed (SO), mi/h	56.8
Flow in Lanes 1 and 2 (v12), pc/h	3434	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	4204	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	SR-91: Atlantic Ave On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11723	615
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	12890	676
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	1.15	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	44.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	33.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.133	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4990	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5666	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	SR-91 EB: Atlantic Ave On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11652	792
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	1.000
Flow Rate (vi),pc/h	12812	808
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	1.16	0.38

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	44.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	31.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.117	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4912	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5720	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	SR-91 EB: Atlantic Ave On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11723	620
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	1.000
Flow Rate (vi),pc/h	12890	633
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	1.15	0.30

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	44.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	34.5
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.139	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4990	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5623	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	SR-91 EB: Atlantic Ave On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11652	817
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	1.000
Flow Rate (vi),pc/h	12812	834
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	1.16	0.40

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	45.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	31.2
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.114	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4912	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5746	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/26/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	Atlantic Ave and SR-91 WB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	515
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7943	451
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	8734	496
Capacity (c), pc/h	11750	4200
Volume-to-Capacity Ratio (v/c)	0.74	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	23.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.343
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2096
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	57.1
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	67.0
Flow in Lanes 1 and 2 (v12), pc/h	2795	Ramp Junction Speed (S), mi/h	62.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	27.9
Level of Service (LOS)	C		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/26/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	Atlantic Ave and SR-91 WB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	2
Free-Flow Speed (FFS), mi/h	70.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	515
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	6656	707
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	7319	777
Capacity (c), pc/h	12000	4200
Volume-to-Capacity Ratio (v/c)	0.61	0.19

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	19.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.368
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1757
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	59.7
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	73.8
Flow in Lanes 1 and 2 (v12), pc/h	2342	Ramp Junction Speed (S), mi/h	67.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	B		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/26/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	Atlantic Ave and SR-91 WB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	515
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9157	496
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	10497	569
Capacity (c), pc/h	11750	4200
Volume-to-Capacity Ratio (v/c)	0.89	0.14

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	28.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.349
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2519
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	65.4
Flow in Lanes 1 and 2 (v12), pc/h	3359	Ramp Junction Speed (S), mi/h	61.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	34.0
Level of Service (LOS)	D		

HCS7 Freeway Diverge Report

Project Information

Analyst	Daniel Chuong	Date	1/26/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	Atlantic Ave and SR-91 WB Diverge		

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	5	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	515
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

	Freeway	Ramp
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

	Freeway	Ramp
Demand Volume (Vi)	6912	817
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	7600	898
Capacity (c), pc/h	11750	4200
Volume-to-Capacity Ratio (v/c)	0.65	0.21

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	20.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.379
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1824
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	68.1
Flow in Lanes 1 and 2 (v12), pc/h	2432	Ramp Junction Speed (S), mi/h	62.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	24.2
Level of Service (LOS)	C		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/26/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	Atlantic Ave and SR-91 WB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	515
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9152	491
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	10063	540
Capacity (c), pc/h	11750	4200
Volume-to-Capacity Ratio (v/c)	0.86	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	27.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.347
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2415
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	65.8
Flow in Lanes 1 and 2 (v12), pc/h	3220	Ramp Junction Speed (S), mi/h	62.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	32.5
Level of Service (LOS)	C		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/26/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	Atlantic Ave and SR-91 WB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	515
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7729	817
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	7.73	7.73
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.928	0.928
Flow Rate (vi),pc/h	8499	898
Capacity (c), pc/h	11750	4200
Volume-to-Capacity Ratio (v/c)	0.72	0.21

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	23.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.379
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2040
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	67.3
Flow in Lanes 1 and 2 (v12), pc/h	2720	Ramp Junction Speed (S), mi/h	62.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	27.2
Level of Service (LOS)	C		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing
Project Description	Lakewood Blvd WB Ramps/I-405 NB		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	900
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10007	949
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	10670	1012
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.24	0.53

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	48.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	10.7
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.091	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	5270	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	6282	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	Lakewood Blvd WB Ramps/I-405 NB		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	900
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8808	644
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	9392	687
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.07	0.36

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	36.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	49.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.132	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	3992	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	4679	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	Lakewood Blvd WB Ramps/I-405 NB		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	900
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11568	1097
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	12334	1170
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.44	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	62.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.072	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	6934	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8104	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	Lakewood Blvd WB Ramps/I-405 NB		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	900
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10182	744
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	10857	793
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.24	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	48.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	12.2
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.119	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	5457	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	6250	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	Lakewood Blvd WB Ramps/I-405 NB		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	900
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11568	1097
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	12334	1170
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.44	0.62

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	62.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.072	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	6934	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8104	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	Lakewood Blvd WB Ramps/I-405 NB		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	900
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10182	744
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	10857	793
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.24	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	48.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	12.2
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.119	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	5457	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	6250	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	Lakewood Blvd WB Ramps/I-405 NB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	795
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10703	696
Peak Hour Factor (PHF)	0.98	0.98
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	10921	710
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.16	0.17

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	44.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.7
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	5521	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	Lakewood Blvd WB Ramps/I-405 NB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	795
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8808	718
Peak Hour Factor (PHF)	0.98	0.98
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	8988	733
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	0.96	0.17

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	28.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.364
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2697
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	3595	Ramp Junction Speed (S), mi/h	61.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	36.7
Level of Service (LOS)	C		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	Lakewood Blvd WB Ramps/I-405 NB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	795
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	12358	790
Peak Hour Factor (PHF)	0.98	0.98
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	12610	806
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.34	0.19

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	59.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	7210	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	Lakewood Blvd WB Ramps/I-405 NB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	795
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10985	803
Peak Hour Factor (PHF)	0.98	0.98
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	11209	819
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.19	0.20

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	47.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	5809	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	Lakewood Blvd WB Ramps/I-405 NB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	795
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	12288	720
Peak Hour Factor (PHF)	0.98	0.98
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	12539	735
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.33	0.18

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	58.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	7139	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	Lakewood Blvd WB Ramps/I-405 NB Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	795
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	12288	720
Peak Hour Factor (PHF)	0.98	0.98
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	12539	735
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.33	0.18

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	58.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	7139	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-405 SB Atlantic Ave EB Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	460
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8851	508
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	9437	542
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.80	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	31.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.477
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	1976
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	54.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	67.5
Flow in Lanes 1 and 2 (v12), pc/h	3597	Ramp Junction Speed (S), mi/h	60.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	31.3
Level of Service (LOS)	D		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-405 SB Atlantic Ave EB Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	460
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10200	532
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	10876	567
Capacity (c), pc/h	11750	2100
Volume-to-Capacity Ratio (v/c)	0.93	0.27

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	35.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.349
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2294
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	66.3
Flow in Lanes 1 and 2 (v12), pc/h	4113	Ramp Junction Speed (S), mi/h	61.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	35.3
Level of Service (LOS)	E		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-405 SB Atlantic Ave EB Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	460
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10232	607
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	10910	647
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.93	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	36.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.486
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2279
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	66.3
Flow in Lanes 1 and 2 (v12), pc/h	4170	Ramp Junction Speed (S), mi/h	59.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	36.5
Level of Service (LOS)	E		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-405 SB Atlantic Ave EB Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	460
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11791	60
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	12572	64
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	1.07	0.03

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	40.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	4658	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-405 SB Atlantic Ave EB Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	460
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10232	637
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	10910	679
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	0.93	0.34

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	36.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.489
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2270
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	66.4
Flow in Lanes 1 and 2 (v12), pc/h	4188	Ramp Junction Speed (S), mi/h	59.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	36.5
Level of Service (LOS)	E		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-405 SB Atlantic Ave EB Off-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	5	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	460
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11791	615
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	4.47	4.47
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.957	0.957
Flow Rate (vi),pc/h	12572	656
Capacity (c), pc/h	11750	2000
Volume-to-Capacity Ratio (v/c)	1.07	0.33

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	41.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2651
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	64.9
Flow in Lanes 1 and 2 (v12), pc/h	4755	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/21/19
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-605 NB - Carson St. Direct Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	920
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8282	813
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8886	872
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.04	0.42

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	33.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2666
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	52.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.109	Outer Lanes Freeway Speed (SO), mi/h	56.3
Flow in Lanes 1 and 2 (v12), pc/h	3554	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	4426	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/21/19
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-605 NB - Carson St. Direct Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	920
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9597	664
Peak Hour Factor (PHF)	0.98	0.94
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10297	743
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.17	0.35

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	43.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	34.3
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.125	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4897	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5640	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/21/19
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 NB - Carson St. Direct Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	920
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9574	940
Peak Hour Factor (PHF)	0.98	0.94
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10273	1052
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.20	0.50

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	45.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	25.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.086	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4873	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5925	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/21/19
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-605 NB - Carson St. Direct Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	920
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11094	767
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	11904	823
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.35	0.39

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	56.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.115	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	6504	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	7327	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/21/19
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 NB - Carson St. Direct Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	920
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9574	940
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10273	1009
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.20	0.48

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	45.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	27.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.092	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4873	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5882	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/21/19
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 NB - Carson St. Direct Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	920
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11094	767
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	11904	823
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.35	0.39

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	56.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.115	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	6504	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	7327	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-605 NB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	230
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8282	584
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8886	627
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	0.95	0.30

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	38.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.354
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2329
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	66.1
Flow in Lanes 1 and 2 (v12), pc/h	4228	Ramp Junction Speed (S), mi/h	61.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	36.2
Level of Service (LOS)	E		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-605 NB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	230
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9597	777
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10297	834
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.10	0.40

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	44.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2669
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	64.8
Flow in Lanes 1 and 2 (v12), pc/h	4960	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 NB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	230
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9574	777
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10273	834
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.09	0.40

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	44.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2662
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	64.8
Flow in Lanes 1 and 2 (v12), pc/h	4949	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 NB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	230
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11094	1076
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	11904	1155
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.27	0.55

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	58.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	55.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	6504	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 NB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	230
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9574	1076
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10273	1155
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.09	0.55

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	46.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2572
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	55.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	65.2
Flow in Lanes 1 and 2 (v12), pc/h	5130	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 NB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	230
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11094	998
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	11904	1071
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.27	0.51

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	58.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	55.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.436	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	6504	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-605 SB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	405
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9401	1260
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10087	1352
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.07	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	40.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	55.3
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	4687	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-605 SB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	405
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8758	1711
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	9397	1836
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.00	0.44

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	35.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	0.463
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	3997	Ramp Junction Speed (S), mi/h	59.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	39.2
Level of Service (LOS)	D		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	405
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10857	1446
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	11649	1552
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.24	0.37

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	54.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	6249	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 SB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	405
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10124	1978
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10863	2122
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.16	0.51

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	47.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	5463	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	405
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10859	1448
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	11652	1554
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.24	0.37

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	54.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	6252	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	2
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	405
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10124	1978
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10863	2122
Capacity (c), pc/h	9400	4200
Volume-to-Capacity Ratio (v/c)	1.16	0.51

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	47.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	53.8
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.260	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	5463	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-605 SB - Carson St. Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	820
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8141	366
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8735	393
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	0.97	0.21

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	30.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.470
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2621
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.169	Outer Lanes Freeway Speed (SO), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	3494	Ramp Junction Speed (S), mi/h	55.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	3887	Average Density (D), pc/mi/ln	41.1
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-605 SB - Carson St. Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	750
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7047	229
Peak Hour Factor (PHF)	0.98	0.94
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	7561	256
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	0.83	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.387
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2269
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.186	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3024	Ramp Junction Speed (S), mi/h	57.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	3280	Average Density (D), pc/mi/ln	34.0
Level of Service (LOS)	C		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	750
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9411	229
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10098	246
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.10	0.13

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	39.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	45.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.187	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4698	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	4944	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 SB - Carson St. Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	750
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8146	562
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8741	603
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	0.99	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	32.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.519
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2623
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.1
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.142	Outer Lanes Freeway Speed (SO), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	3496	Ramp Junction Speed (S), mi/h	55.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	4099	Average Density (D), pc/mi/ln	42.5
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	750
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9411	562
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10098	603
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	1.14	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	41.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	40.5
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.142	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4698	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5301	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 SB - Carson St. Loop Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	750
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8146	298
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8741	320
Capacity (c), pc/h	9400	1900
Volume-to-Capacity Ratio (v/c)	0.96	0.17

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	30.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.461
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2623
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.178	Outer Lanes Freeway Speed (SO), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	3496	Ramp Junction Speed (S), mi/h	55.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3816	Average Density (D), pc/mi/ln	40.7
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-605 SB - Carson St. On-Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8141	362
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8735	388
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	0.97	0.18

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	30.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.438
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2621
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.169	Outer Lanes Freeway Speed (SO), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	3494	Ramp Junction Speed (S), mi/h	55.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	3882	Average Density (D), pc/mi/ln	40.9
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-605 SB - Carson St. On-Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7047	227
Peak Hour Factor (PHF)	0.98	0.94
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	7561	254
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	0.83	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	26.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.352
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2269
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.186	Outer Lanes Freeway Speed (SO), mi/h	58.6
Flow in Lanes 1 and 2 (v12), pc/h	3024	Ramp Junction Speed (S), mi/h	57.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	3278	Average Density (D), pc/mi/ln	33.7
Level of Service (LOS)	C		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. On-Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9411	432
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10098	464
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.12	0.22

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	40.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	43.6
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.160	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4698	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5162	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 SB - Carson St. On-Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8146	556
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8741	597
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	0.99	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	32.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.483
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2623
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	53.9
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.143	Outer Lanes Freeway Speed (SO), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	3496	Ramp Junction Speed (S), mi/h	55.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	4093	Average Density (D), pc/mi/ln	42.2
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-605 SB - Carson St. On-Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9411	445
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	10098	477
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	1.12	0.23

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	40.7
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	43.4
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.158	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	4698	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5175	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-605 SB - Carson St. On-Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	4	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8146	295
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	5.10	5.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.951	0.951
Flow Rate (vi),pc/h	8741	317
Capacity (c), pc/h	9400	2100
Volume-to-Capacity Ratio (v/c)	0.96	0.15

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	30.1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	0.426
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2623
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.178	Outer Lanes Freeway Speed (SO), mi/h	56.5
Flow in Lanes 1 and 2 (v12), pc/h	3496	Ramp Junction Speed (S), mi/h	55.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	3813	Average Density (D), pc/mi/ln	40.5
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB - SR-1 WB Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	320
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10333	130
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11181	141
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.61	0.07

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1993.2	Density in Ramp Influence Area (DR), pc/mi/ln	70.7
Distance to Upstream Ramp (LUP), ft	370	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.484	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8481	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8622	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710 NB - SR-1 WB Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	320
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10074	67
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11365	76
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.62	0.04

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	2018.7	Density in Ramp Influence Area (DR), pc/mi/ln	71.7
Distance to Upstream Ramp (LUP), ft	370	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.482	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8665	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8741	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 WB Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	320
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10604	130
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11474	141
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.65	0.07

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	2055.9	Density in Ramp Influence Area (DR), pc/mi/ln	73.0
Distance to Upstream Ramp (LUP), ft	370	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.480	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8774	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8915	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 WB Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	320
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10622	67
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11494	72
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.64	0.04

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	2045.4	Density in Ramp Influence Area (DR), pc/mi/ln	72.7
Distance to Upstream Ramp (LUP), ft	370	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.481	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8794	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8866	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 WB Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	320
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10410	130
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11265	141
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.62	0.07

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	2011.2	Density in Ramp Influence Area (DR), pc/mi/ln	71.4
Distance to Upstream Ramp (LUP), ft	370	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.483	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8565	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8706	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 WB Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	320
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10798	67
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11684	72
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.67	0.04

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	2086.1	Density in Ramp Influence Area (DR), pc/mi/ln	74.1
Distance to Upstream Ramp (LUP), ft	370	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.478	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8984	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	9056	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10333	441
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11181	477
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.59	0.25

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	481.8	Density in Ramp Influence Area (DR), pc/mi/ln	75.5
Distance to Upstream Ramp (LUP), ft	370	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	490	Off-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.459	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	8481	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10505	431
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11367	466
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.61	0.25

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	244.0	Density in Ramp Influence Area (DR), pc/mi/ln	77.1
Distance to Upstream Ramp (LUP), ft	550	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	490	Off-Ramp Influenece Area Speed (SR), mi/h	51.2
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.454	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	8667	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11132	528
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	12046	571
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.71	0.30

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	461.6	Density in Ramp Influence Area (DR), pc/mi/ln	83.0
Distance to Upstream Ramp (LUP), ft	370	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	490	Off-Ramp Influenece Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.433	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9346	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11193	567
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	12112	614
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.72	0.32

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	239.3	Density in Ramp Influence Area (DR), pc/mi/ln	83.5
Distance to Upstream Ramp (LUP), ft	370	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	490	Off-Ramp Influenece Area Speed (SR), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.429	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9412	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10922	512
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11819	554
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.68	0.29

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	467.7	Density in Ramp Influence Area (DR), pc/mi/ln	81.0
Distance to Upstream Ramp (LUP), ft	370	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	765	Off-Ramp Influenece Area Speed (SR), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.439	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9119	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11351	553
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	12283	598
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.74	0.31

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	235.3	Density in Ramp Influence Area (DR), pc/mi/ln	85.0
Distance to Upstream Ramp (LUP), ft	370	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	490	Off-Ramp Influenece Area Speed (SR), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.425	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9583	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB - SR-1 EB Loop Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	260
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10333	198
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11181	214
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.62	0.11

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1459.0	Density in Ramp Influence Area (DR), pc/mi/ln	71.6
Distance to Upstream Ramp (LUP), ft	500	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	260	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.524	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8481	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8695	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710 NB - SR-1 EB Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	260
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10074	180
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11365	203
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.64	0.11

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1496.0	Density in Ramp Influence Area (DR), pc/mi/ln	73.0
Distance to Upstream Ramp (LUP), ft	500	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	260	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.522	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8665	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8868	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 EB Loop Ramp Merge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	260
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10604	201
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11474	217
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.66	0.11

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1522.3	Density in Ramp Influence Area (DR), pc/mi/ln	73.9
Distance to Upstream Ramp (LUP), ft	500	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	260	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.520	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8774	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8991	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 EB Loop Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	260
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10622	208
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11983	235
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.73	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1635.1	Density in Ramp Influence Area (DR), pc/mi/ln	78.0
Distance to Upstream Ramp (LUP), ft	260	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	500	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.498	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	9283	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	9518	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 EB Loop Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	260
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10410	211
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11265	228
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.63	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1479.9	Density in Ramp Influence Area (DR), pc/mi/ln	72.4
Distance to Upstream Ramp (LUP), ft	500	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	260	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.523	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8565	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8793	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/25/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 EB Loop Ramp Merge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	25.0
Segment Length (L) / Acceleration Length (LA),ft	1500	260
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10798	208
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11684	225
Capacity (c), pc/h	7050	1900
Volume-to-Capacity Ratio (v/c)	1.69	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	1569.0	Density in Ramp Influence Area (DR), pc/mi/ln	75.6
Distance to Upstream Ramp (LUP), ft	500	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	260	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.517	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8984	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	9209	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB - SR-1 EB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10774	326
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11658	353
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.65	0.18

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	79.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.452	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	8958	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10505	413
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11367	447
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.61	0.22

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	242.9	Density in Ramp Influence Area (DR), pc/mi/ln	77.1
Distance to Upstream Ramp (LUP), ft	550	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	765	Off-Ramp Influenece Area Speed (SR), mi/h	54.2
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.455	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	8667	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 WB Off-Ramp Diverge		

Geometric Data	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11132	327
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	12046	354
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.71	0.18

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	437.9	Density in Ramp Influence Area (DR), pc/mi/ln	83.0
Distance to Upstream Ramp (LUP), ft	550	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	765	Off-Ramp Influenece Area Speed (SR), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.443	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9346	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 EB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11132	477
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	12046	516
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.71	0.26

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	728.6	Density in Ramp Influence Area (DR), pc/mi/ln	83.0
Distance to Upstream Ramp (LUP), ft	550	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	765	Off-Ramp Influenece Area Speed (SR), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.435	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9346	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB - SR-1 EB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10922	353
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	11819	382
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.68	0.19

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	727.4	Density in Ramp Influence Area (DR), pc/mi/ln	81.0
Distance to Upstream Ramp (LUP), ft	550	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	765	Off-Ramp Influenece Area Speed (SR), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.447	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9119	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/15/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB - SR-1 EB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	185
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	11351	477
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	12283	516
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.74	0.26

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	716.0	Density in Ramp Influence Area (DR), pc/mi/ln	85.0
Distance to Upstream Ramp (LUP), ft	550	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	765	Off-Ramp Influenece Area Speed (SR), mi/h	54.1
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.429	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	9583	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information

Analyst	Daniel Chuong	Date	2/1/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 SB SR-1 WB Off-Ramp Diverge		

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	290
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

	Freeway	Ramp
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

	Freeway	Ramp
Demand Volume (Vi)	8316	84
Peak Hour Factor (PHF)	0.98	0.98
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	8486	86
Capacity (c), pc/h	7050	2100
Volume-to-Capacity Ratio (v/c)	1.20	0.04

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	51.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.544	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	5786	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	2/1/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710 SB SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	290
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9727	84
Peak Hour Factor (PHF)	0.98	0.98
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	9926	86
Capacity (c), pc/h	7050	2100
Volume-to-Capacity Ratio (v/c)	1.41	0.04

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	63.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.508	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	7226	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 SB SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	290
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8907	86
Peak Hour Factor (PHF)	0.98	0.98
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	9089	88
Capacity (c), pc/h	7050	2100
Volume-to-Capacity Ratio (v/c)	1.29	0.04

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	56.6
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.529	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	6389	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 SB SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	290
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	10076	60
Peak Hour Factor (PHF)	0.98	0.98
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	10282	61
Capacity (c), pc/h	7050	2100
Volume-to-Capacity Ratio (v/c)	1.46	0.03

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	66.8
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.500	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	7582	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 SB SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	290
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9183	87
Peak Hour Factor (PHF)	0.98	0.98
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	9370	89
Capacity (c), pc/h	7050	2100
Volume-to-Capacity Ratio (v/c)	1.33	0.04

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	59.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.522	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	6670	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Diverge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 SB SR-1 WB Off-Ramp Diverge		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	45.0
Segment Length (L) / Deceleration Length (LA),ft	1500	290
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9984	60
Peak Hour Factor (PHF)	0.98	0.98
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	10188	61
Capacity (c), pc/h	7050	2100
Volume-to-Capacity Ratio (v/c)	1.45	0.03

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	66.0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (D)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influenece Area Speed (SR), mi/h	58.0
Prop. Freeway Vehicles in Lane 1 and 2 (PD)	0.502	Outer Lanes Freeway Speed (SO), mi/h	64.7
Flow in Lanes 1 and 2 (v12), pc/h	7488	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 SB SR-1 EB On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	575
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7452	522
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	8064	565
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.22	0.28

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	47.9
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	24.8
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.594	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	5364	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	5929	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710 SB SR-1 EB On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	575
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8759	301
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	9478	326
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.39	0.16

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	57.2
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.594	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	6778	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	7104	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 SB SR-1 EB On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	575
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	7955	536
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	8608	580
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.30	0.29

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	52.3
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.594	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	5908	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	6488	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 SB SR-1 EB On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	575
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	8953	367
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	9688	397
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.43	0.20

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	59.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.594	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	6988	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	7385	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 SB SR-1 EB On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	575
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9096	603
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	9843	652
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.49	0.33

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	62.4
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.594	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	7143	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	7795	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

HCS7 Freeway Merge Report

Project Information			
Analyst	Daniel Chuong	Date	1/19/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 SB SR-1 EB On-Ramp		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	65.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	575
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)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	9924	363
Peak Hour Factor (PHF)	0.98	0.98
Total Trucks, %	6.02	6.02
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.943	0.943
Flow Rate (vi),pc/h	10739	393
Capacity (c), pc/h	7050	2000
Volume-to-Capacity Ratio (v/c)	1.58	0.20

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (DR), pc/mi/ln	67.5
Distance to Upstream Ramp (LUP), ft	-	Speed Index (M)	-
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/mi/ln	2700
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influenece Area Speed (SR), mi/h	0.0
Prop. Freeway Vehicles in Lane 1 and 2 (PM)	0.594	Outer Lanes Freeway Speed (SO), mi/h	56.1
Flow in Lanes 1 and 2 (v12), pc/h	8039	Ramp Junction Speed (S), mi/h	-
Flow Entering Ramp-Infl. Area (vR12), pc/h	8432	Average Density (D), pc/mi/ln	-
Level of Service (LOS)	F		

APPENDIX C

CALTRANS FACILITY ANALYSIS WORKSHEETS

Arterial Weaving (Cloverleaf) Analysis Worksheets

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710/Anaheim St Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	165	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	846	368	0	98
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	915	398	0	106
Weaving Flow Rate (v_w), pc/h	504	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	915	Density-Based Capacity (c_{IWL}), pc/h/ln		1740
Total Flow Rate (v), pc/h	1419	Demand Flow-Based Capacity (c_{IW}), pc/h		6761
Volume Ratio (VR)	0.355	Weaving Segment Capacity (c_W), veh/h		4922
Minimum Lane Change Rate (LC_{MIN}), lc/h	504	Adjusted Weaving Area Capacity, pc/h		5220
Maximum Weaving Length (L_{MAX}), ft	6181	Volume-to-Capacity Ratio (v/c)		0.27

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	21	Average Weaving Speed (S_W),mi/h	34.4
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	39.1
Weaving Lane Change Rate (LC_W), lc/h	504	Average Speed (S), mi/h	37.3
Weaving Lane Change Rate (LC_{All}), lc/h	504	Density (D), pc/mi/ln	12.7
Weaving Intensity Factor (W)	0.545	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710/Anaheim St Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	165	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	671	392	0	104
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	726	424	0	113
Weaving Flow Rate (v_w), pc/h	537	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	726	Density-Based Capacity (c_{IWL}), pc/h/ln		1680
Total Flow Rate (v), pc/h	1263	Demand Flow-Based Capacity (c_{IW}), pc/h		5647
Volume Ratio (VR)	0.425	Weaving Segment Capacity (c_W), veh/h		4753
Minimum Lane Change Rate (LC_{MIN}), lc/h	537	Adjusted Weaving Area Capacity, pc/h		5040
Maximum Weaving Length (L_{MAX}), ft	6963	Volume-to-Capacity Ratio (v/c)		0.25

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	17	Average Weaving Speed (S_W),mi/h	34.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	39.1
Weaving Lane Change Rate (LC_W), lc/h	537	Average Speed (S), mi/h	36.8
Weaving Lane Change Rate (LC_{All}), lc/h	537	Density (D), pc/mi/ln	11.4
Weaving Intensity Factor (W)	0.573	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710/Anaheim St Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	165	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1066	442	0	118
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1154	478	0	128
Weaving Flow Rate (v_w), pc/h	606	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1154	Density-Based Capacity (c_{IWL}), pc/h/ln		1749
Total Flow Rate (v), pc/h	1760	Demand Flow-Based Capacity (c_{IW}), pc/h		6977
Volume Ratio (VR)	0.344	Weaving Segment Capacity (c_W), veh/h		4948
Minimum Lane Change Rate (LC_{MIN}), lc/h	606	Adjusted Weaving Area Capacity, pc/h		5247
Maximum Weaving Length (L_{MAX}), ft	6061	Volume-to-Capacity Ratio (v/c)		0.34

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	27	Average Weaving Speed (S_W),mi/h	33.4
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	37.8
Weaving Lane Change Rate (LC_W), lc/h	606	Average Speed (S), mi/h	36.2
Weaving Lane Change Rate (LC_{All}), lc/h	606	Density (D), pc/mi/ln	16.2
Weaving Intensity Factor (W)	0.631	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710/Anaheim St Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	165	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	835	470	0	125
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	904	509	0	135
Weaving Flow Rate (v_w), pc/h	644	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	904	Density-Based Capacity (c_{IWL}), pc/h/ln		1688
Total Flow Rate (v), pc/h	1548	Demand Flow-Based Capacity (c_{IW}), pc/h		5769
Volume Ratio (VR)	0.416	Weaving Segment Capacity (c_W), veh/h		4775
Minimum Lane Change Rate (LC_{MIN}), lc/h	644	Adjusted Weaving Area Capacity, pc/h		5064
Maximum Weaving Length (L_{MAX}), ft	6861	Volume-to-Capacity Ratio (v/c)		0.31

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	21	Average Weaving Speed (S_W),mi/h	33.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	37.9
Weaving Lane Change Rate (LC_W), lc/h	644	Average Speed (S), mi/h	35.7
Weaving Lane Change Rate (LC_{All}), lc/h	644	Density (D), pc/mi/ln	14.5
Weaving Intensity Factor (W)	0.662	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710/Anaheim St Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	165	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1141	442	0	118
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1235	478	0	128
Weaving Flow Rate (v_w), pc/h	606	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1235	Density-Based Capacity (c_{IWL}), pc/h/ln		1761
Total Flow Rate (v), pc/h	1841	Demand Flow-Based Capacity (c_{IW}), pc/h		7295
Volume Ratio (VR)	0.329	Weaving Segment Capacity (c_W), veh/h		4982
Minimum Lane Change Rate (LC_{MIN}), lc/h	606	Adjusted Weaving Area Capacity, pc/h		5283
Maximum Weaving Length (L_{MAX}), ft	5897	Volume-to-Capacity Ratio (v/c)		0.35

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	29	Average Weaving Speed (S_W),mi/h	33.4
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	37.7
Weaving Lane Change Rate (LC_W), lc/h	606	Average Speed (S), mi/h	36.2
Weaving Lane Change Rate (LC_{All}), lc/h	606	Density (D), pc/mi/ln	17.0
Weaving Intensity Factor (W)	0.631	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710/Anaheim St Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	165	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	863	470	0	125
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	934	509	0	135
Weaving Flow Rate (v_w), pc/h	644	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	934	Density-Based Capacity (c_{IWL}), pc/h/ln		1695
Total Flow Rate (v), pc/h	1578	Demand Flow-Based Capacity (c_{IW}), pc/h		5882
Volume Ratio (VR)	0.408	Weaving Segment Capacity (c_W), veh/h		4795
Minimum Lane Change Rate (LC_{MIN}), lc/h	644	Adjusted Weaving Area Capacity, pc/h		5085
Maximum Weaving Length (L_{MAX}), ft	6771	Volume-to-Capacity Ratio (v/c)		0.31

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	22	Average Weaving Speed (S_W),mi/h	33.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	37.8
Weaving Lane Change Rate (LC_W), lc/h	644	Average Speed (S), mi/h	35.7
Weaving Lane Change Rate (LC_{All}), lc/h	644	Density (D), pc/mi/ln	14.7
Weaving Intensity Factor (W)	0.662	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710/Anaheim St Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	170	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	684	670	0	540
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	740	725	0	584
Weaving Flow Rate (v_w), pc/h	1309	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	740	Density-Based Capacity (c_{IWL}), pc/h/ln		1487
Total Flow Rate (v), pc/h	2049	Demand Flow-Based Capacity (c_{IW}), pc/h		3756
Volume Ratio (VR)	0.639	Weaving Segment Capacity (c_W), veh/h		3542
Minimum Lane Change Rate (LC_{MIN}), lc/h	1309	Adjusted Weaving Area Capacity, pc/h		3756
Maximum Weaving Length (L_{MAX}), ft	9496	Volume-to-Capacity Ratio (v/c)		0.55

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	18	Average Weaving Speed (S_W),mi/h	29.1
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	32.3
Weaving Lane Change Rate (LC_W), lc/h	1309	Average Speed (S), mi/h	30.2
Weaving Lane Change Rate (LC_{All}), lc/h	1309	Density (D), pc/mi/ln	22.6
Weaving Intensity Factor (W)	1.131	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710/Anaheim St Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	170	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1158	712	0	575
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1253	770	0	622
Weaving Flow Rate (v_w), pc/h	1392	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1253	Density-Based Capacity (c_{IWL}), pc/h/ln		1591
Total Flow Rate (v), pc/h	2645	Demand Flow-Based Capacity (c_{IW}), pc/h		4563
Volume Ratio (VR)	0.526	Weaving Segment Capacity (c_W), veh/h		4303
Minimum Lane Change Rate (LC_{MIN}), lc/h	1392	Adjusted Weaving Area Capacity, pc/h		4563
Maximum Weaving Length (L_{MAX}), ft	8132	Volume-to-Capacity Ratio (v/c)		0.58

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	30	Average Weaving Speed (S_W),mi/h	28.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	30.7
Weaving Lane Change Rate (LC_W), lc/h	1392	Average Speed (S), mi/h	29.6
Weaving Lane Change Rate (LC_{All}), lc/h	1392	Density (D), pc/mi/ln	29.8
Weaving Intensity Factor (W)	1.187	Level of Service (LOS)	D

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710/Anaheim St Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	170	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1030	804	0	648
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1115	870	0	701
Weaving Flow Rate (v_w), pc/h	1571	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1115	Density-Based Capacity (c_{IWL}), pc/h/ln		1537
Total Flow Rate (v), pc/h	2686	Demand Flow-Based Capacity (c_{IW}), pc/h		4103
Volume Ratio (VR)	0.585	Weaving Segment Capacity (c_W), veh/h		3869
Minimum Lane Change Rate (LC_{MIN}), lc/h	1571	Adjusted Weaving Area Capacity, pc/h		4103
Maximum Weaving Length (L_{MAX}), ft	8837	Volume-to-Capacity Ratio (v/c)		0.65

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	27	Average Weaving Speed (S_W),mi/h	28.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	29.4
Weaving Lane Change Rate (LC_W), lc/h	1571	Average Speed (S), mi/h	28.6
Weaving Lane Change Rate (LC_{All}), lc/h	1571	Density (D), pc/mi/ln	31.3
Weaving Intensity Factor (W)	1.306	Level of Service (LOS)	D

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710/Anaheim St Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	170	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1408	854	0	690
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1524	924	0	747
Weaving Flow Rate (v_w), pc/h	1671	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1524	Density-Based Capacity (c_{IWL}), pc/h/ln		1594
Total Flow Rate (v), pc/h	3195	Demand Flow-Based Capacity (c_{IW}), pc/h		4589
Volume Ratio (VR)	0.523	Weaving Segment Capacity (c_W), veh/h		4327
Minimum Lane Change Rate (LC_{MIN}), lc/h	1671	Adjusted Weaving Area Capacity, pc/h		4589
Maximum Weaving Length (L_{MAX}), ft	8097	Volume-to-Capacity Ratio (v/c)		0.70

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	36	Average Weaving Speed (S_W),mi/h	27.6
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	27.9
Weaving Lane Change Rate (LC_W), lc/h	1671	Average Speed (S), mi/h	27.7
Weaving Lane Change Rate (LC_{All}), lc/h	1671	Density (D), pc/mi/ln	38.4
Weaving Intensity Factor (W)	1.372	Level of Service (LOS)	E

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710/Anaheim St Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	170	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1062	804	0	648
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1149	870	0	701
Weaving Flow Rate (v_w), pc/h	1571	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1149	Density-Based Capacity (c_{IWL}), pc/h/ln		1543
Total Flow Rate (v), pc/h	2720	Demand Flow-Based Capacity (c_{IW}), pc/h		4152
Volume Ratio (VR)	0.578	Weaving Segment Capacity (c_W), veh/h		3916
Minimum Lane Change Rate (LC_{MIN}), lc/h	1571	Adjusted Weaving Area Capacity, pc/h		4153
Maximum Weaving Length (L_{MAX}), ft	8752	Volume-to-Capacity Ratio (v/c)		0.65

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	27	Average Weaving Speed (S_W),mi/h	28.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	29.3
Weaving Lane Change Rate (LC_W), lc/h	1571	Average Speed (S), mi/h	28.5
Weaving Lane Change Rate (LC_{All}), lc/h	1571	Density (D), pc/mi/ln	31.8
Weaving Intensity Factor (W)	1.306	Level of Service (LOS)	D

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710/Anaheim St Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	170	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1429	854	0	690
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1546	924	0	747
Weaving Flow Rate (v_w), pc/h	1671	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1546	Density-Based Capacity (c_{IWL}), pc/h/ln		1597
Total Flow Rate (v), pc/h	3217	Demand Flow-Based Capacity (c_{IW}), pc/h		4624
Volume Ratio (VR)	0.519	Weaving Segment Capacity (c_W), veh/h		4361
Minimum Lane Change Rate (LC_{MIN}), lc/h	1671	Adjusted Weaving Area Capacity, pc/h		4625
Maximum Weaving Length (L_{MAX}), ft	8049	Volume-to-Capacity Ratio (v/c)		0.70

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	37	Average Weaving Speed (S_W),mi/h	27.6
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	27.8
Weaving Lane Change Rate (LC_W), lc/h	1671	Average Speed (S), mi/h	27.7
Weaving Lane Change Rate (LC_{All}), lc/h	1671	Density (D), pc/mi/ln	38.7
Weaving Intensity Factor (W)	1.372	Level of Service (LOS)	E

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 NB/SR-1 Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	360	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1099	130	0	84
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1189	141	0	91
Weaving Flow Rate (v_W), pc/h	232	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1189	Density-Based Capacity (c_{IWL}), pc/h/ln		1909
Total Flow Rate (v), pc/h	1421	Demand Flow-Based Capacity (c_{IW}), pc/h		14724
Volume Ratio (VR)	0.163	Weaving Segment Capacity (c_W), veh/h		3600
Minimum Lane Change Rate (LC_{MIN}), lc/h	232	Adjusted Weaving Area Capacity, pc/h		3818
Maximum Weaving Length (L_{MAX}), ft	4161	Volume-to-Capacity Ratio (v/c)		0.37

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	60	Average Weaving Speed (S_W),mi/h	40.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	55	Average Non-Weaving Speed (S_{NW}), mi/h	39.9
Weaving Lane Change Rate (LC_W), lc/h	256	Average Speed (S), mi/h	39.9
Weaving Lane Change Rate (LC_{All}), lc/h	311	Density (D), pc/mi/ln	17.8
Weaving Intensity Factor (W)	0.201	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710 NB/SR-1 Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	360	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	727	67	0	52
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	787	72	0	56
Weaving Flow Rate (v_w), pc/h	128	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	787	Density-Based Capacity (c_{IWL}), pc/h/ln		1927
Total Flow Rate (v), pc/h	915	Demand Flow-Based Capacity (c_{IW}), pc/h		17143
Volume Ratio (VR)	0.140	Weaving Segment Capacity (c_W), veh/h		3634
Minimum Lane Change Rate (LC_{MIN}), lc/h	128	Adjusted Weaving Area Capacity, pc/h		3854
Maximum Weaving Length (L_{MAX}), ft	3932	Volume-to-Capacity Ratio (v/c)		0.24

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	40	Average Weaving Speed (S_W),mi/h	41.9
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	41.9
Weaving Lane Change Rate (LC_W), lc/h	152	Average Speed (S), mi/h	41.9
Weaving Lane Change Rate (LC_{All}), lc/h	152	Density (D), pc/mi/ln	10.9
Weaving Intensity Factor (W)	0.114	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB/SR-1 Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	360	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1270	130	0	86
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1374	141	0	93
Weaving Flow Rate (v_w), pc/h	234	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1374	Density-Based Capacity (c_{IWL}), pc/h/ln		1922
Total Flow Rate (v), pc/h	1608	Demand Flow-Based Capacity (c_{IW}), pc/h		16438
Volume Ratio (VR)	0.146	Weaving Segment Capacity (c_W), veh/h		3625
Minimum Lane Change Rate (LC_{MIN}), lc/h	234	Adjusted Weaving Area Capacity, pc/h		3844
Maximum Weaving Length (L_{MAX}), ft	3992	Volume-to-Capacity Ratio (v/c)		0.42

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	69	Average Weaving Speed (S_W),mi/h	39.5
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	93	Average Non-Weaving Speed (S_{NW}), mi/h	39.5
Weaving Lane Change Rate (LC_W), lc/h	258	Average Speed (S), mi/h	39.5
Weaving Lane Change Rate (LC_{All}), lc/h	351	Density (D), pc/mi/ln	20.4
Weaving Intensity Factor (W)	0.222	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB/SR-1 Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	360	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	840	67	0	60
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	909	72	0	65
Weaving Flow Rate (v_w), pc/h	137	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	909	Density-Based Capacity (c_{IWL}), pc/h/ln		1934
Total Flow Rate (v), pc/h	1046	Demand Flow-Based Capacity (c_{IW}), pc/h		18321
Volume Ratio (VR)	0.131	Weaving Segment Capacity (c_W), veh/h		3648
Minimum Lane Change Rate (LC_{MIN}), lc/h	137	Adjusted Weaving Area Capacity, pc/h		3869
Maximum Weaving Length (L_{MAX}), ft	3843	Volume-to-Capacity Ratio (v/c)		0.27

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	46	Average Weaving Speed (S_W),mi/h	41.8
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	41.5
Weaving Lane Change Rate (LC_W), lc/h	161	Average Speed (S), mi/h	41.5
Weaving Lane Change Rate (LC_{All}), lc/h	161	Density (D), pc/mi/ln	12.6
Weaving Intensity Factor (W)	0.120	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 NB/SR-1 Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	360	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1270	130	0	87
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1374	141	0	94
Weaving Flow Rate (v_w), pc/h	235	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1374	Density-Based Capacity (c_{IWL}), pc/h/ln		1922
Total Flow Rate (v), pc/h	1609	Demand Flow-Based Capacity (c_{IW}), pc/h		16438
Volume Ratio (VR)	0.146	Weaving Segment Capacity (c_W), veh/h		3625
Minimum Lane Change Rate (LC_{MIN}), lc/h	235	Adjusted Weaving Area Capacity, pc/h		3844
Maximum Weaving Length (L_{MAX}), ft	3992	Volume-to-Capacity Ratio (v/c)		0.42

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	69	Average Weaving Speed (S_W),mi/h	39.5
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	93	Average Non-Weaving Speed (S_{NW}), mi/h	39.4
Weaving Lane Change Rate (LC_W), lc/h	259	Average Speed (S), mi/h	39.4
Weaving Lane Change Rate (LC_{All}), lc/h	352	Density (D), pc/mi/ln	20.4
Weaving Intensity Factor (W)	0.222	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 NB/SR-1 Cloverleaf WB		

Geometric Data

Number of Lanes (N), ln	2	Segment Type	Freeway
Segment Length (L_S), ft	360	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	737	67	0	60
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	797	72	0	65
Weaving Flow Rate (v_w), pc/h	137	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	797	Density-Based Capacity (c_{IWL}), pc/h/ln		1921
Total Flow Rate (v), pc/h	934	Demand Flow-Based Capacity (c_{IW}), pc/h		16327
Volume Ratio (VR)	0.147	Weaving Segment Capacity (c_W), veh/h		3623
Minimum Lane Change Rate (LC_{MIN}), lc/h	137	Adjusted Weaving Area Capacity, pc/h		3842
Maximum Weaving Length (L_{MAX}), ft	4002	Volume-to-Capacity Ratio (v/c)		0.24

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	40	Average Weaving Speed (S_W),mi/h	41.8
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	41.8
Weaving Lane Change Rate (LC_W), lc/h	161	Average Speed (S), mi/h	41.8
Weaving Lane Change Rate (LC_{All}), lc/h	161	Density (D), pc/mi/ln	11.2
Weaving Intensity Factor (W)	0.120	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing AM
Project Description	I-710 SB/SR-1 Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	215	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1072	409	0	326
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1160	443	0	353
Weaving Flow Rate (v_w), pc/h	796	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1160	Density-Based Capacity (c_{IWL}), pc/h/ln		1699
Total Flow Rate (v), pc/h	1956	Demand Flow-Based Capacity (c_{IW}), pc/h		5897
Volume Ratio (VR)	0.407	Weaving Segment Capacity (c_W), veh/h		4806
Minimum Lane Change Rate (LC_{MIN}), lc/h	796	Adjusted Weaving Area Capacity, pc/h		5097
Maximum Weaving Length (L_{MAX}), ft	6760	Volume-to-Capacity Ratio (v/c)		0.38

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	35	Average Weaving Speed (S_W),mi/h	33.3
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	36.1
Weaving Lane Change Rate (LC_W), lc/h	796	Average Speed (S), mi/h	34.9
Weaving Lane Change Rate (LC_{All}), lc/h	796	Density (D), pc/mi/ln	18.7
Weaving Intensity Factor (W)	0.635	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2018
Jurisdiction	Caltrans	Time Period Analyzed	Existing PM
Project Description	I-710 SB/SR-1 Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	215	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1736	560	0	413
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1879	606	0	447
Weaving Flow Rate (v_w), pc/h	1053	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1879	Density-Based Capacity (c_{IWL}), pc/h/ln		1740
Total Flow Rate (v), pc/h	2932	Demand Flow-Based Capacity (c_{IW}), pc/h		6685
Volume Ratio (VR)	0.359	Weaving Segment Capacity (c_W), veh/h		4922
Minimum Lane Change Rate (LC_{MIN}), lc/h	1053	Adjusted Weaving Area Capacity, pc/h		5220
Maximum Weaving Length (L_{MAX}), ft	6225	Volume-to-Capacity Ratio (v/c)		0.56

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	57	Average Weaving Speed (S_W),mi/h	31.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	32.7
Weaving Lane Change Rate (LC_W), lc/h	1053	Average Speed (S), mi/h	32.3
Weaving Lane Change Rate (LC_{All}), lc/h	1053	Density (D), pc/mi/ln	30.3
Weaving Intensity Factor (W)	0.792	Level of Service (LOS)	D

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 SB/SR-1 Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	215	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1126	455	0	327
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1218	492	0	354
Weaving Flow Rate (v_w), pc/h	846	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1218	Density-Based Capacity (c_{IWL}), pc/h/ln		1697
Total Flow Rate (v), pc/h	2064	Demand Flow-Based Capacity (c_{IW}), pc/h		5854
Volume Ratio (VR)	0.410	Weaving Segment Capacity (c_W), veh/h		4801
Minimum Lane Change Rate (LC_{MIN}), lc/h	846	Adjusted Weaving Area Capacity, pc/h		5091
Maximum Weaving Length (L_{MAX}), ft	6794	Volume-to-Capacity Ratio (v/c)		0.41

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	37	Average Weaving Speed (S_W),mi/h	33.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	35.6
Weaving Lane Change Rate (LC_W), lc/h	846	Average Speed (S), mi/h	34.5
Weaving Lane Change Rate (LC_{All}), lc/h	846	Density (D), pc/mi/ln	19.9
Weaving Intensity Factor (W)	0.666	Level of Service (LOS)	B

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 NP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 SB/SR-1 Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	215	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	2006	715	0	477
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	2171	774	0	516
Weaving Flow Rate (v_w), pc/h	1290	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	2171	Density-Based Capacity (c_{IWL}), pc/h/ln		1728
Total Flow Rate (v), pc/h	3461	Demand Flow-Based Capacity (c_{IW}), pc/h		6434
Volume Ratio (VR)	0.373	Weaving Segment Capacity (c_W), veh/h		4889
Minimum Lane Change Rate (LC_{MIN}), lc/h	1290	Adjusted Weaving Area Capacity, pc/h		5185
Maximum Weaving Length (L_{MAX}), ft	6380	Volume-to-Capacity Ratio (v/c)		0.67

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	65	Average Weaving Speed (S_W),mi/h	30.6
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	30.2
Weaving Lane Change Rate (LC_W), lc/h	1290	Average Speed (S), mi/h	30.3
Weaving Lane Change Rate (LC_{All}), lc/h	1290	Density (D), pc/mi/ln	38.1
Weaving Intensity Factor (W)	0.929	Level of Service (LOS)	E

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	AM
Project Description	I-710 SB/SR-1 Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	215	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	1163	436	0	353
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	1258	472	0	382
Weaving Flow Rate (v_w), pc/h	854	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	1258	Density-Based Capacity (c_{IWL}), pc/h/ln		1702
Total Flow Rate (v), pc/h	2112	Demand Flow-Based Capacity (c_{IW}), pc/h		5941
Volume Ratio (VR)	0.404	Weaving Segment Capacity (c_W), veh/h		4815
Minimum Lane Change Rate (LC_{MIN}), lc/h	854	Adjusted Weaving Area Capacity, pc/h		5106
Maximum Weaving Length (L_{MAX}), ft	6726	Volume-to-Capacity Ratio (v/c)		0.41

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	38	Average Weaving Speed (S_W),mi/h	33.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	35.5
Weaving Lane Change Rate (LC_W), lc/h	854	Average Speed (S), mi/h	34.4
Weaving Lane Change Rate (LC_{All}), lc/h	854	Density (D), pc/mi/ln	20.5
Weaving Intensity Factor (W)	0.671	Level of Service (LOS)	C

HCS7 Freeway Weaving Report

Project Information

Analyst	Daniel Chuong	Date	1/21/2019
Agency	LSA	Analysis Year	2040 WP
Jurisdiction	Caltrans	Time Period Analyzed	PM
Project Description	I-710 SB/SR-1 Cloverleaf EB		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	215	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	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	1.40	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	2006	711	0	477
Peak Hour Factor (PHF)	0.98	0.98	0.98	0.98
Total Trucks, %	6.02	6.02	6.02	6.02
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.943	0.943	0.943
Flow Rate (v_i), pc/h	2171	769	0	516
Weaving Flow Rate (v_w), pc/h	1285	Freeway Max Capacity (c_{IFL}), pc/h/ln		2200
Non-Weaving Flow Rate (v_{NW}), pc/h	2171	Density-Based Capacity (c_{IWL}), pc/h/ln		1729
Total Flow Rate (v), pc/h	3456	Demand Flow-Based Capacity (c_{IW}), pc/h		6452
Volume Ratio (VR)	0.372	Weaving Segment Capacity (c_W), veh/h		4891
Minimum Lane Change Rate (LC_{MIN}), lc/h	1285	Adjusted Weaving Area Capacity, pc/h		5187
Maximum Weaving Length (L_{MAX}), ft	6369	Volume-to-Capacity Ratio (v/c)		0.67

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	65	Average Weaving Speed (S_W),mi/h	30.6
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	0	Average Non-Weaving Speed (S_{NW}), mi/h	30.2
Weaving Lane Change Rate (LC_W), lc/h	1285	Average Speed (S), mi/h	30.3
Weaving Lane Change Rate (LC_{All}), lc/h	1285	Density (D), pc/mi/ln	38.0
Weaving Intensity Factor (W)	0.926	Level of Service (LOS)	E

APPENDIX D

HIGHWAY CAPACITY MANUAL LEVEL OF SERVICE WORKSHEETS

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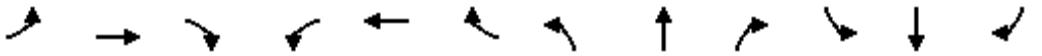
APPENDIX D

HIGHWAY CAPACITY MANUAL LEVEL OF SERVICE WORKSHEETS

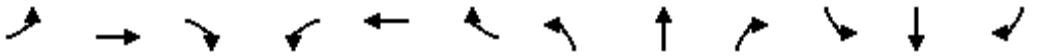
Existing (2018)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	847	105	65	1168	131	202	461	160	262	479	163
Future Volume (veh/h)	142	847	105	65	1168	131	202	461	160	262	479	163
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	154	921	114	71	1270	142	220	501	174	285	521	177
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	187	2075	256	242	1376	154	257	777	347	319	902	402
Arrive On Green	0.10	0.45	0.45	0.30	0.30	0.30	0.14	0.22	0.22	0.18	0.25	0.25
Sat Flow, veh/h	1781	4604	568	545	4660	521	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	154	680	355	71	928	484	220	501	174	285	521	177
Grp Sat Flow(s),veh/h/ln	1781	1702	1768	545	1702	1777	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.6	12.2	12.3	9.4	23.5	23.5	10.8	11.4	8.6	13.9	11.4	8.4
Cycle Q Clear(g_c), s	7.6	12.2	12.3	9.4	23.5	23.5	10.8	11.4	8.6	13.9	11.4	8.4
Prop In Lane	1.00		0.32	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	1534	797	242	1006	525	257	777	347	319	902	402
V/C Ratio(X)	0.83	0.44	0.45	0.29	0.92	0.92	0.86	0.64	0.50	0.89	0.58	0.44
Avail Cap(c_a), veh/h	190	1546	803	243	1012	528	302	777	347	330	902	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	16.8	16.8	25.4	30.4	30.4	37.3	31.7	30.6	35.8	29.1	27.9
Incr Delay (d2), s/veh	24.4	0.2	0.4	0.7	13.4	21.9	18.8	4.1	5.1	24.5	2.7	3.5
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	4.6	4.7	4.9	1.3	11.3	13.0	6.0	5.3	3.8	8.2	5.2	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.6	17.0	17.2	26.1	43.8	52.3	56.0	35.8	35.7	60.2	31.8	31.4
LnGrp LOS	E	B	B	C	D	D	E	D	D	E	C	C
Approach Vol, veh/h		1189			1483			895			983	
Approach Delay, s/veh		23.1			45.7			40.7			40.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	24.0		44.7	17.3	27.1	13.8	30.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	19.5		40.5	15.1	20.9	9.5	26.5				
Max Q Clear Time (g_c+I1), s	15.9	13.4		14.3	12.8	13.4	9.6	25.5				
Green Ext Time (p_c), s	0.1	2.1		8.3	0.1	2.5	0.0	0.8				

Intersection Summary												
HCM 6th Ctrl Delay			37.6									
HCM 6th LOS			D									



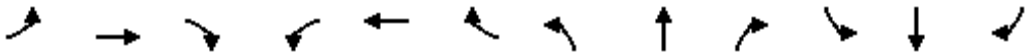
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	447	245	190	639	0	261	0	164	0	0	0
Future Volume (veh/h)	0	447	245	190	639	0	261	0	164	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	0	486	266	207	695	0	284	0	178	0	0	0
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	3	809	361	284	1364	0	345	0	1485	0	556	0
Arrive On Green	0.00	0.23	0.23	0.08	0.38	0.00	0.10	0.00	0.47	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3647	0	3563	0	3170	0	1870	0
Grp Volume(v), veh/h	0	486	266	207	695	0	284	0	178	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	0	1781	0	1585	0	1870	0
Q Serve(g_s), s	0.0	7.4	9.5	3.6	9.1	0.0	4.8	0.0	1.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.4	9.5	3.6	9.1	0.0	4.8	0.0	1.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	809	361	284	1364	0	345	0	1485	0	556	0
V/C Ratio(X)	0.00	0.60	0.74	0.73	0.51	0.00	0.82	0.00	0.12	0.00	0.00	0.00
Avail Cap(c_a), veh/h	146	1051	469	284	1364	0	345	0	1485	0	556	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.0	21.8	27.3	14.4	0.0	27.0	0.0	9.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	4.3	9.1	0.3	0.0	14.7	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.0	3.8	1.8	3.4	0.0	2.6	0.0	0.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.7	26.2	36.4	14.7	0.0	41.6	0.0	9.3	0.0	0.0	0.0
LnGrp LOS	A	C	C	D	B	A	D	A	A	A	A	A
Approach Vol, veh/h		752			902			462			0	
Approach Delay, s/veh		23.3			19.7			29.2			0.0	
Approach LOS		C			B			C				

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.0	9.5	18.4	10.4	22.6	0.0	27.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	5.0	18.0	5.9	18.1	5.0	18.0
Max Q Clear Time (g_c+I1), s	3.9	5.6	11.5	6.8	0.0	0.0	11.1
Green Ext Time (p_c), s	0.7	0.0	2.4	0.0	0.0	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

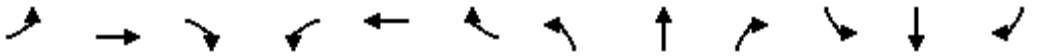
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	737	87	45	1014	96	157	369	45	222	355	152
Future Volume (veh/h)	71	737	87	45	1014	96	157	369	45	222	355	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	801	95	49	1102	104	171	401	49	241	386	165
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	99	1312	585	69	1156	109	350	698	312	362	496	209
Arrive On Green	0.06	0.37	0.37	0.04	0.35	0.35	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	1781	3282	309	1781	3554	1585	1781	2435	1027
Grp Volume(v), veh/h	77	801	95	49	596	610	171	401	49	241	280	271
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1815	1781	1777	1585	1781	1777	1686
Q Serve(g_s), s	4.0	17.2	3.8	2.5	30.6	30.7	8.0	9.6	2.4	11.7	14.0	14.3
Cycle Q Clear(g_c), s	4.0	17.2	3.8	2.5	30.6	30.7	8.0	9.6	2.4	11.7	14.0	14.3
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	99	1312	585	69	626	639	350	698	312	362	362	343
V/C Ratio(X)	0.78	0.61	0.16	0.72	0.95	0.95	0.49	0.57	0.16	0.66	0.77	0.79
Avail Cap(c_a), veh/h	99	1312	585	131	628	642	350	698	312	481	480	455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	24.0	19.8	44.5	29.5	29.6	33.4	34.1	31.2	34.3	35.3	35.4
Incr Delay (d2), s/veh	32.0	0.8	0.1	12.9	24.6	24.6	4.8	3.4	1.1	2.1	5.6	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	7.0	1.4	1.4	16.6	17.0	3.8	4.4	1.0	5.1	6.4	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.6	24.9	19.9	57.4	54.1	54.1	38.2	37.5	32.3	36.5	40.9	42.1
LnGrp LOS	E	C	B	E	D	D	D	D	C	D	D	D
Approach Vol, veh/h		973			1255			621			792	
Approach Delay, s/veh		28.4			54.3			37.3			40.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.9	8.1	39.1		23.6	9.7	37.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.4	6.9	31.4		25.3	5.2	33.1				
Max Q Clear Time (g_c+I1), s		11.6	4.5	19.2		16.3	6.0	32.7				
Green Ext Time (p_c), s		1.8	0.0	4.5		2.8	0.0	0.3				

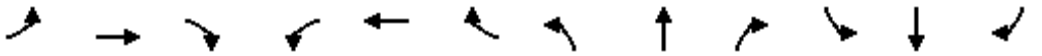
Intersection Summary												
HCM 6th Ctrl Delay			41.3									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	769	55	68	1185	111	79	372	59	77	424	100
Future Volume (veh/h)	89	769	55	68	1185	111	79	372	59	77	424	100
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	97	836	60	74	1288	121	86	404	64	84	461	109
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	128	1643	117	112	1560	147	318	1056	166	362	981	230
Arrive On Green	0.07	0.34	0.34	0.06	0.33	0.33	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	4864	348	1781	4748	446	842	3076	484	925	2856	671
Grp Volume(v), veh/h	97	584	312	74	923	486	86	232	236	84	286	284
Grp Sat Flow(s),veh/h/ln	1781	1702	1808	1781	1702	1790	842	1777	1783	925	1777	1750
Q Serve(g_s), s	2.8	7.2	7.3	2.1	13.2	13.2	4.7	5.2	5.3	4.0	6.6	6.7
Cycle Q Clear(g_c), s	2.8	7.2	7.3	2.1	13.2	13.2	11.4	5.2	5.3	9.3	6.6	6.7
Prop In Lane	1.00		0.19	1.00		0.25	1.00		0.27	1.00		0.38
Lane Grp Cap(c), veh/h	128	1150	610	112	1118	588	318	610	612	362	610	601
V/C Ratio(X)	0.76	0.51	0.51	0.66	0.83	0.83	0.27	0.38	0.39	0.23	0.47	0.47
Avail Cap(c_a), veh/h	179	1188	631	169	1169	615	318	610	612	362	610	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.0	14.0	24.2	16.3	16.3	18.0	13.1	13.1	16.6	13.5	13.6
Incr Delay (d2), s/veh	11.2	0.3	0.7	6.5	4.8	8.8	2.1	1.8	1.8	1.5	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.3	2.5	1.0	4.9	5.7	1.0	2.1	2.1	0.9	2.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	14.3	14.6	30.7	21.1	25.1	20.1	14.9	14.9	18.1	16.1	16.2
LnGrp LOS	D	B	B	C	C	C	C	B	B	B	B	B
Approach Vol, veh/h		993			1483			554			654	
Approach Delay, s/veh		16.4			22.9			15.7			16.4	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.6	7.8	22.3		22.6	8.3	21.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.1	5.0	18.4		18.1	5.3	18.1				
Max Q Clear Time (g_c+I1), s		13.4	4.1	9.3		11.3	4.8	15.2				
Green Ext Time (p_c), s		1.4	0.0	3.7		2.2	0.0	2.1				

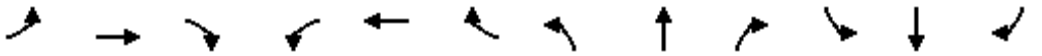
Intersection Summary												
HCM 6th Ctrl Delay			18.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	769	62	105	1089	80	168	556	55	180	466	113
Future Volume (veh/h)	92	769	62	105	1089	80	168	556	55	180	466	113
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	100	836	67	114	1184	87	183	604	60	196	507	123
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	128	1272	102	145	1328	98	223	988	441	236	1014	452
Arrive On Green	0.07	0.26	0.26	0.08	0.27	0.27	0.13	0.28	0.28	0.13	0.29	0.29
Sat Flow, veh/h	1781	4820	385	1781	4854	357	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	100	589	314	114	830	441	183	604	60	196	507	123
Grp Sat Flow(s),veh/h/ln	1781	1702	1801	1781	1702	1806	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.1	11.4	11.4	4.6	17.3	17.3	7.4	10.9	2.1	7.9	8.8	4.4
Cycle Q Clear(g_c), s	4.1	11.4	11.4	4.6	17.3	17.3	7.4	10.9	2.1	7.9	8.8	4.4
Prop In Lane	1.00		0.21	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	899	475	145	932	494	223	988	441	236	1014	452
V/C Ratio(X)	0.78	0.66	0.66	0.79	0.89	0.89	0.82	0.61	0.14	0.83	0.50	0.27
Avail Cap(c_a), veh/h	133	899	475	176	947	502	254	988	441	254	1014	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	24.2	24.2	33.2	25.7	25.7	31.5	23.1	20.0	31.2	22.0	20.4
Incr Delay (d2), s/veh	24.8	1.7	3.3	17.2	10.5	17.8	17.3	2.8	0.6	19.3	1.8	1.5
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	2.6	4.5	5.0	2.6	7.8	9.3	4.1	4.7	0.8	4.5	3.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	25.9	27.5	50.5	36.2	43.5	48.7	26.0	20.6	50.4	23.7	21.9
LnGrp LOS	E	C	C	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		1003			1385			847			826	
Approach Delay, s/veh		29.6			39.7			30.5			29.8	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	25.0	10.5	24.0	13.7	25.5	9.8	24.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	20.5	7.3	18.7	10.5	20.5	5.5	20.5
Max Q Clear Time (g_c+I1), s	9.9	12.9	6.6	13.4	9.4	10.8	6.1	19.3
Green Ext Time (p_c), s	0.0	2.6	0.0	2.5	0.1	2.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C



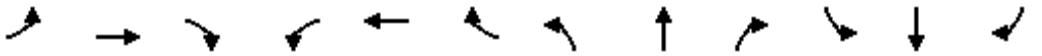
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	224	0	227	402	485	0	0	891	450
Future Volume (veh/h)	0	0	0	224	0	227	402	485	0	0	891	450
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
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	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				243	0	247	437	527	0	0	968	489
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	2	2	2	2	0	0	2	2
Cap, veh/h				732	0	326	562	2218	0	0	1281	597
Arrive On Green				0.21	0.00	0.21	0.16	0.62	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	3572	1585
Grp Volume(v), veh/h				243	0	247	437	527	0	0	968	489
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				3.1	0.0	7.8	6.4	3.5	0.0	0.0	13.1	14.7
Cycle Q Clear(g_c), s				3.1	0.0	7.8	6.4	3.5	0.0	0.0	13.1	14.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				732	0	326	562	2218	0	0	1281	597
V/C Ratio(X)				0.33	0.00	0.76	0.78	0.24	0.00	0.00	0.76	0.82
Avail Cap(c_a), veh/h				1213	0	540	621	2218	0	0	1281	597
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.9	0.0	19.8	21.2	4.4	0.0	0.0	14.4	14.9
Incr Delay (d2), s/veh				0.3	0.0	3.6	5.7	0.3	0.0	0.0	4.2	12.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.1	0.0	2.7	2.8	0.9	0.0	0.0	5.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.2	0.0	23.4	26.9	4.6	0.0	0.0	18.5	26.8
LnGrp LOS				B	A	C	C	A	A	A	B	C
Approach Vol, veh/h					490			964			1457	
Approach Delay, s/veh					20.8			14.7			21.3	
Approach LOS					C			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		37.5			13.1	24.4		15.4				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		33.0			9.5	19.0		18.0				
Max Q Clear Time (g_c+I1), s		5.5			8.4	16.7		9.8				
Green Ext Time (p_c), s		3.8			0.2	1.8		1.1				

Intersection Summary		
HCM 6th Ctrl Delay	19.0	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.



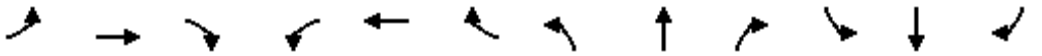
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	0	234	0	0	0	0	841	296	275	777	0
Future Volume (veh/h)	54	0	234	0	0	0	0	841	296	275	777	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
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	1870	1870	0
Adj Flow Rate, veh/h	39	0	275				0	914	322	299	845	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	248	0	441				0	1631	727	433	2404	0
Arrive On Green	0.14	0.00	0.14				0.00	0.46	0.46	0.13	0.68	0.00
Sat Flow, veh/h	1781	0	3170				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	39	0	275				0	914	322	299	845	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1728	1777	0
Q Serve(g_s), s	0.9	0.0	4.0				0.0	9.1	6.7	4.0	4.9	0.0
Cycle Q Clear(g_c), s	0.9	0.0	4.0				0.0	9.1	6.7	4.0	4.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	248	0	441				0	1631	727	433	2404	0
V/C Ratio(X)	0.16	0.00	0.62				0.00	0.56	0.44	0.69	0.35	0.00
Avail Cap(c_a), veh/h	657	0	1170				0	1631	727	538	2404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	19.8				0.0	9.6	9.0	20.4	3.4	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.4				0.0	1.4	2.0	2.8	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.3				0.0	3.1	2.2	1.6	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.0	21.2				0.0	11.0	10.9	23.2	3.8	0.0
LnGrp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		314						1236			1144	
Approach Delay, s/veh		20.9						11.0			8.8	
Approach LOS		C						B			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.6	26.9		11.3		37.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	7.6	20.9		18.0		33.0						
Max Q Clear Time (g_c+I1), s	6.0	11.1		6.0		6.9						
Green Ext Time (p_c), s	0.2	5.2		0.9		6.6						

Intersection Summary			
HCM 6th Ctrl Delay			11.2
HCM 6th LOS			B

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)	4	9	16	58	11	97	22	793	113	59	874	8
Future Volume (veh/h)	4	9	16	58	11	97	22	793	113	59	874	8
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	4	10	17	63	12	105	24	862	123	64	950	9
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	123	76	107	340	50	184	485	1957	279	473	2262	21
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	96	598	843	1250	388	1442	586	3122	445	571	3607	34
Grp Volume(v), veh/h	31	0	0	75	0	105	24	491	494	64	468	491
Grp Sat Flow(s),veh/h/ln	1537	0	0	1639	0	1442	586	1777	1790	571	1777	1864
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.5	0.8	5.2	5.2	2.4	4.9	4.9
Cycle Q Clear(g_c), s	2.5	0.0	0.0	1.4	0.0	2.5	5.7	5.2	5.2	7.6	4.9	4.9
Prop In Lane	0.13		0.55	0.84		1.00	1.00		0.25	1.00		0.02
Lane Grp Cap(c), veh/h	307	0	0	390	0	184	485	1114	1123	473	1114	1169
V/C Ratio(X)	0.10	0.00	0.00	0.19	0.00	0.57	0.05	0.44	0.44	0.14	0.42	0.42
Avail Cap(c_a), veh/h	893	0	0	914	0	708	485	1114	1123	473	1114	1169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	14.6	0.0	15.1	4.9	3.5	3.5	5.5	3.5	3.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	2.8	0.2	1.3	1.3	0.6	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.5	0.0	0.8	0.1	1.0	1.0	0.2	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	0.0	14.8	0.0	17.8	5.1	4.8	4.8	6.1	4.6	4.6
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		31			180			1009			1023	
Approach Delay, s/veh		14.4			16.6			4.8			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		9.2		27.5		9.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.0		23.0		18.0				
Max Q Clear Time (g_c+I1), s		7.7		4.5		9.6		4.5				
Green Ext Time (p_c), s		6.0		0.1		5.5		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

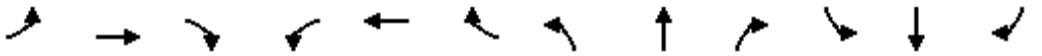
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Volume (veh/h)	167	341	0	690	315	1	937	331	0	0
Future Volume (veh/h)	167	341	0	690	315	1	937	331	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	182	371	0	750	342	1	1018	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2	2	2	2	2		
Cap, veh/h	515	458	0	1747	789	82	1770			
Arrive On Green	0.29	0.29	0.00	0.51	0.51	0.51	0.51	0.00		
Sat Flow, veh/h	1781	1585	0	3609	1554	0	3486	1585		
Grp Volume(v), veh/h	182	371	0	742	350	546	473	0		
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1591	1869	1617	1585		
Q Serve(g_s), s	3.6	9.6	0.0	6.1	6.2	0.0	9.0	0.0		
Cycle Q Clear(g_c), s	3.6	9.6	0.0	6.1	6.2	9.0	9.0	0.0		
Prop In Lane	1.00	1.00	0.00		0.98	0.00		1.00		
Lane Grp Cap(c), veh/h	515	458	0	1728	808	1030	821			
V/C Ratio(X)	0.35	0.81	0.00	0.43	0.43	0.53	0.58			
Avail Cap(c_a), veh/h	744	662	0	1728	808	1030	821			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.5	14.6	0.0	6.9	6.9	7.6	7.6	0.0		
Incr Delay (d2), s/veh	0.4	4.9	0.0	0.8	1.7	2.0	2.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	3.6	0.0	1.7	1.8	3.0	2.8	0.0		
Unsig. Movement Delay, s/veh										
LnGrp Delay(d),s/veh	12.9	19.5	0.0	7.6	8.6	9.5	10.5	0.0		
LnGrp LOS	B	B	A	A	A	A	B			
Approach Vol, veh/h	553			1092			1019	A		
Approach Delay, s/veh	17.3			7.9			10.0			
Approach LOS	B			A			A			

Timer - Assigned Phs		2		4		6				
Phs Duration (G+Y+Rc), s		27.0		17.3		27.0				
Change Period (Y+Rc), s		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		18.5		22.5				
Max Q Clear Time (g_c+I1), s		8.2		11.6		11.0				
Green Ext Time (p_c), s		6.5		1.2		5.1				

Intersection Summary										
HCM 6th Ctrl Delay			10.7							
HCM 6th LOS			B							

Notes

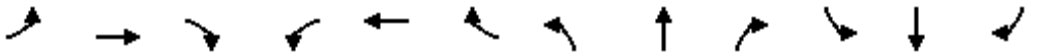
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	689	192	181	1101	109	69	572	200	50	660	72
Future Volume (veh/h)	98	689	192	181	1101	109	69	572	200	50	660	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	749	209	197	1197	118	75	622	217	54	717	78
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	137	1054	291	243	1533	151	253	1328	592	278	1208	131
Arrive On Green	0.08	0.26	0.26	0.14	0.32	0.32	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3978	1098	1781	4725	466	683	3554	1585	655	3233	351
Grp Volume(v), veh/h	107	640	318	197	862	453	75	622	217	54	394	401
Grp Sat Flow(s),veh/h/ln	1781	1702	1673	1781	1702	1787	683	1777	1585	655	1777	1807
Q Serve(g_s), s	3.5	10.2	10.4	6.4	13.8	13.8	6.0	8.0	6.0	4.1	10.7	10.7
Cycle Q Clear(g_c), s	3.5	10.2	10.4	6.4	13.8	13.8	16.7	8.0	6.0	12.1	10.7	10.7
Prop In Lane	1.00		0.66	1.00		0.26	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	137	902	443	243	1104	580	253	1328	592	278	664	675
V/C Ratio(X)	0.78	0.71	0.72	0.81	0.78	0.78	0.30	0.47	0.37	0.19	0.59	0.59
Avail Cap(c_a), veh/h	187	1021	502	288	1214	637	253	1328	592	278	664	675
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	20.0	20.0	25.1	18.3	18.3	21.8	14.3	13.6	18.9	15.1	15.1
Incr Delay (d2), s/veh	13.5	2.0	4.3	13.7	3.1	5.7	3.0	1.2	1.7	1.6	3.9	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.9	4.1	3.4	5.2	5.9	1.1	3.1	2.1	0.7	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	22.0	24.3	38.9	21.4	24.1	24.8	15.5	15.4	20.4	19.0	19.0
LnGrp LOS	D	C	C	D	C	C	C	B	B	C	B	B
Approach Vol, veh/h		1065			1512			914			849	
Approach Delay, s/veh		24.5			24.5			16.2			19.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.9	12.7	20.4		26.9	9.1	24.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.8	9.7	18.0		18.8	6.3	21.4				
Max Q Clear Time (g_c+I1), s		18.7	8.4	12.4		14.1	5.5	15.8				
Green Ext Time (p_c), s		0.1	0.1	2.9		2.3	0.0	3.7				

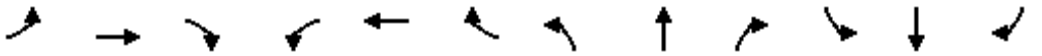
Intersection Summary												
HCM 6th Ctrl Delay			21.7									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	834	75	205	1268	124	89	475	188	59	329	113
Future Volume (veh/h)	110	834	75	205	1268	124	89	475	188	59	329	113
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	120	907	82	223	1378	135	97	516	204	64	358	123
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	154	1393	126	273	1699	166	346	1126	502	274	1126	502
Arrive On Green	0.09	0.29	0.29	0.15	0.36	0.36	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	4767	430	1781	4728	463	914	3554	1585	732	3554	1585
Grp Volume(v), veh/h	120	647	342	223	992	521	97	516	204	64	358	123
Grp Sat Flow(s),veh/h/ln	1781	1702	1793	1781	1702	1787	914	1777	1585	732	1777	1585
Q Serve(g_s), s	3.8	9.4	9.5	6.9	15.0	15.0	5.1	6.6	5.7	4.3	4.3	3.3
Cycle Q Clear(g_c), s	3.8	9.4	9.5	6.9	15.0	15.0	9.5	6.6	5.7	10.9	4.3	3.3
Prop In Lane	1.00		0.24	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	995	524	273	1223	642	346	1126	502	274	1126	502
V/C Ratio(X)	0.78	0.65	0.65	0.82	0.81	0.81	0.28	0.46	0.41	0.23	0.32	0.24
Avail Cap(c_a), veh/h	216	1078	568	329	1294	679	346	1126	502	274	1126	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	17.6	17.6	23.3	16.5	16.5	18.3	15.5	15.2	19.9	14.7	14.4
Incr Delay (d2), s/veh	11.2	1.2	2.4	12.5	3.8	7.1	2.0	1.3	2.4	2.0	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.4	3.8	3.6	5.6	6.4	1.2	2.6	2.1	0.8	1.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	18.8	20.0	35.8	20.3	23.5	20.4	16.9	17.7	21.9	15.5	15.5
LnGrp LOS	D	B	B	D	C	C	C	B	B	C	B	B
Approach Vol, veh/h		1109			1736			817			545	
Approach Delay, s/veh		21.1			23.3			17.5			16.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.5	13.2	21.1		22.5	9.4	24.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	10.5	18.0		18.0	6.9	21.6				
Max Q Clear Time (g_c+I1), s		11.5	8.9	11.5		12.9	5.8	17.0				
Green Ext Time (p_c), s		2.6	0.1	3.3		1.4	0.0	3.4				

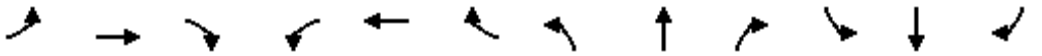
Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	883	77	35	1255	181	86	530	22	142	365	264
Future Volume (veh/h)	174	883	77	35	1255	181	86	530	22	142	365	264
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	189	960	84	38	1364	197	93	576	24	154	397	287
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	221	1936	169	65	1430	206	325	871	36	300	930	415
Arrive On Green	0.12	0.40	0.40	0.04	0.32	0.32	0.06	0.25	0.25	0.07	0.26	0.26
Sat Flow, veh/h	1781	4782	417	1781	4507	651	1781	3476	145	1781	3554	1585
Grp Volume(v), veh/h	189	683	361	38	1030	531	93	294	306	154	397	287
Grp Sat Flow(s),veh/h/ln	1781	1702	1795	1781	1702	1753	1781	1777	1844	1781	1777	1585
Q Serve(g_s), s	7.8	11.2	11.2	1.6	22.2	22.2	2.9	11.1	11.2	4.8	7.0	12.2
Cycle Q Clear(g_c), s	7.8	11.2	11.2	1.6	22.2	22.2	2.9	11.1	11.2	4.8	7.0	12.2
Prop In Lane	1.00		0.23	1.00		0.37	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	221	1378	727	65	1080	556	325	445	462	300	930	415
V/C Ratio(X)	0.86	0.50	0.50	0.59	0.95	0.95	0.29	0.66	0.66	0.51	0.43	0.69
Avail Cap(c_a), veh/h	221	1378	727	140	1080	556	345	445	462	300	930	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	16.6	16.6	35.6	25.1	25.1	19.2	25.2	25.2	20.1	23.0	25.0
Incr Delay (d2), s/veh	26.5	0.3	0.5	8.1	17.4	27.0	0.5	7.5	7.3	1.5	1.4	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.0	4.3	0.8	10.8	12.6	1.2	5.4	5.6	2.1	3.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	16.9	17.2	43.7	42.4	52.1	19.7	32.7	32.5	21.6	24.5	34.1
LnGrp LOS	E	B	B	D	D	D	B	C	C	C	C	C
Approach Vol, veh/h		1233			1599			693			838	
Approach Delay, s/veh		23.4			45.7			30.9			27.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	23.3	7.2	34.9	8.8	24.1	13.8	28.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	18.8	5.9	27.2	5.1	18.8	9.3	23.8
Max Q Clear Time (g_c+I1), s	6.8	13.2	3.6	13.2	4.9	14.2	9.8	24.2
Green Ext Time (p_c), s	0.0	1.8	0.0	5.7	0.0	1.6	0.0	0.0

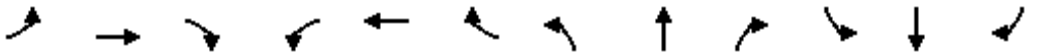
Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	1048	11	235	1339	63	130	973	239	90	433	153
Future Volume (veh/h)	225	1048	11	235	1339	63	130	973	239	90	433	153
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	245	1139	12	255	1455	68	141	1058	260	98	471	166
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	265	1497	16	278	1475	69	433	1059	259	146	1056	471
Arrive On Green	0.15	0.29	0.29	0.16	0.30	0.30	0.13	0.37	0.37	0.05	0.30	0.30
Sat Flow, veh/h	1781	5210	55	1781	4999	234	1781	2831	692	1781	3554	1585
Grp Volume(v), veh/h	245	744	407	255	991	532	141	662	656	98	471	166
Grp Sat Flow(s),veh/h/ln	1781	1702	1860	1781	1702	1828	1781	1777	1746	1781	1777	1585
Q Serve(g_s), s	18.9	27.8	27.8	19.6	40.3	40.3	6.7	51.8	52.1	5.3	15.0	11.5
Cycle Q Clear(g_c), s	18.9	27.8	27.8	19.6	40.3	40.3	6.7	51.8	52.1	5.3	15.0	11.5
Prop In Lane	1.00		0.03	1.00		0.13	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	265	978	535	278	1004	539	433	665	653	146	1056	471
V/C Ratio(X)	0.93	0.76	0.76	0.92	0.99	0.99	0.33	1.00	1.00	0.67	0.45	0.35
Avail Cap(c_a), veh/h	265	978	535	300	1004	539	433	665	653	283	1329	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	45.3	45.3	57.9	48.8	48.8	24.8	43.5	43.6	37.3	39.7	38.4
Incr Delay (d2), s/veh	36.0	3.5	6.3	29.9	25.1	35.2	2.0	34.0	36.4	5.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	12.0	13.6	11.0	20.2	23.2	3.0	28.3	28.4	2.5	6.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.6	48.8	51.6	87.8	73.9	84.0	26.8	77.5	80.0	42.4	40.0	38.9
LnGrp LOS	F	D	D	F	E	F	C	E	F	D	D	D
Approach Vol, veh/h		1396			1778			1459			735	
Approach Delay, s/veh		57.7			78.9			73.7			40.0	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	56.6	26.3	44.5	22.6	45.9	25.2	45.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.1	52.1	23.5	38.3	18.1	52.1	20.7	41.1
Max Q Clear Time (g_c+I1), s	7.3	54.1	21.6	29.8	8.7	17.0	20.9	42.3
Green Ext Time (p_c), s	0.1	0.0	0.1	4.4	0.2	3.7	0.0	0.0

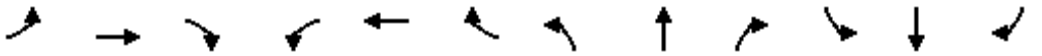
Intersection Summary	
HCM 6th Ctrl Delay	66.7
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	864	214	176	1020	208	175	555	86	196	931	131
Future Volume (veh/h)	118	864	214	176	1020	208	175	555	86	196	931	131
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	128	939	233	191	1109	226	190	603	93	213	1012	142
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	143	1093	270	216	1098	490	202	1214	185	249	1058	472
Arrive On Green	0.08	0.27	0.27	0.12	0.31	0.31	0.11	0.27	0.27	0.14	0.30	0.30
Sat Flow, veh/h	1781	4083	1010	1781	3554	1585	1781	4472	680	1781	3554	1585
Grp Volume(v), veh/h	128	782	390	191	1109	226	190	457	239	213	1012	142
Grp Sat Flow(s),veh/h/ln	1781	1702	1689	1781	1777	1585	1781	1702	1748	1781	1777	1585
Q Serve(g_s), s	6.4	19.7	19.8	9.5	27.8	10.3	9.5	10.2	10.4	10.5	25.2	6.2
Cycle Q Clear(g_c), s	6.4	19.7	19.8	9.5	27.8	10.3	9.5	10.2	10.4	10.5	25.2	6.2
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	143	912	452	216	1098	490	202	924	474	249	1058	472
V/C Ratio(X)	0.90	0.86	0.86	0.89	1.01	0.46	0.94	0.49	0.50	0.86	0.96	0.30
Avail Cap(c_a), veh/h	143	912	452	216	1098	490	202	924	474	287	1058	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	31.3	31.4	38.9	31.1	25.1	39.6	27.6	27.7	37.8	31.0	24.4
Incr Delay (d2), s/veh	46.5	8.2	15.5	32.4	29.7	0.7	46.8	1.9	3.8	19.7	19.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	8.6	9.5	5.9	15.6	3.8	6.6	4.2	4.6	5.8	12.8	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.5	39.6	46.9	71.4	60.8	25.7	86.4	29.5	31.5	57.5	50.0	26.0
LnGrp LOS	F	D	D	E	F	C	F	C	C	E	D	C
Approach Vol, veh/h		1300			1526			886			1367	
Approach Delay, s/veh		46.5			56.9			42.2			48.7	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	28.9	15.4	28.6	14.7	31.3	11.7	32.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	14.5	22.5	10.9	24.1	10.2	26.8	7.2	27.8
Max Q Clear Time (g_c+I1), s	12.5	12.4	11.5	21.8	11.5	27.2	8.4	29.8
Green Ext Time (p_c), s	0.1	3.0	0.0	1.5	0.0	0.0	0.0	0.0

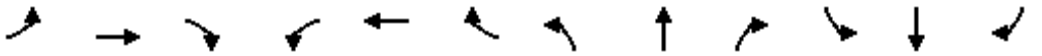
Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	687	247	227	886	30	294	641	209	108	1173	153
Future Volume (veh/h)	86	687	247	227	886	30	294	641	209	108	1173	153
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	93	747	268	247	963	33	320	697	227	117	1275	166
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	213	1162	361	337	1335	46	416	1641	509	149	1654	214
Arrive On Green	0.06	0.23	0.23	0.10	0.26	0.26	0.12	0.32	0.32	0.08	0.28	0.28
Sat Flow, veh/h	3456	5106	1585	3456	5070	174	3456	5106	1585	1781	5807	753
Grp Volume(v), veh/h	93	747	268	247	646	350	320	697	227	117	1059	382
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1839	1728	1702	1585	1781	1609	1735
Q Serve(g_s), s	1.7	8.8	10.5	4.6	11.5	11.5	6.0	7.2	7.6	4.3	13.4	13.5
Cycle Q Clear(g_c), s	1.7	8.8	10.5	4.6	11.5	11.5	6.0	7.2	7.6	4.3	13.4	13.5
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	213	1162	361	337	897	484	416	1641	509	149	1374	494
V/C Ratio(X)	0.44	0.64	0.74	0.73	0.72	0.72	0.77	0.42	0.45	0.78	0.77	0.77
Avail Cap(c_a), veh/h	264	1378	428	337	990	535	440	1641	509	195	1374	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	23.3	24.0	29.3	22.3	22.3	28.4	17.8	17.9	30.0	21.9	21.9
Incr Delay (d2), s/veh	1.4	0.8	5.7	8.0	2.3	4.3	7.7	0.8	2.8	14.2	4.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	4.1	2.2	4.4	5.0	2.7	2.5	2.8	2.3	4.9	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	24.1	29.7	37.3	24.7	26.6	36.1	18.6	20.7	44.1	26.1	33.1
LnGrp LOS	C	C	C	D	C	C	D	B	C	D	C	C
Approach Vol, veh/h		1108			1243			1244			1558	
Approach Delay, s/veh		26.1			27.7			23.5			29.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	25.9	11.0	19.7	12.5	23.5	8.6	22.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.3	20.2	6.5	18.0	8.5	19.0	5.1	19.4
Max Q Clear Time (g_c+I1), s	6.3	9.6	6.6	12.5	8.0	15.5	3.7	13.5
Green Ext Time (p_c), s	0.0	3.8	0.0	2.7	0.1	2.5	0.0	2.9

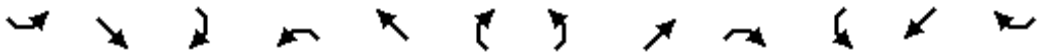
Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	312	416	22	208	1377	200	148	1277	275	249	1304	571
Future Volume (veh/h)	312	416	22	208	1377	200	148	1277	275	249	1304	571
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	339	452	24	226	1497	217	161	1388	299	271	1417	621
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	396	569	30	962	1421	441	765	1424	351	916	1353	739
Arrive On Green	0.11	0.11	0.11	0.28	0.28	0.28	0.22	0.22	0.22	0.26	0.26	0.26
Sat Flow, veh/h	3456	4966	262	3456	5106	1585	3456	6434	1585	3456	5106	2790
Grp Volume(v), veh/h	339	309	167	226	1497	217	161	1388	299	271	1417	621
Grp Sat Flow(s),veh/h/ln	1728	1702	1823	1728	1702	1585	1728	1609	1585	1728	1702	1395
Q Serve(g_s), s	14.4	13.2	13.3	7.5	41.5	17.1	5.7	31.9	27.0	9.3	39.5	31.4
Cycle Q Clear(g_c), s	14.4	13.2	13.3	7.5	41.5	17.1	5.7	31.9	27.0	9.3	39.5	31.4
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	390	209	962	1421	441	765	1424	351	916	1353	739
V/C Ratio(X)	0.86	0.79	0.80	0.23	1.05	0.49	0.21	0.97	0.85	0.30	1.05	0.84
Avail Cap(c_a), veh/h	417	411	220	962	1421	441	765	1424	351	916	1353	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.8	64.3	64.3	41.5	53.8	45.0	47.4	57.6	55.7	43.7	54.8	51.8
Incr Delay (d2), s/veh	15.4	9.7	18.0	0.1	39.2	0.8	0.6	18.5	22.2	0.8	37.9	11.1
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	7.1	6.2	7.2	3.2	22.6	6.8	2.5	14.5	12.7	4.1	21.2	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.2	74.0	82.3	41.7	93.0	45.8	48.0	76.1	77.9	44.5	92.7	62.9
LnGrp LOS	F	E	F	D	F	D	D	E	E	D	F	E
Approach Vol, veh/h		815			1940			1848			2309	
Approach Delay, s/veh		78.3			81.8			74.0			79.0	
Approach LOS		E			F			E			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.5		21.6		44.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		39.5		41.5				
Max Q Clear Time (g_c+I1), s		33.9		16.4		41.5		43.5				
Green Ext Time (p_c), s		0.0		0.7		0.0		0.0				

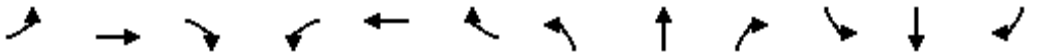
Intersection Summary												
HCM 6th Ctrl Delay			78.3									
HCM 6th LOS			E									



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	69	377	24	378	400	37	80	640	352	79	959	82
Future Volume (veh/h)	69	377	24	378	400	37	80	640	352	79	959	82
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	75	410	26	411	435	40	87	696	383	86	1042	89
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	97	787	351	408	1408	628	171	974	454	110	989	84
Arrive On Green	0.05	0.22	0.22	0.23	0.40	0.40	0.05	0.29	0.29	0.06	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3404	1585	1781	3313	283
Grp Volume(v), veh/h	75	410	26	411	435	40	87	696	383	86	559	572
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1781	1777	1819
Q Serve(g_s), s	3.7	9.1	1.2	20.5	7.5	1.4	2.2	16.4	20.3	4.3	26.7	26.7
Cycle Q Clear(g_c), s	3.7	9.1	1.2	20.5	7.5	1.4	2.2	16.4	20.3	4.3	26.7	26.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	97	787	351	408	1408	628	171	974	454	110	531	543
V/C Ratio(X)	0.77	0.52	0.07	1.01	0.31	0.06	0.51	0.71	0.84	0.78	1.05	1.05
Avail Cap(c_a), veh/h	187	787	351	408	1408	628	193	974	454	141	531	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	30.6	27.6	34.5	18.6	16.7	41.4	28.6	30.0	41.4	31.4	31.4
Incr Delay (d2), s/veh	12.3	2.5	0.4	46.2	0.6	0.2	2.3	2.5	13.6	18.9	53.7	53.5
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	1.9	4.0	0.5	13.6	3.0	0.5	1.0	6.8	9.2	2.4	18.9	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	33.1	28.0	80.6	19.1	16.9	43.8	31.1	43.6	60.2	85.1	84.9
LnGrp LOS	D	C	C	F	B	B	D	C	D	E	F	F
Approach Vol, veh/h		511			886			1166			1217	
Approach Delay, s/veh		35.9			47.6			36.2			83.2	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	39.9	10.0	30.1	25.0	24.3	8.9	31.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.4	30.9	7.1	24.6	20.5	19.8	5.0	26.7
Max Q Clear Time (g_c+I1), s	5.7	9.5	6.3	22.3	22.5	11.1	4.2	28.7
Green Ext Time (p_c), s	0.0	2.7	0.0	1.5	0.0	1.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	212	571	40	113	58	403	1366	51	89	779	21
Future Volume (veh/h)	24	212	571	40	113	58	403	1366	51	89	779	21
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	26	230	621	43	123	63	438	1485	55	97	847	23
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	75	823	391	182	538	391	479	1822	813	124	1107	30
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.27	0.51	0.51	0.07	0.31	0.31
Sat Flow, veh/h	99	3333	1585	454	2178	1585	1781	3554	1585	1781	3534	96
Grp Volume(v), veh/h	256	0	621	80	86	63	438	1485	55	97	426	444
Grp Sat Flow(s),veh/h/ln	1815	1617	1585	1015	1617	1585	1781	1777	1585	1781	1777	1853
Q Serve(g_s), s	0.7	0.0	19.5	2.0	3.3	2.5	18.8	27.6	1.4	4.2	17.1	17.1
Cycle Q Clear(g_c), s	9.5	0.0	19.5	3.7	3.3	2.5	18.8	27.6	1.4	4.2	17.1	17.1
Prop In Lane	0.10		1.00	0.53		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	498	399	391	320	399	391	479	1822	813	124	557	581
V/C Ratio(X)	0.51	0.00	1.59	0.25	0.21	0.16	0.91	0.82	0.07	0.78	0.76	0.76
Avail Cap(c_a), veh/h	498	399	391	320	399	391	530	1822	813	147	557	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	29.7	23.5	23.7	23.3	28.0	16.1	9.7	36.2	24.5	24.5
Incr Delay (d2), s/veh	0.9	0.0	276.1	0.4	0.3	0.2	19.4	4.1	0.2	20.4	9.6	9.3
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	4.2	0.0	37.1	1.2	1.3	0.9	10.0	10.4	0.5	2.5	8.1	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	305.9	24.0	23.9	23.5	47.4	20.3	9.9	56.5	34.1	33.8
LnGrp LOS	C	A	F	C	C	C	D	C	A	E	C	C
Approach Vol, veh/h		877			229			1978			967	
Approach Delay, s/veh		224.4			23.8			26.0			36.2	
Approach LOS		F			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	45.0		24.0	25.7	29.3		24.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	40.5		19.5	23.5	23.5		19.5				
Max Q Clear Time (g_c+I1), s	6.2	29.6		21.5	20.8	19.1		5.7				
Green Ext Time (p_c), s	0.0	7.2		0.0	0.4	2.0		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		71.3	
HCM 6th LOS		E	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	1856	183	0	1247	477	538	883	5	129	1165	4
Future Volume (veh/h)	0	1856	183	0	1247	477	538	883	5	129	1165	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2017	199	0	1355	518	585	960	5	140	1266	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2019	197	0	1517	677	598	1790	9	172	1393	4
Arrive On Green	0.00	0.43	0.43	0.00	0.43	0.43	0.17	0.34	0.34	0.10	0.26	0.26
Sat Flow, veh/h	0	4897	463	0	3647	1585	3456	5242	27	1781	5255	17
Grp Volume(v), veh/h	0	1447	769	0	1355	518	585	623	342	140	820	450
Grp Sat Flow(s),veh/h/ln	0	1702	1787	0	1777	1585	1728	1702	1865	1781	1702	1867
Q Serve(g_s), s	0.0	42.4	42.7	0.0	35.3	27.8	16.9	14.8	14.8	7.7	23.3	23.3
Cycle Q Clear(g_c), s	0.0	42.4	42.7	0.0	35.3	27.8	16.9	14.8	14.8	7.7	23.3	23.3
Prop In Lane	0.00		0.26	0.00		1.00	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	0	1454	763	0	1517	677	598	1162	637	172	902	495
V/C Ratio(X)	0.00	1.00	1.01	0.00	0.89	0.77	0.98	0.54	0.54	0.81	0.91	0.91
Avail Cap(c_a), veh/h	0	1454	763	0	1517	677	598	1162	637	274	902	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	28.6	28.7	0.0	26.5	24.4	41.2	26.5	26.5	44.3	35.6	35.6
Incr Delay (d2), s/veh	0.0	22.5	34.5	0.0	7.2	5.2	31.3	1.8	3.2	9.6	14.7	23.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.3	24.0	0.0	15.3	23.6	9.5	6.0	6.8	3.8	11.1	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	51.1	63.1	0.0	33.7	29.6	72.5	28.3	29.8	53.8	50.3	58.8
LnGrp LOS	A	D	F	A	C	C	E	C	C	D	D	E
Approach Vol, veh/h		2216			1873			1550			1410	
Approach Delay, s/veh		55.2			32.6			45.3			53.3	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.8	31.0		47.2	14.2	38.6		47.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.3	26.5		42.7	15.4	28.4		42.7				
Max Q Clear Time (g_c+I1), s	18.9	25.3		44.7	9.7	16.8		37.3				
Green Ext Time (p_c), s	0.0	0.8		0.0	0.1	4.6		4.2				

Intersection Summary												
HCM 6th Ctrl Delay			46.7									
HCM 6th LOS			D									

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	90	422	73	239	121	0	78	959	36	25	1273	314
Future Volume (veh/h)	90	422	73	239	121	0	78	959	36	25	1273	314
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	98	459	79	260	132	0	85	1042	39	27	1384	341
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	623	757	337	433	758		165	2420	90	264	2446	759
Arrive On Green	0.21	0.21	0.21	0.15	0.15	0.00	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	282	5051	189	522	5106	1585
Grp Volume(v), veh/h	98	459	79	260	132	0	85	702	379	27	1384	341
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	282	1702	1836	522	1702	1585
Q Serve(g_s), s	3.0	9.9	3.5	10.2	1.9	0.0	24.1	11.4	11.5	3.0	16.4	12.1
Cycle Q Clear(g_c), s	3.0	9.9	3.5	10.2	1.9	0.0	40.5	11.4	11.5	14.5	16.4	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	623	757	337	433	758		165	1631	880	264	2446	759
V/C Ratio(X)	0.16	0.61	0.23	0.60	0.17		0.51	0.43	0.43	0.10	0.57	0.45
Avail Cap(c_a), veh/h	623	757	337	548	1087		165	1631	880	264	2446	759
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	30.1	27.6	24.6	31.5	0.0	30.9	14.5	14.5	19.2	15.7	14.6
Incr Delay (d2), s/veh	0.5	3.6	1.6	1.3	0.1	0.0	2.7	0.2	0.3	0.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.5	1.4	4.3	0.8	0.0	1.8	4.2	4.5	0.4	6.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	33.7	29.2	26.0	31.6	0.0	33.6	14.6	14.8	19.4	16.0	15.0
LnGrp LOS	B	C	C	C	C		C	B	B	B	B	B
Approach Vol, veh/h		636			392	A		1166			1752	
Approach Delay, s/veh		30.6			27.9			16.1			15.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	22.5		45.0	22.5	17.0		45.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	18.0		40.5	18.0	18.0		40.5				
Max Q Clear Time (g_c+I1), s	12.2	11.9		42.5	5.0	3.9		18.4				
Green Ext Time (p_c), s	0.4	1.7		0.0	0.2	0.6		12.6				

Intersection Summary			
HCM 6th Ctrl Delay		19.5	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

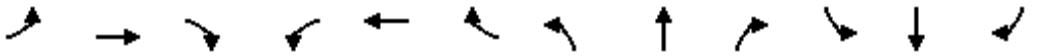
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	234	1269	427	330	956	316	250	945	172	404	1166	323
Future Volume (veh/h)	234	1269	427	330	956	316	250	945	172	404	1166	323
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	254	1384	461	359	1039	343	272	1027	187	439	1267	351
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	326	1622	458	387	1581	491	304	1388	431	509	1316	364
Arrive On Green	0.09	0.29	0.29	0.11	0.31	0.31	0.09	0.27	0.27	0.15	0.33	0.33
Sat Flow, veh/h	3563	5611	1585	3456	5106	1585	3456	5106	1585	3456	3976	1100
Grp Volume(v), veh/h	254	1384	461	359	1039	343	272	1027	187	439	1085	533
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1585	1728	1702	1585	1728	1702	1672
Q Serve(g_s), s	7.0	23.3	28.9	10.3	17.6	19.1	7.8	18.3	9.7	12.4	31.3	31.3
Cycle Q Clear(g_c), s	7.0	23.3	28.9	10.3	17.6	19.1	7.8	18.3	9.7	12.4	31.3	31.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	326	1622	458	387	1581	491	304	1388	431	509	1127	554
V/C Ratio(X)	0.78	0.85	1.01	0.93	0.66	0.70	0.89	0.74	0.43	0.86	0.96	0.96
Avail Cap(c_a), veh/h	395	1622	458	387	1581	491	304	1388	431	556	1127	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	33.6	35.5	44.0	29.9	30.4	45.1	33.2	30.1	41.7	32.8	32.9
Incr Delay (d2), s/veh	8.0	4.7	43.6	28.3	1.0	4.4	26.8	3.6	3.2	12.4	19.2	30.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	10.5	15.8	5.7	6.8	7.3	4.4	7.7	3.9	6.0	15.1	16.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	38.2	79.2	72.3	30.9	34.8	71.9	36.8	33.2	54.1	52.0	63.1
LnGrp LOS	D	D	F	E	C	C	E	D	C	D	D	E
Approach Vol, veh/h		2099			1741			1486			2057	
Approach Delay, s/veh		48.9			40.2			42.8			55.4	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	37.6	15.7	33.4	19.2	31.7	13.6	35.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.8	33.1	11.2	28.9	16.1	25.8	11.1	29.0
Max Q Clear Time (g_c+I1), s	9.8	33.3	12.3	30.9	14.4	20.3	9.0	21.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.3	3.2	0.2	4.5

Intersection Summary	
HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

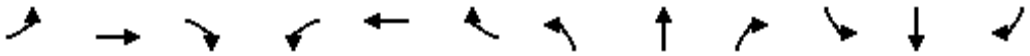
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	939	80	0	1077	366	0	0	79	472	92	696
Future Volume (vph)	0	939	80	0	1077	366	0	0	79	472	92	696
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor		0.86			0.91	1.00			1.00	0.97	0.91	0.91
Frt		0.99			1.00	0.85			0.86	1.00	0.88	0.85
Flt Protected		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (prot)		6332			5085	1583			1611	3433	2988	1441
Flt Permitted		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (perm)		6332			5085	1583			1611	3433	2988	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1021	87	0	1171	398	0	0	86	513	100	757
RTOR Reduction (vph)	0	22	0	0	0	279	0	0	60	0	2	12
Lane Group Flow (vph)	0	1086	0	0	1171	119	0	0	26	513	477	366
Turn Type		NA			NA	Perm			Perm	Prot	NA	Perm
Protected Phases		4			8					1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)		18.0			18.0	18.0			18.0	10.5	33.0	33.0
Effective Green, g (s)		18.0			18.0	18.0			18.0	10.5	33.0	33.0
Actuated g/C Ratio		0.30			0.30	0.30			0.30	0.18	0.55	0.55
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1899			1525	474			483	600	1643	792
v/s Ratio Prot		0.17			c0.23					c0.15	0.16	
v/s Ratio Perm						0.08			0.02			c0.25
v/c Ratio		0.57			0.77	0.25			0.05	0.85	0.29	0.46
Uniform Delay, d1		17.7			19.1	15.9			14.9	24.0	7.2	8.1
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		0.4			2.4	0.3			0.2	11.4	0.4	1.9
Delay (s)		18.2			21.5	16.2			15.1	35.5	7.7	10.1
Level of Service		B			C	B			B	D	A	B
Approach Delay (s)		18.2			20.1			15.1			18.7	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

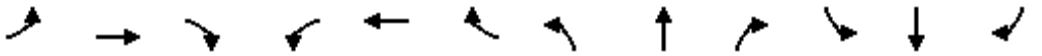
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1258	0	0	1175	813	269	0	315	0	0	0
Future Volume (vph)	0	1258	0	0	1175	813	269	0	315	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5		4.5			
Lane Util. Factor		0.86			0.95	1.00	0.97		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		6408			3539	1583	3433		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		6408			3539	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1367	0	0	1277	884	292	0	342	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	429	0	0	38	0	0	0
Lane Group Flow (vph)	0	1367	0	0	1277	455	292	0	304	0	0	0
Turn Type		NA			NA	Perm	Perm		Perm			
Protected Phases		4			8							
Permitted Phases						8	2		2			
Actuated Green, G (s)		30.2			30.2	30.2	19.5		19.5			
Effective Green, g (s)		30.2			30.2	30.2	19.5		19.5			
Actuated g/C Ratio		0.51			0.51	0.51	0.33		0.33			
Clearance Time (s)		4.5			4.5	4.5	4.5		4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)		3296			1820	814	1140		925			
v/s Ratio Prot		0.21			c0.36							
v/s Ratio Perm						0.29	0.09		c0.11			
v/c Ratio		0.41			0.70	0.56	0.26		0.33			
Uniform Delay, d1		8.8			10.8	9.7	14.3		14.7			
Progression Factor		1.00			1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1			1.2	0.8	0.5		0.9			
Delay (s)		8.9			12.1	10.5	14.8		15.6			
Level of Service		A			B	B	B		B			
Approach Delay (s)		8.9			11.4			15.3			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

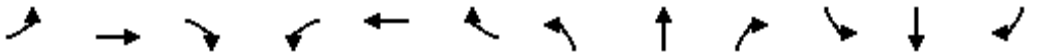
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	1144	153	103	1059	171	228	480	140	256	537	145
Future Volume (veh/h)	93	1144	153	103	1059	171	228	480	140	256	537	145
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	101	1243	166	112	1151	186	248	522	152	278	584	158
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	111	2207	295	191	1649	266	269	758	338	271	762	340
Arrive On Green	0.06	0.48	0.48	0.37	0.37	0.37	0.15	0.21	0.21	0.15	0.21	0.21
Sat Flow, veh/h	1781	4556	608	382	4430	716	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	101	929	480	112	884	453	248	522	152	278	584	158
Grp Sat Flow(s),veh/h/ln	1781	1702	1761	382	1702	1742	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.1	17.4	17.4	26.2	19.8	19.8	12.4	12.2	7.5	13.7	13.9	7.8
Cycle Q Clear(g_c), s	5.1	17.4	17.4	33.5	19.8	19.8	12.4	12.2	7.5	13.7	13.9	7.8
Prop In Lane	1.00		0.35	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	1649	853	191	1267	648	269	758	338	271	762	340
V/C Ratio(X)	0.91	0.56	0.56	0.59	0.70	0.70	0.92	0.69	0.45	1.03	0.77	0.46
Avail Cap(c_a), veh/h	111	1649	853	191	1267	648	269	758	338	271	762	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	16.4	16.4	32.0	24.0	24.0	37.7	32.6	30.8	38.2	33.2	30.8
Incr Delay (d2), s/veh	58.3	0.4	0.9	4.6	1.7	3.3	34.7	5.1	4.3	61.3	7.2	4.5
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	4.0	6.6	7.0	2.6	8.1	8.6	7.9	5.7	3.3	10.5	6.7	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.3	16.9	17.3	36.6	25.7	27.3	72.4	37.7	35.1	99.5	40.5	35.4
LnGrp LOS	F	B	B	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1510			1449			922			1020	
Approach Delay, s/veh		22.6			27.0			46.6			55.8	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.2	23.7		48.1	18.1	23.8	10.1	38.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.7	19.2		43.6	13.6	19.3	5.6	33.5
Max Q Clear Time (g_c+I1), s	15.7	14.2		19.4	14.4	15.9	7.1	35.5
Green Ext Time (p_c), s	0.0	1.8		11.7	0.0	1.5	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		35.3
HCM 6th LOS		D



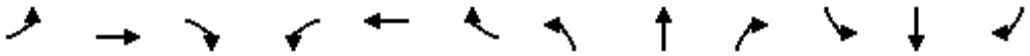
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	933	254	188	421	0	416	0	404	2	0	1
Future Volume (veh/h)	0	933	254	188	421	0	416	0	404	2	0	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1014	276	204	458	0	452	0	439	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	1086	484	251	1544	0	535	0	1436	246	15	93
Arrive On Green	0.00	0.31	0.31	0.07	0.43	0.00	0.15	0.00	0.45	0.25	0.00	0.25
Sat Flow, veh/h	1781	3554	1585	3456	3647	0	3563	0	3170	694	60	377
Grp Volume(v), veh/h	0	1014	276	204	458	0	452	0	439	3	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	0	1781	0	1585	1130	0	0
Q Serve(g_s), s	0.0	22.2	11.7	4.6	6.7	0.0	9.9	0.0	7.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	22.2	11.7	4.6	6.7	0.0	9.9	0.0	7.0	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.67		0.33
Lane Grp Cap(c), veh/h	2	1086	484	251	1544	0	535	0	1436	354	0	0
V/C Ratio(X)	0.00	0.93	0.57	0.81	0.30	0.00	0.84	0.00	0.31	0.01	0.00	0.00
Avail Cap(c_a), veh/h	111	1089	486	251	1544	0	557	0	1436	354	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	27.0	23.3	36.5	14.7	0.0	33.1	0.0	13.9	22.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	14.1	1.6	18.2	0.1	0.0	11.1	0.0	0.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.2	4.5	2.6	2.6	0.0	5.0	0.0	2.5	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	41.1	24.9	54.7	14.8	0.0	44.2	0.0	14.4	22.8	0.0	0.0
LnGrp LOS	A	D	C	D	B	A	D	A	B	C	A	A
Approach Vol, veh/h		1290			662			891			3	
Approach Delay, s/veh		37.6			27.1			29.5			22.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.7	10.3	28.9	16.5	24.2	0.0	39.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	36.2	5.8	24.5	12.5	19.2	5.0	25.3
Max Q Clear Time (g_c+I1), s	9.0	6.6	24.2	11.9	2.1	0.0	8.7
Green Ext Time (p_c), s	1.9	0.0	0.3	0.1	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

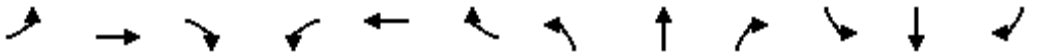
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	960	37	52	784	65	199	607	111	170	241	101
Future Volume (veh/h)	94	960	37	52	784	65	199	607	111	170	241	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	1043	40	57	852	71	216	660	121	185	262	110
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	130	1153	514	81	987	82	428	853	380	281	388	158
Arrive On Green	0.07	0.32	0.32	0.05	0.30	0.30	0.24	0.24	0.24	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3321	277	1781	3554	1585	1781	2461	1006
Grp Volume(v), veh/h	102	1043	40	57	456	467	216	660	121	185	187	185
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1821	1781	1777	1585	1781	1777	1689
Q Serve(g_s), s	4.4	21.7	1.4	2.4	18.8	18.8	8.1	13.4	4.9	7.6	7.7	8.0
Cycle Q Clear(g_c), s	4.4	21.7	1.4	2.4	18.8	18.8	8.1	13.4	4.9	7.6	7.7	8.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	130	1153	514	81	528	541	428	853	380	281	280	266
V/C Ratio(X)	0.78	0.90	0.08	0.70	0.86	0.86	0.51	0.77	0.32	0.66	0.67	0.69
Avail Cap(c_a), veh/h	145	1188	530	115	564	578	428	853	380	517	516	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	25.0	18.1	36.5	25.7	25.7	25.5	27.5	24.2	30.7	30.7	30.9
Incr Delay (d2), s/veh	22.0	9.7	0.1	10.4	12.5	12.3	4.2	6.8	2.2	2.6	2.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	10.0	0.5	1.3	9.2	9.4	3.8	6.2	2.0	3.3	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	34.8	18.2	46.9	38.3	38.0	29.7	34.2	26.4	33.3	33.5	34.1
LnGrp LOS	E	C	B	D	D	D	C	C	C	C	C	C
Approach Vol, veh/h		1185			980			997			557	
Approach Delay, s/veh		36.1			38.6			32.3			33.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.1	8.0	29.6		16.7	10.2	27.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.6	5.0	25.9		22.5	6.3	24.6				
Max Q Clear Time (g_c+I1), s		15.4	4.4	23.7		10.0	6.4	20.8				
Green Ext Time (p_c), s		1.6	0.0	1.4		2.2	0.0	2.0				

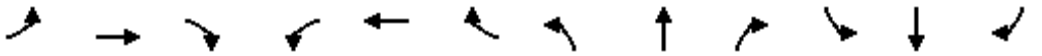
Intersection Summary												
HCM 6th Ctrl Delay			35.4									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	1458	97	78	765	102	93	580	110	98	394	74
Future Volume (veh/h)	99	1458	97	78	765	102	93	580	110	98	394	74
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	108	1585	105	85	832	111	101	630	120	107	428	80
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	140	1794	119	109	1595	212	337	1065	202	246	1070	198
Arrive On Green	0.08	0.37	0.37	0.06	0.35	0.35	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1781	4892	324	1781	4560	605	891	2979	566	712	2992	555
Grp Volume(v), veh/h	108	1103	587	85	620	323	101	375	375	107	253	255
Grp Sat Flow(s),veh/h/ln	1781	1702	1812	1781	1702	1761	891	1777	1768	712	1777	1770
Q Serve(g_s), s	3.7	19.1	19.1	3.0	9.1	9.2	6.0	10.8	10.9	9.1	6.7	6.8
Cycle Q Clear(g_c), s	3.7	19.1	19.1	3.0	9.1	9.2	12.8	10.8	10.9	19.9	6.7	6.8
Prop In Lane	1.00		0.18	1.00		0.34	1.00		0.32	1.00		0.31
Lane Grp Cap(c), veh/h	140	1248	664	109	1190	616	337	635	632	246	635	633
V/C Ratio(X)	0.77	0.88	0.88	0.78	0.52	0.52	0.30	0.59	0.59	0.44	0.40	0.40
Avail Cap(c_a), veh/h	266	1271	677	156	1190	616	337	635	632	246	635	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	18.7	18.7	29.1	16.3	16.3	20.0	16.5	16.5	24.6	15.2	15.2
Incr Delay (d2), s/veh	8.8	7.6	13.1	14.4	0.4	0.8	2.3	4.0	4.1	5.5	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	7.6	9.1	1.6	3.1	3.3	1.4	4.7	4.7	1.8	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	26.3	31.8	43.5	16.7	17.1	22.3	20.5	20.5	30.1	17.0	17.1
LnGrp LOS	D	C	C	D	B	B	C	C	C	C	B	B
Approach Vol, veh/h		1798			1028			851			615	
Approach Delay, s/veh		28.7			19.0			20.7			19.3	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	8.4	27.6		27.0	9.4	26.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		22.5	5.5	23.5		22.5	9.4	19.6				
Max Q Clear Time (g_c+I1), s		14.8	5.0	21.1		21.9	5.7	11.2				
Green Ext Time (p_c), s		3.2	0.0	2.0		0.2	0.1	3.7				

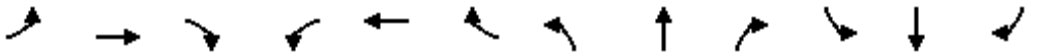
Intersection Summary												
HCM 6th Ctrl Delay			23.5									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	1380	101	94	767	109	124	564	86	164	520	111
Future Volume (veh/h)	177	1380	101	94	767	109	124	564	86	164	520	111
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	192	1500	110	102	834	118	135	613	93	178	565	121
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	229	1724	126	130	1353	190	168	858	383	214	951	424
Arrive On Green	0.13	0.36	0.36	0.07	0.30	0.30	0.09	0.24	0.24	0.12	0.27	0.27
Sat Flow, veh/h	1781	4854	356	1781	4523	636	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	192	1052	558	102	626	326	135	613	93	178	565	121
Grp Sat Flow(s),veh/h/ln	1781	1702	1806	1781	1702	1756	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.0	24.7	24.7	4.8	13.5	13.7	6.4	13.5	4.0	8.4	11.9	5.2
Cycle Q Clear(g_c), s	9.0	24.7	24.7	4.8	13.5	13.7	6.4	13.5	4.0	8.4	11.9	5.2
Prop In Lane	1.00		0.20	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	1209	641	130	1018	525	168	858	383	214	951	424
V/C Ratio(X)	0.84	0.87	0.87	0.79	0.62	0.62	0.80	0.71	0.24	0.83	0.59	0.29
Avail Cap(c_a), veh/h	285	1253	665	156	1018	525	210	858	383	260	951	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	25.8	25.8	39.0	25.8	25.8	38.0	29.8	26.2	36.8	27.3	24.9
Incr Delay (d2), s/veh	16.1	6.7	11.8	19.5	1.1	2.2	16.3	5.0	1.5	16.9	2.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	10.4	12.0	2.7	5.4	5.7	3.5	6.2	1.6	4.6	5.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	32.5	37.5	58.5	26.9	28.0	54.3	34.8	27.7	53.7	30.0	26.5
LnGrp LOS	D	C	D	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1802			1054			841			864	
Approach Delay, s/veh		36.2			30.3			37.1			34.4	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	25.2	10.7	34.9	12.6	27.4	15.5	30.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	20.5	7.5	31.5	10.1	22.9	13.7	25.3
Max Q Clear Time (g_c+I1), s	10.4	15.5	6.8	26.7	8.4	13.9	11.0	15.7
Green Ext Time (p_c), s	0.1	1.9	0.0	3.7	0.1	2.8	0.1	4.2

Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C



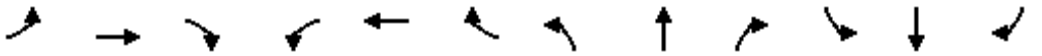
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	256	0	451	292	688	0	0	1007	132
Future Volume (veh/h)	0	0	0	256	0	451	292	688	0	0	1007	132
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
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	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				278	0	490	317	748	0	0	1095	143
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	2	2	2	2	0	0	2	2
Cap, veh/h				1170	0	520	425	1854	0	0	1480	193
Arrive On Green				0.33	0.00	0.33	0.12	0.52	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	4739	596
Grp Volume(v), veh/h				278	0	490	317	748	0	0	815	423
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1763
Q Serve(g_s), s				3.4	0.0	18.0	5.3	7.7	0.0	0.0	12.8	12.8
Cycle Q Clear(g_c), s				3.4	0.0	18.0	5.3	7.7	0.0	0.0	12.8	12.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				1170	0	520	425	1854	0	0	1102	571
V/C Ratio(X)				0.24	0.00	0.94	0.75	0.40	0.00	0.00	0.74	0.74
Avail Cap(c_a), veh/h				1170	0	520	467	1854	0	0	1102	571
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				14.7	0.0	19.6	25.4	8.7	0.0	0.0	18.0	18.0
Incr Delay (d2), s/veh				0.1	0.0	25.6	5.9	0.7	0.0	0.0	4.5	8.4
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				1.2	0.0	9.1	2.4	2.6	0.0	0.0	5.2	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.8	0.0	45.2	31.3	9.3	0.0	0.0	22.5	26.5
LnGrp LOS				B	A	D	C	A	A	A	C	C
Approach Vol, veh/h					768			1065			1238	
Approach Delay, s/veh					34.2			15.9			23.9	
Approach LOS					C			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		35.8			11.9	23.9		24.2				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		31.3			8.1	18.7		19.7				
Max Q Clear Time (g_c+I1), s		9.7			7.3	14.8		20.0				
Green Ext Time (p_c), s		5.4			0.1	2.6		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			23.7									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



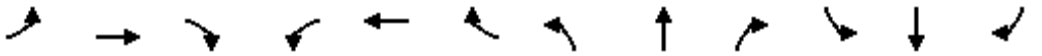
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	0	546	0	0	0	0	861	320	380	881	0
Future Volume (veh/h)	185	0	546	0	0	0	0	861	320	380	881	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
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	1870	1870	0
Adj Flow Rate, veh/h	134	0	665				0	936	348	413	958	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	462	0	821				0	1242	554	529	2069	0
Arrive On Green	0.26	0.00	0.26				0.00	0.35	0.35	0.15	0.58	0.00
Sat Flow, veh/h	1781	0	3170				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	134	0	665				0	936	348	413	958	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1728	1777	0
Q Serve(g_s), s	3.4	0.0	11.1				0.0	13.2	10.4	6.5	8.7	0.0
Cycle Q Clear(g_c), s	3.4	0.0	11.1				0.0	13.2	10.4	6.5	8.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	462	0	821				0	1242	554	529	2069	0
V/C Ratio(X)	0.29	0.00	0.81				0.00	0.75	0.63	0.78	0.46	0.00
Avail Cap(c_a), veh/h	566	0	1007				0	1242	554	579	2069	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.8	0.0	19.7				0.0	16.3	15.4	23.1	6.8	0.0
Incr Delay (d2), s/veh	0.3	0.0	4.2				0.0	4.3	5.3	6.3	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	1.2	0.0	4.0				0.0	5.4	4.1	2.9	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	0.0	23.8				0.0	20.5	20.7	29.3	7.5	0.0
LnGrp LOS	B	A	C				A	C	C	C	A	A
Approach Vol, veh/h		799						1284			1371	
Approach Delay, s/veh		22.7						20.6			14.1	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.2	24.3		19.2		37.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	9.5	19.0		18.0		33.0						
Max Q Clear Time (g_c+I1), s	8.5	15.2		13.1		10.7						
Green Ext Time (p_c), s	0.2	2.5		1.5		7.3						

Intersection Summary			
HCM 6th Ctrl Delay			18.5
HCM 6th LOS			B

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)	10	9	26	118	16	157	26	1222	268	79	739	13
Future Volume (veh/h)	10	9	26	118	16	157	26	1222	268	79	739	13
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	11	10	28	128	17	171	28	1328	291	86	803	14
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	79	72	122	260	26	245	515	2064	445	239	2537	44
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	117	423	720	998	154	1442	669	2908	627	312	3574	62
Grp Volume(v), veh/h	49	0	0	145	0	171	28	803	816	86	399	418
Grp Sat Flow(s),veh/h/ln	1260	0	0	1152	0	1442	669	1777	1758	312	1777	1859
Q Serve(g_s), s	0.1	0.0	0.0	1.3	0.0	8.3	1.2	17.9	18.8	15.4	6.3	6.3
Cycle Q Clear(g_c), s	8.4	0.0	0.0	9.7	0.0	8.3	7.5	17.9	18.8	34.2	6.3	6.3
Prop In Lane	0.22		0.57	0.88		1.00	1.00		0.36	1.00		0.03
Lane Grp Cap(c), veh/h	273	0	0	286	0	245	515	1261	1248	239	1261	1320
V/C Ratio(X)	0.18	0.00	0.00	0.51	0.00	0.70	0.05	0.64	0.65	0.36	0.32	0.32
Avail Cap(c_a), veh/h	381	0	0	387	0	348	515	1261	1248	239	1261	1320
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	29.9	0.0	29.2	5.5	5.7	5.9	15.1	4.1	4.1
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.4	0.0	3.6	0.2	2.5	2.7	4.2	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	2.5	0.0	3.0	0.2	5.5	5.7	1.2	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	0.0	31.3	0.0	32.8	5.7	8.2	8.5	19.3	4.7	4.7
LnGrp LOS	C	A	A	C	A	C	A	A	A	B	A	A
Approach Vol, veh/h		49			316			1647			903	
Approach Delay, s/veh		26.9			32.1			8.3			6.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.5		17.2		57.5		17.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.0		18.0		53.0		18.0				
Max Q Clear Time (g_c+I1), s		20.8		10.4		36.2		11.7				
Green Ext Time (p_c), s		16.7		0.1		6.3		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									

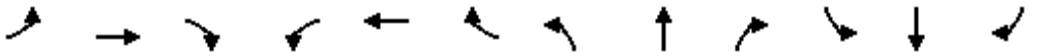
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Volume (veh/h)	265	267	0	1110	230	2	893	242	0	0
Future Volume (veh/h)	265	267	0	1110	230	2	893	242	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	288	290	0	1207	250	2	971	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2	2	2	2	2		
Cap, veh/h	465	413	0	2089	433	100	1716			
Arrive On Green	0.26	0.26	0.00	0.49	0.49	0.49	0.49	0.00		
Sat Flow, veh/h	1781	1585	0	4407	878	1	3481	1585		
Grp Volume(v), veh/h	288	290	0	969	488	521	452	0		
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1712	1866	1617	1585		
Q Serve(g_s), s	5.2	6.0	0.0	7.4	7.4	0.0	7.2	0.0		
Cycle Q Clear(g_c), s	5.2	6.0	0.0	7.4	7.4	7.2	7.2	0.0		
Prop In Lane	1.00	1.00	0.00		0.51	0.00		1.00		
Lane Grp Cap(c), veh/h	465	413	0	1677	844	1018	797			
V/C Ratio(X)	0.62	0.70	0.00	0.58	0.58	0.51	0.57			
Avail Cap(c_a), veh/h	878	781	0	1677	844	1018	797			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	11.9	12.2	0.0	6.6	6.6	6.5	6.5	0.0		
Incr Delay (d2), s/veh	1.4	2.2	0.0	1.5	2.9	1.8	2.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	2.0	0.0	1.9	2.2	2.2	2.1	0.0		
Unsig. Movement Delay, s/veh										
LnGrp Delay(d),s/veh	13.3	14.4	0.0	8.0	9.4	8.4	9.4	0.0		
LnGrp LOS	B	B	A	A	A	A	A			
Approach Vol, veh/h	578			1457			973	A		
Approach Delay, s/veh	13.8			8.5			8.9			
Approach LOS	B			A			A			

Timer - Assigned Phs		2		4		6				
Phs Duration (G+Y+Rc), s		22.5		14.0		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		9.4		8.0		9.2				
Green Ext Time (p_c), s		5.8		1.5		4.1				

Intersection Summary										
HCM 6th Ctrl Delay			9.6							
HCM 6th LOS			A							

Notes

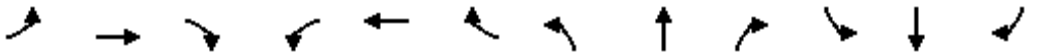
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	1393	94	113	791	72	68	603	176	93	543	79
Future Volume (veh/h)	77	1393	94	113	791	72	68	603	176	93	543	79
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	84	1514	102	123	860	78	74	655	191	101	590	86
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	112	1660	112	157	1741	157	268	1233	550	250	1080	157
Arrive On Green	0.06	0.34	0.34	0.09	0.37	0.37	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	4886	329	1781	4766	431	763	3554	1585	651	3113	453
Grp Volume(v), veh/h	84	1055	561	123	613	325	74	655	191	101	336	340
Grp Sat Flow(s),veh/h/ln	1781	1702	1811	1781	1702	1793	763	1777	1585	651	1777	1789
Q Serve(g_s), s	2.8	17.8	17.8	4.1	8.4	8.4	5.2	8.9	5.4	8.8	9.1	9.2
Cycle Q Clear(g_c), s	2.8	17.8	17.8	4.1	8.4	8.4	14.4	8.9	5.4	17.7	9.1	9.2
Prop In Lane	1.00		0.18	1.00		0.24	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	112	1157	615	157	1243	655	268	1233	550	250	617	621
V/C Ratio(X)	0.75	0.91	0.91	0.78	0.49	0.50	0.28	0.53	0.35	0.40	0.55	0.55
Avail Cap(c_a), veh/h	208	1163	619	193	1243	655	268	1233	550	250	617	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	18.9	18.9	26.8	14.7	14.8	21.6	15.7	14.5	22.8	15.8	15.8
Incr Delay (d2), s/veh	9.7	10.8	17.9	15.4	0.3	0.6	2.5	1.6	1.7	4.8	3.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.8	9.5	2.3	2.8	3.1	1.1	3.5	1.9	1.6	3.9	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	29.7	36.8	42.2	15.1	15.3	24.1	17.3	16.3	27.6	19.2	19.2
LnGrp LOS	D	C	D	D	B	B	C	B	B	C	B	B
Approach Vol, veh/h		1700			1061			920			777	
Approach Delay, s/veh		32.4			18.3			17.7			20.3	
Approach LOS		C			B			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.3	9.8	24.9		25.3	8.3	26.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.5	6.5	20.5		19.5	7.0	20.0				
Max Q Clear Time (g_c+I1), s		16.4	6.1	19.8		19.7	4.8	10.4				
Green Ext Time (p_c), s		1.6	0.0	0.6		0.0	0.0	4.1				

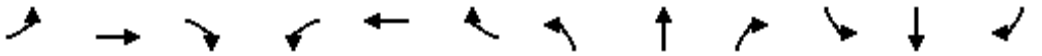
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	1499	101	146	807	129	76	444	276	87	500	114
Future Volume (veh/h)	87	1499	101	146	807	129	76	444	276	87	500	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	1629	110	159	877	140	83	483	300	95	543	124
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	123	1769	119	198	1796	285	261	1128	503	257	1128	503
Arrive On Green	0.07	0.36	0.36	0.11	0.40	0.40	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	4885	330	1781	4442	706	769	3554	1585	691	3554	1585
Grp Volume(v), veh/h	95	1135	604	159	671	346	83	483	300	95	543	124
Grp Sat Flow(s),veh/h/ln	1781	1702	1811	1781	1702	1743	769	1777	1585	691	1777	1585
Q Serve(g_s), s	3.4	20.6	20.6	5.6	9.4	9.5	6.3	6.9	10.3	8.1	7.9	3.7
Cycle Q Clear(g_c), s	3.4	20.6	20.6	5.6	9.4	9.5	14.2	6.9	10.3	15.1	7.9	3.7
Prop In Lane	1.00		0.18	1.00		0.40	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	1233	656	198	1377	705	261	1128	503	257	1128	503
V/C Ratio(X)	0.77	0.92	0.92	0.80	0.49	0.49	0.32	0.43	0.60	0.37	0.48	0.25
Avail Cap(c_a), veh/h	251	1239	659	207	1377	705	261	1128	503	257	1128	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	19.7	19.7	28.0	14.3	14.3	23.5	17.4	18.5	23.4	17.8	16.3
Incr Delay (d2), s/veh	9.8	11.2	18.4	19.3	0.3	0.5	3.2	1.2	5.1	4.1	1.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	9.0	10.9	3.3	3.2	3.4	1.3	2.8	4.1	1.5	3.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	30.9	38.1	47.3	14.5	14.8	26.7	18.6	23.7	27.4	19.2	17.5
LnGrp LOS	D	C	D	D	B	B	C	B	C	C	B	B
Approach Vol, veh/h		1834			1176			866			762	
Approach Delay, s/veh		33.7			19.0			21.1			20.0	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.0	11.7	27.9		25.0	9.0	30.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.5	7.5	23.5		20.5	9.1	21.9				
Max Q Clear Time (g_c+I1), s		16.2	7.6	22.6		17.1	5.4	11.5				
Green Ext Time (p_c), s		1.9	0.0	0.8		1.5	0.1	4.7				

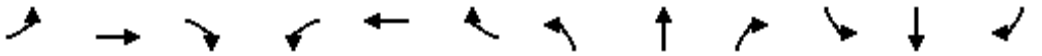
Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	1496	87	72	948	164	60	409	32	193	585	213
Future Volume (veh/h)	209	1496	87	72	948	164	60	409	32	193	585	213
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	227	1626	95	78	1030	178	65	445	35	210	636	232
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	267	1827	107	100	1211	209	268	868	68	374	1047	467
Arrive On Green	0.15	0.37	0.37	0.06	0.28	0.28	0.05	0.26	0.26	0.08	0.29	0.29
Sat Flow, veh/h	1781	4934	288	1781	4382	756	1781	3338	262	1781	3554	1585
Grp Volume(v), veh/h	227	1121	600	78	800	408	65	236	244	210	636	232
Grp Sat Flow(s),veh/h/ln	1781	1702	1818	1781	1702	1734	1781	1777	1823	1781	1777	1585
Q Serve(g_s), s	9.7	24.2	24.2	3.4	17.4	17.4	2.0	8.9	8.9	6.5	12.0	9.4
Cycle Q Clear(g_c), s	9.7	24.2	24.2	3.4	17.4	17.4	2.0	8.9	8.9	6.5	12.0	9.4
Prop In Lane	1.00		0.16	1.00		0.44	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	267	1260	673	100	940	479	268	462	474	374	1047	467
V/C Ratio(X)	0.85	0.89	0.89	0.78	0.85	0.85	0.24	0.51	0.51	0.56	0.61	0.50
Avail Cap(c_a), veh/h	308	1286	687	130	946	482	296	462	474	374	1047	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	23.1	23.1	36.4	26.7	26.8	20.0	24.7	24.7	20.0	23.7	22.8
Incr Delay (d2), s/veh	17.6	8.0	13.7	19.7	7.4	13.7	0.5	4.0	4.0	1.9	2.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	10.2	12.0	2.0	7.6	8.5	0.9	4.1	4.2	2.9	5.3	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	31.0	36.8	56.1	34.2	40.4	20.5	28.7	28.6	21.9	26.3	26.5
LnGrp LOS	D	C	D	E	C	D	C	C	C	C	C	C
Approach Vol, veh/h		1948			1286			545			1078	
Approach Delay, s/veh		35.0			37.5			27.7			25.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	24.8	8.9	33.4	8.3	27.5	16.2	26.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	20.3	5.7	29.5	5.0	21.8	13.5	21.7
Max Q Clear Time (g_c+I1), s	8.5	10.9	5.4	26.2	4.0	14.0	11.7	19.4
Green Ext Time (p_c), s	0.0	2.0	0.0	2.7	0.0	3.2	0.1	1.6

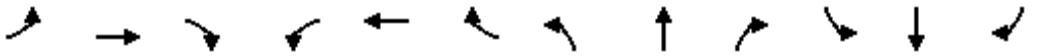
Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	1265	18	289	1200	43	142	716	295	172	826	199
Future Volume (veh/h)	215	1265	18	289	1200	43	142	716	295	172	826	199
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	234	1375	20	314	1304	47	154	778	321	187	898	216
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	256	1415	21	332	1597	58	298	805	332	215	1037	463
Arrive On Green	0.14	0.27	0.27	0.19	0.32	0.32	0.12	0.33	0.33	0.09	0.29	0.29
Sat Flow, veh/h	1781	5185	75	1781	5059	182	1781	2454	1011	1781	3554	1585
Grp Volume(v), veh/h	234	903	492	314	877	474	154	563	536	187	898	216
Grp Sat Flow(s),veh/h/ln	1781	1702	1857	1781	1702	1838	1781	1777	1688	1781	1777	1585
Q Serve(g_s), s	18.7	38.0	38.0	25.2	34.4	34.4	7.8	45.1	45.2	10.5	34.7	16.2
Cycle Q Clear(g_c), s	18.7	38.0	38.0	25.2	34.4	34.4	7.8	45.1	45.2	10.5	34.7	16.2
Prop In Lane	1.00		0.04	1.00		0.10	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	256	929	507	332	1075	580	298	583	554	215	1037	463
V/C Ratio(X)	0.91	0.97	0.97	0.95	0.82	0.82	0.52	0.97	0.97	0.87	0.87	0.47
Avail Cap(c_a), veh/h	265	929	507	332	1075	580	298	583	554	279	1166	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.1	52.1	52.1	58.1	45.7	45.7	31.8	47.8	47.9	37.2	48.6	42.0
Incr Delay (d2), s/veh	33.1	22.8	32.7	35.2	5.0	8.9	6.3	29.7	31.0	20.2	6.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	18.8	21.9	14.4	15.0	16.8	3.8	24.3	23.3	5.7	16.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.2	74.9	84.8	93.3	50.6	54.5	38.1	77.5	78.8	57.4	55.0	42.8
LnGrp LOS	F	E	F	F	D	D	D	E	E	E	E	D
Approach Vol, veh/h		1629			1665			1253			1301	
Approach Delay, s/veh		80.6			59.8			73.2			53.3	
Approach LOS		F			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	52.0	31.5	44.0	22.5	46.7	25.3	50.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	47.5	27.0	39.5	18.0	47.5	21.5	45.0
Max Q Clear Time (g_c+I1), s	12.5	47.2	27.2	40.0	9.8	36.7	20.7	36.4
Green Ext Time (p_c), s	0.2	0.2	0.0	0.0	0.2	4.9	0.1	5.2

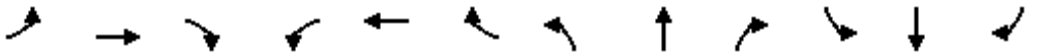
Intersection Summary	
HCM 6th Ctrl Delay	67.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1103	147	231	938	300	283	1088	264	248	697	180
Future Volume (veh/h)	221	1103	147	231	938	300	283	1088	264	248	697	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	1199	160	251	1020	326	308	1183	287	270	758	196
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	233	1196	160	263	992	442	325	1189	288	267	915	408
Arrive On Green	0.13	0.26	0.26	0.15	0.28	0.28	0.18	0.29	0.29	0.15	0.26	0.26
Sat Flow, veh/h	1781	4557	608	1781	3554	1585	1781	4101	995	1781	3554	1585
Grp Volume(v), veh/h	240	896	463	251	1020	326	308	982	488	270	758	196
Grp Sat Flow(s),veh/h/ln	1781	1702	1761	1781	1777	1585	1781	1702	1691	1781	1777	1585
Q Serve(g_s), s	15.7	31.5	31.5	16.8	33.5	22.4	20.5	34.5	34.5	18.0	24.2	12.6
Cycle Q Clear(g_c), s	15.7	31.5	31.5	16.8	33.5	22.4	20.5	34.5	34.5	18.0	24.2	12.6
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	233	894	462	263	992	442	325	987	490	267	915	408
V/C Ratio(X)	1.03	1.00	1.00	0.96	1.03	0.74	0.95	0.99	0.99	1.01	0.83	0.48
Avail Cap(c_a), veh/h	233	894	462	263	992	442	325	987	490	267	915	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	44.3	44.3	50.8	43.2	39.2	48.5	42.5	42.5	51.0	42.0	37.7
Incr Delay (d2), s/veh	66.9	30.7	42.5	43.2	36.0	6.3	36.2	27.4	39.4	57.8	8.5	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	11.2	16.7	18.8	10.5	19.2	9.3	12.2	17.8	19.3	12.1	11.4	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.1	74.9	86.7	94.0	79.2	45.6	84.7	69.9	81.9	108.8	50.6	41.8
LnGrp LOS	F	F	F	F	F	D	F	E	F	F	D	D
Approach Vol, veh/h		1599			1597			1778			1224	
Approach Delay, s/veh		85.0			74.7			75.8			62.0	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	39.3	22.2	36.0	26.4	35.4	20.2	38.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	34.8	17.7	31.5	21.9	30.9	15.7	33.5
Max Q Clear Time (g_c+I1), s	20.0	36.5	18.8	33.5	22.5	26.2	17.7	35.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0

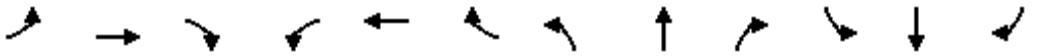
Intersection Summary	
HCM 6th Ctrl Delay	75.1
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	1191	287	221	706	71	327	1352	374	102	838	107
Future Volume (veh/h)	278	1191	287	221	706	71	327	1352	374	102	838	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	1870	1870	1870
Adj Flow Rate, veh/h	302	1295	312	240	767	77	355	1470	407	111	911	116
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	386	1396	433	299	1172	117	443	1654	514	135	1585	199
Arrive On Green	0.11	0.27	0.27	0.09	0.25	0.25	0.13	0.32	0.32	0.08	0.27	0.27
Sat Flow, veh/h	3456	5106	1585	3456	4719	471	3456	5106	1585	1781	5831	733
Grp Volume(v), veh/h	302	1295	312	240	552	292	355	1470	407	111	752	275
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1786	1728	1702	1585	1781	1609	1738
Q Serve(g_s), s	6.4	18.5	13.4	5.1	10.9	11.0	7.5	20.5	17.5	4.6	10.1	10.3
Cycle Q Clear(g_c), s	6.4	18.5	13.4	5.1	10.9	11.0	7.5	20.5	17.5	4.6	10.1	10.3
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	386	1396	433	299	845	443	443	1654	514	135	1312	473
V/C Ratio(X)	0.78	0.93	0.72	0.80	0.65	0.66	0.80	0.89	0.79	0.82	0.57	0.58
Avail Cap(c_a), veh/h	392	1396	433	299	845	443	479	1654	514	135	1312	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	26.5	24.7	33.6	25.3	25.3	31.8	24.1	23.1	34.1	23.6	23.6
Incr Delay (d2), s/veh	9.8	11.0	5.7	14.4	1.8	3.6	8.9	7.5	11.9	31.3	1.8	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	8.2	5.3	2.6	4.3	4.7	3.4	8.4	7.6	3.0	3.7	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	37.5	30.4	48.0	27.1	28.9	40.6	31.6	34.9	65.5	25.4	28.8
LnGrp LOS	D	D	C	D	C	C	D	C	C	E	C	C
Approach Vol, veh/h		1909			1084			2232			1138	
Approach Delay, s/veh		37.1			32.2			33.6			30.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	28.8	11.0	25.0	14.1	24.9	12.9	23.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.7	24.3	6.5	20.5	10.4	19.6	8.5	18.5
Max Q Clear Time (g_c+I1), s	6.6	22.5	7.1	20.5	9.5	12.3	8.4	13.0
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.1	3.6	0.0	2.4

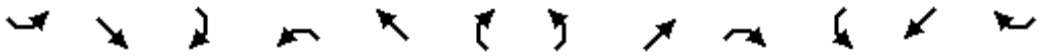
Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	672	1277	182	246	529	271	47	1480	204	258	1586	406
Future Volume (veh/h)	672	1277	182	246	529	271	47	1480	204	258	1586	406
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	730	1388	198	267	575	295	51	1609	222	280	1724	441
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	887	1159	165	415	613	190	783	1458	359	956	1413	772
Arrive On Green	0.26	0.26	0.26	0.12	0.12	0.12	0.23	0.23	0.23	0.28	0.28	0.28
Sat Flow, veh/h	3456	4515	644	3456	5106	1585	3456	6434	1585	3456	5106	2790
Grp Volume(v), veh/h	730	1046	540	267	575	295	51	1609	222	280	1724	441
Grp Sat Flow(s),veh/h/ln	1728	1702	1754	1728	1702	1585	1728	1609	1585	1728	1702	1395
Q Serve(g_s), s	29.9	38.5	38.5	11.1	16.8	18.0	1.7	34.0	18.9	9.6	41.5	20.4
Cycle Q Clear(g_c), s	29.9	38.5	38.5	11.1	16.8	18.0	1.7	34.0	18.9	9.6	41.5	20.4
Prop In Lane	1.00		0.37	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	887	874	450	415	613	190	783	1458	359	956	1413	772
V/C Ratio(X)	0.82	1.20	1.20	0.64	0.94	1.55	0.07	1.10	0.62	0.29	1.22	0.57
Avail Cap(c_a), veh/h	887	874	450	415	613	190	783	1458	359	956	1413	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	55.8	55.8	62.9	65.5	66.0	45.5	58.0	52.2	42.7	54.3	46.6
Incr Delay (d2), s/veh	6.3	100.1	109.0	3.4	22.4	272.2	0.2	57.2	7.8	0.8	105.8	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	28.4	30.4	5.0	8.5	21.6	0.8	19.3	8.2	4.2	31.1	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	155.8	164.7	66.3	87.8	338.2	45.7	115.2	59.9	43.5	160.0	49.7
LnGrp LOS	E	F	F	E	F	F	D	F	E	D	F	D
Approach Vol, veh/h		2316			1137			1882			2445	
Approach Delay, s/veh		127.3			147.7			106.8			126.8	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.5		43.0		46.0		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		34.0		38.5		41.5		18.0				
Max Q Clear Time (g_c+I1), s		36.0		40.5		43.5		20.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

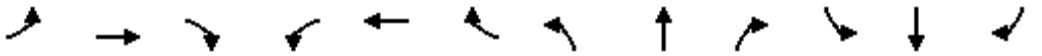
Intersection Summary												
HCM 6th Ctrl Delay			125.2									
HCM 6th LOS			F									



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	106	564	44	366	510	66	108	1071	376	83	681	140
Future Volume (veh/h)	106	564	44	366	510	66	108	1071	376	83	681	140
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	115	613	48	398	554	72	117	1164	409	90	740	152
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	146	770	343	406	1289	575	182	1098	386	109	889	183
Arrive On Green	0.08	0.22	0.22	0.23	0.36	0.36	0.05	0.29	0.29	0.06	0.30	0.30
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3729	1309	1781	2936	603
Grp Volume(v), veh/h	115	613	48	398	554	72	117	1062	511	90	448	444
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1635	1781	1777	1762
Q Serve(g_s), s	5.7	14.7	2.2	20.0	10.6	2.7	3.0	26.5	26.5	4.5	21.1	21.1
Cycle Q Clear(g_c), s	5.7	14.7	2.2	20.0	10.6	2.7	3.0	26.5	26.5	4.5	21.1	21.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.34
Lane Grp Cap(c), veh/h	146	770	343	406	1289	575	182	1002	481	109	538	534
V/C Ratio(X)	0.79	0.80	0.14	0.98	0.43	0.13	0.64	1.06	1.06	0.83	0.83	0.83
Avail Cap(c_a), veh/h	245	770	343	406	1289	575	200	1002	481	109	538	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	33.4	28.5	34.6	21.7	19.1	41.8	31.7	31.8	41.8	29.2	29.2
Incr Delay (d2), s/veh	9.1	8.4	0.8	39.5	1.0	0.4	6.1	45.7	58.1	38.5	10.7	10.8
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	2.8	7.0	0.9	12.6	4.3	1.1	1.4	16.8	17.8	3.1	10.3	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	41.7	29.3	74.1	22.7	19.6	47.9	77.5	89.8	80.3	39.9	40.0
LnGrp LOS	D	D	C	E	C	B	D	F	F	F	D	D
Approach Vol, veh/h		776			1024			1690			982	
Approach Delay, s/veh		42.1			42.4			79.2			43.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	37.1	10.0	31.0	25.0	24.0	9.2	31.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.4	27.6	5.5	26.5	20.5	19.5	5.2	26.8
Max Q Clear Time (g_c+I1), s	7.7	12.6	6.5	28.5	22.0	16.7	5.0	23.1
Green Ext Time (p_c), s	0.1	3.2	0.0	0.0	0.0	1.1	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	56.5
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	190	520	51	225	87	400	886	66	55	1074	27
Future Volume (veh/h)	58	190	520	51	225	87	400	886	66	55	1074	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	207	565	55	245	95	435	963	72	60	1167	29
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	150	413	330	116	451	330	469	2120	946	77	1335	33
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.26	0.60	0.60	0.04	0.38	0.38
Sat Flow, veh/h	403	1987	1585	272	2165	1585	1781	3554	1585	1781	3543	88
Grp Volume(v), veh/h	101	169	565	119	181	95	435	963	72	60	585	611
Grp Sat Flow(s),veh/h/ln	773	1617	1585	819	1617	1585	1781	1777	1585	1781	1777	1855
Q Serve(g_s), s	5.0	8.2	18.5	5.4	8.9	4.5	21.2	13.3	1.7	3.0	27.2	27.2
Cycle Q Clear(g_c), s	13.9	8.2	18.5	13.6	8.9	4.5	21.2	13.3	1.7	3.0	27.2	27.2
Prop In Lane	0.62		1.00	0.46		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	227	337	330	230	337	330	469	2120	946	77	670	699
V/C Ratio(X)	0.45	0.50	1.71	0.52	0.54	0.29	0.93	0.45	0.08	0.77	0.87	0.87
Avail Cap(c_a), veh/h	227	337	330	230	337	330	491	2120	946	172	670	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	31.1	35.2	33.1	31.4	29.6	31.9	9.9	7.6	42.1	25.7	25.7
Incr Delay (d2), s/veh	1.4	1.2	333.3	2.0	1.7	0.5	23.6	0.7	0.2	15.1	14.8	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.2	37.5	2.5	3.6	1.7	11.6	4.6	0.5	1.6	13.3	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	32.3	368.5	35.1	33.1	30.1	55.5	10.6	7.7	57.1	40.5	40.0
LnGrp LOS	D	C	F	D	C	C	E	B	A	E	D	D
Approach Vol, veh/h		835			395			1470			1256	
Approach Delay, s/veh		260.3			33.0			23.8			41.1	
Approach LOS		F			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	57.5		23.0	27.9	38.0		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.6	49.4		18.5	24.5	33.5		18.5				
Max Q Clear Time (g_c+I1), s	5.0	15.3		20.5	23.2	29.2		15.6				
Green Ext Time (p_c), s	0.0	7.9		0.0	0.2	2.7		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		80.1	
HCM 6th LOS		F	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	1431	122	0	1504	422	550	941	10	211	926	10
Future Volume (veh/h)	0	1431	122	0	1504	422	550	941	10	211	926	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1555	133	0	1635	459	598	1023	11	229	1007	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2209	189	0	1639	731	611	1291	14	251	1105	12
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.46	0.18	0.25	0.25	0.14	0.21	0.21
Sat Flow, veh/h	0	4960	410	0	3647	1585	3456	5208	56	1781	5207	57
Grp Volume(v), veh/h	0	1104	584	0	1635	459	598	669	365	229	658	360
Grp Sat Flow(s),veh/h/ln	0	1702	1797	0	1777	1585	1728	1702	1860	1781	1702	1860
Q Serve(g_s), s	0.0	23.3	23.3	0.0	41.3	19.8	15.5	16.5	16.6	11.4	17.0	17.0
Cycle Q Clear(g_c), s	0.0	23.3	23.3	0.0	41.3	19.8	15.5	16.5	16.6	11.4	17.0	17.0
Prop In Lane	0.00		0.23	0.00		1.00	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	0	1570	828	0	1639	731	611	843	461	251	722	395
V/C Ratio(X)	0.00	0.70	0.70	0.00	1.00	0.63	0.98	0.79	0.79	0.91	0.91	0.91
Avail Cap(c_a), veh/h	0	1570	828	0	1639	731	611	843	461	251	722	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.3	19.4	0.0	24.2	18.4	36.9	31.7	31.7	38.1	34.6	34.6
Incr Delay (d2), s/veh	0.0	1.4	2.7	0.0	21.7	1.7	31.2	7.5	13.1	34.1	17.7	27.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.6	9.4	0.0	20.3	18.0	8.9	7.3	8.7	7.1	8.4	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.8	22.1	0.0	45.9	20.1	68.0	39.2	44.8	72.2	52.3	62.3
LnGrp LOS	A	C	C	A	D	C	E	D	D	E	D	E
Approach Vol, veh/h		1688			2094			1632			1247	
Approach Delay, s/veh		21.2			40.2			51.0			58.9	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.4	23.6		46.0	17.2	26.8		46.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.9	19.1		41.5	12.7	22.3		41.5				
Max Q Clear Time (g_c+I1), s	17.5	19.0		25.3	13.4	18.6		43.3				
Green Ext Time (p_c), s	0.0	0.1		10.0	0.0	2.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			41.5									
HCM 6th LOS			D									

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	58	352	108	400	313	6	85	1005	56	103	1012	296
Future Volume (veh/h)	58	352	108	400	313	6	85	1005	56	103	1012	296
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	63	383	117	435	340	0	92	1092	61	112	1100	322
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	612	772	344	558	1138		181	2108	118	209	2175	675
Arrive On Green	0.20	0.22	0.22	0.21	0.22	0.00	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	377	4948	276	487	5106	1585
Grp Volume(v), veh/h	63	383	117	435	340	0	92	751	402	112	1100	322
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	377	1702	1821	487	1702	1585
Q Serve(g_s), s	1.9	8.5	5.6	16.7	5.0	0.0	21.2	14.6	14.6	19.7	14.1	13.1
Cycle Q Clear(g_c), s	1.9	8.5	5.6	16.7	5.0	0.0	35.3	14.6	14.6	34.3	14.1	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	612	772	344	558	1138		181	1450	776	209	2175	675
V/C Ratio(X)	0.10	0.50	0.34	0.78	0.30		0.51	0.52	0.52	0.54	0.51	0.48
Avail Cap(c_a), veh/h	612	772	344	558	1138		183	1461	781	210	2191	680
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	30.8	29.7	20.5	29.0	0.0	31.8	19.0	19.0	31.6	18.8	18.5
Incr Delay (d2), s/veh	0.3	2.3	2.7	7.0	0.1	0.0	2.2	0.3	0.6	2.6	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.8	2.4	7.7	2.0	0.0	2.0	5.6	6.0	2.4	5.4	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	33.1	32.3	27.5	29.2	0.0	34.0	19.3	19.6	34.3	19.0	19.1
LnGrp LOS	B	C	C	C	C		C	B	B	C	B	B
Approach Vol, veh/h		563			775	A		1245			1534	
Approach Delay, s/veh		31.0			28.2			20.5			20.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.0	24.0		42.7	22.5	24.5		42.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.5	19.5		38.5	18.0	20.0		38.5				
Max Q Clear Time (g_c+I1), s	18.7	10.5		37.3	3.9	7.0		36.3				
Green Ext Time (p_c), s	0.0	1.9		0.9	0.1	1.8		1.7				

Intersection Summary			
HCM 6th Ctrl Delay		23.3	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

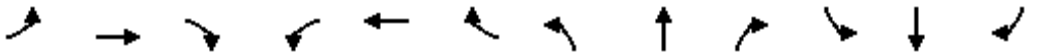
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	308	1129	307	343	1232	347	276	1022	428	433	958	316
Future Volume (veh/h)	308	1129	307	343	1232	347	276	1022	428	433	958	316
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	335	1227	334	373	1339	377	300	1111	465	471	1041	343
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	393	1521	430	427	1452	451	354	1301	404	519	1150	379
Arrive On Green	0.11	0.27	0.27	0.12	0.28	0.28	0.10	0.25	0.25	0.15	0.30	0.30
Sat Flow, veh/h	3563	5611	1585	3456	5106	1585	3456	5106	1585	3456	3798	1251
Grp Volume(v), veh/h	335	1227	334	373	1339	377	300	1111	465	471	933	451
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1585	1728	1702	1585	1728	1702	1645
Q Serve(g_s), s	8.3	18.3	17.5	9.5	22.9	20.1	7.7	18.6	22.9	12.0	23.7	23.7
Cycle Q Clear(g_c), s	8.3	18.3	17.5	9.5	22.9	20.1	7.7	18.6	22.9	12.0	23.7	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	393	1521	430	427	1452	451	354	1301	404	519	1031	498
V/C Ratio(X)	0.85	0.81	0.78	0.87	0.92	0.84	0.85	0.85	1.15	0.91	0.91	0.91
Avail Cap(c_a), veh/h	393	1530	432	427	1461	453	354	1301	404	519	1031	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	30.6	30.2	38.7	31.2	30.2	39.6	31.9	33.5	37.6	30.1	30.1
Incr Delay (d2), s/veh	16.5	3.3	8.7	17.8	10.0	12.8	17.2	7.3	92.8	19.7	12.8	22.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	8.0	7.1	4.8	9.8	8.6	4.0	8.1	18.4	6.3	10.9	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	33.8	38.9	56.5	41.1	43.0	56.9	39.1	126.3	57.2	42.9	52.7
LnGrp LOS	E	C	D	E	D	D	E	D	F	E	D	D
Approach Vol, veh/h		1896			2089			1876			1855	
Approach Delay, s/veh		38.6			44.2			63.6			48.9	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	31.7	15.6	28.8	18.0	27.4	14.4	30.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.2	27.2	11.1	24.5	13.5	22.9	9.9	25.7
Max Q Clear Time (g_c+I1), s	9.7	25.7	11.5	20.3	14.0	24.9	10.3	24.9
Green Ext Time (p_c), s	0.0	1.2	0.0	3.0	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

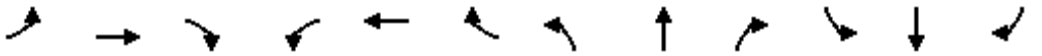
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1605	160	0	1015	229	0	0	461	869	235	607
Future Volume (vph)	0	1605	160	0	1015	229	0	0	461	869	235	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor		0.86			0.91	1.00			1.00	0.97	0.91	0.91
Frt		0.99			1.00	0.85			0.86	1.00	0.92	0.85
Flt Protected		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (prot)		6321			5085	1583			1611	3433	3103	1441
Flt Permitted		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (perm)		6321			5085	1583			1611	3433	3103	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1745	174	0	1103	249	0	0	501	945	255	660
RTOR Reduction (vph)	0	18	0	0	0	175	0	0	53	0	2	7
Lane Group Flow (vph)	0	1901	0	0	1103	74	0	0	448	945	583	323
Turn Type		NA			NA	Perm			Perm	Prot	NA	Perm
Protected Phases		4			8					1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)		26.6			26.6	26.6			25.0	24.9	54.4	54.4
Effective Green, g (s)		26.6			26.6	26.6			25.0	24.9	54.4	54.4
Actuated g/C Ratio		0.30			0.30	0.30			0.28	0.28	0.60	0.60
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1868			1502	467			447	949	1875	871
v/s Ratio Prot		c0.30			0.22					c0.28	0.19	
v/s Ratio Perm						0.05			c0.28			0.22
v/c Ratio		1.02			0.73	0.16			1.00	1.00	0.31	0.37
Uniform Delay, d1		31.7			28.5	23.4			32.5	32.5	8.7	9.1
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		25.3			1.9	0.2			43.3	28.0	0.4	1.2
Delay (s)		57.0			30.4	23.6			75.8	60.5	9.1	10.3
Level of Service		E			C	C			E	E	A	B
Approach Delay (s)		57.0			29.2			75.8			35.4	
Approach LOS		E			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2566	0	0	1020	664	299	0	478	0	0	0
Future Volume (vph)	0	2566	0	0	1020	664	299	0	478	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5		4.5			
Lane Util. Factor		0.86			0.95	1.00	0.97		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		6408			3539	1583	3433		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		6408			3539	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2789	0	0	1109	722	325	0	520	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	331	0	0	19	0	0	0
Lane Group Flow (vph)	0	2789	0	0	1109	391	325	0	501	0	0	0
Turn Type		NA			NA	Perm	Perm		Perm			
Protected Phases		4			8							
Permitted Phases						8	2		2			
Actuated Green, G (s)		32.5			32.5	32.5	18.5		18.5			
Effective Green, g (s)		32.5			32.5	32.5	18.5		18.5			
Actuated g/C Ratio		0.54			0.54	0.54	0.31		0.31			
Clearance Time (s)		4.5			4.5	4.5	4.5		4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)		3471			1916	857	1058		859			
v/s Ratio Prot		c0.44			0.31							
v/s Ratio Perm						0.25	0.09		c0.18			
v/c Ratio		0.80			0.58	0.46	0.31		0.58			
Uniform Delay, d1		11.2			9.2	8.4	15.9		17.5			
Progression Factor		1.00			1.00	1.00	1.00		1.00			
Incremental Delay, d2		1.4			0.4	0.4	0.8		2.9			
Delay (s)		12.6			9.6	8.8	16.6		20.4			
Level of Service		B			A	A	B		C			
Approach Delay (s)		12.6			9.3			18.9			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	180	24	985	64	959
v/c Ratio	0.11	0.33	0.07	0.41	0.18	0.40
Control Delay	10.2	9.7	4.5	4.7	5.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	9.7	4.5	4.7	5.8	4.8
Queue Length 50th (ft)	3	8	2	45	5	45
Queue Length 95th (ft)	17	27	9	87	21	87
Internal Link Dist (ft)	55	291		153		271
Turn Bay Length (ft)			40		100	
Base Capacity (vph)	713	1264	361	2376	348	2407
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.14	0.07	0.41	0.18	0.40

Intersection Summary

Distance to freeway off-ramp is is approx. 160 ft.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	316	28	1619	86	817
v/c Ratio	0.18	0.63	0.06	0.65	0.58	0.32
Control Delay	16.4	27.5	4.5	7.5	27.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	27.5	4.5	7.5	27.9	4.7
Queue Length 50th (ft)	8	54	3	158	15	58
Queue Length 95th (ft)	35	93	13	294	#106	109
Internal Link Dist (ft)	55	291		153		271
Turn Bay Length (ft)			40		100	
Base Capacity (vph)	388	703	438	2480	148	2523
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.45	0.06	0.65	0.58	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Distance to freeway off-ramp is is approx. 160 ft.

Lane Group	EBL	EBT	EBR	WBL	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	94	1544	744	252	1588	457	1269
v/c Ratio	0.08	0.05	1.61	1.73	0.88	1.06	1.57	1.02dr
Control Delay	11.0	20.0	300.6	369.2	75.3	76.4	305.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	20.0	300.6	369.2	75.3	76.4	305.1	11.7
Queue Length 50th (ft)	22	13	~1325	~363	83	~319	~213	66
Queue Length 95th (ft)	37	25	#1590	#479	#154	#396	#312	121
Internal Link Dist (ft)		430				303		392
Turn Bay Length (ft)	175		300	150	175		140	
Base Capacity (vph)	1870	1906	958	429	288	1504	291	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	1.61	1.73	0.88	1.06	1.57	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	94	1544	744	252	1588	457	1269
v/c Ratio	0.08	0.05	1.61	1.73	0.88	1.06	1.57	1.02dr
Control Delay	11.0	20.0	300.6	369.2	75.3	76.4	305.1	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	20.0	300.6	369.2	75.3	76.4	305.1	11.7
Queue Length 50th (ft)	22	13	~1325	~363	83	~319	~213	66
Queue Length 95th (ft)	37	25	#1590	#479	#154	#396	#312	121
Internal Link Dist (ft)		430				303		392
Turn Bay Length (ft)	175		300	150	175		140	
Base Capacity (vph)	1870	1906	958	429	288	1504	291	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	1.61	1.73	0.88	1.06	1.57	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

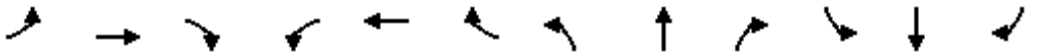
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

APPENDIX D

HIGHWAY CAPACITY MANUAL LEVEL OF SERVICE WORKSHEETS

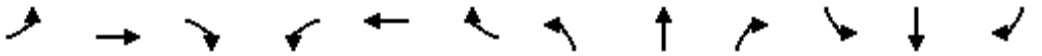
General Plan Buildout (2040) No Project



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	979	121	75	1350	151	233	533	185	303	494	168
Future Volume (veh/h)	164	979	121	75	1350	151	233	533	185	303	494	168
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	178	1064	132	82	1467	164	253	579	201	329	537	183
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	180	2101	260	217	1424	159	279	746	333	327	841	375
Arrive On Green	0.10	0.46	0.46	0.31	0.31	0.31	0.16	0.21	0.21	0.18	0.24	0.24
Sat Flow, veh/h	1781	4602	570	468	4660	521	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	178	787	409	82	1071	560	253	579	201	329	537	183
Grp Sat Flow(s),veh/h/ln	1781	1702	1768	468	1702	1777	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.0	14.7	14.7	13.5	27.5	27.5	12.6	13.8	10.3	16.5	12.2	9.0
Cycle Q Clear(g_c), s	9.0	14.7	14.7	14.7	27.5	27.5	12.6	13.8	10.3	16.5	12.2	9.0
Prop In Lane	1.00		0.32	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1555	807	217	1040	543	279	746	333	327	841	375
V/C Ratio(X)	0.99	0.51	0.51	0.38	1.03	1.03	0.91	0.78	0.60	1.01	0.64	0.49
Avail Cap(c_a), veh/h	180	1555	807	217	1040	543	279	746	333	327	841	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	17.3	17.3	27.3	31.3	31.3	37.3	33.6	32.2	36.8	30.9	29.6
Incr Delay (d2), s/veh	63.5	0.3	0.5	1.1	35.9	46.8	30.8	7.8	7.9	51.7	3.7	4.5
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	7.1	5.6	5.9	1.6	16.2	18.5	7.8	6.7	4.7	11.8	5.6	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.9	17.5	17.8	28.4	67.1	78.0	68.1	41.3	40.1	88.4	34.6	34.1
LnGrp LOS	F	B	B	C	F	F	E	D	D	F	C	C
Approach Vol, veh/h		1374			1713			1033			1049	
Approach Delay, s/veh		28.8			68.8			47.6			51.4	
Approach LOS		C			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	23.4		45.6	18.6	25.8	13.6	32.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	18.9		41.1	14.1	21.3	9.1	27.5				
Max Q Clear Time (g_c+I1), s	18.5	15.8		16.7	14.6	14.2	11.0	29.5				
Green Ext Time (p_c), s	0.0	1.4		9.6	0.0	2.5	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			50.4									
HCM 6th LOS			D									



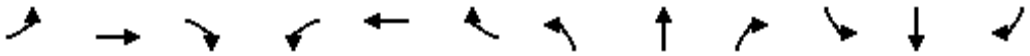
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	621	283	220	751	0	326	0	190	0	0	0
Future Volume (veh/h)	0	621	283	220	751	0	326	0	190	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	0	675	308	239	816	0	354	0	207	0	0	0
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	3	853	380	328	1424	0	443	0	1483	0	519	0
Arrive On Green	0.00	0.24	0.24	0.10	0.40	0.00	0.12	0.00	0.47	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3647	0	3563	0	3170	0	1870	0
Grp Volume(v), veh/h	0	675	308	239	816	0	354	0	207	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	0	1781	0	1585	0	1870	0
Q Serve(g_s), s	0.0	12.2	12.5	4.6	12.2	0.0	6.6	0.0	2.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.2	12.5	4.6	12.2	0.0	6.6	0.0	2.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	853	380	328	1424	0	443	0	1483	0	519	0
V/C Ratio(X)	0.00	0.79	0.81	0.73	0.57	0.00	0.80	0.00	0.14	0.00	0.00	0.00
Avail Cap(c_a), veh/h	130	935	417	328	1424	0	443	0	1483	0	519	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.4	24.5	30.1	15.9	0.0	29.1	0.0	10.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.3	10.6	7.9	0.6	0.0	10.0	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.4	5.6	2.2	4.7	0.0	3.4	0.0	0.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.7	35.1	38.0	16.5	0.0	39.2	0.0	10.6	0.0	0.0	0.0
LnGrp LOS	A	C	D	D	B	A	D	A	B	A	A	A
Approach Vol, veh/h		983			1055			561			0	
Approach Delay, s/veh		30.7			21.4			28.6			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.5	11.0	20.9	13.0	23.5	0.0	31.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	32.0	6.5	18.0	8.5	19.0	5.0	19.5
Max Q Clear Time (g_c+I1), s	4.5	6.6	14.5	8.6	0.0	0.0	14.2
Green Ext Time (p_c), s	0.8	0.0	1.9	0.0	0.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

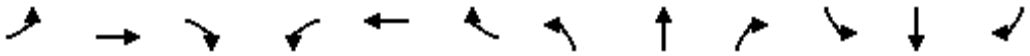
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	791	95	46	1172	118	181	426	52	238	387	156
Future Volume (veh/h)	93	791	95	46	1172	118	181	426	52	238	387	156
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	101	860	103	50	1274	128	197	463	57	259	421	170
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	123	1586	707	65	1348	135	290	579	258	377	525	210
Arrive On Green	0.07	0.45	0.45	0.04	0.41	0.41	0.16	0.16	0.16	0.21	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3262	327	1781	3554	1585	1781	2479	990
Grp Volume(v), veh/h	101	860	103	50	692	710	197	463	57	259	301	290
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1812	1781	1777	1585	1781	1777	1692
Q Serve(g_s), s	7.0	22.3	4.8	3.5	47.1	47.6	13.1	15.8	3.9	16.9	20.2	20.6
Cycle Q Clear(g_c), s	7.0	22.3	4.8	3.5	47.1	47.6	13.1	15.8	3.9	16.9	20.2	20.6
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		0.59
Lane Grp Cap(c), veh/h	123	1586	707	65	734	749	290	579	258	377	376	358
V/C Ratio(X)	0.82	0.54	0.15	0.77	0.94	0.95	0.68	0.80	0.22	0.69	0.80	0.81
Avail Cap(c_a), veh/h	123	1586	707	132	747	761	290	579	258	564	563	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	25.5	20.6	60.2	35.5	35.6	49.6	50.7	45.8	45.8	47.1	47.2
Incr Delay (d2), s/veh	33.9	0.4	0.1	17.6	20.0	20.8	12.1	11.1	2.0	2.2	4.8	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	9.3	1.8	1.9	23.8	24.7	6.8	7.9	1.7	7.6	9.4	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.7	25.9	20.7	77.8	55.5	56.4	61.7	61.8	47.7	48.0	51.9	52.9
LnGrp LOS	F	C	C	E	E	E	E	E	D	D	D	D
Approach Vol, veh/h		1064			1452			717			850	
Approach Delay, s/veh		31.6			56.7			60.7			51.1	
Approach LOS		C			E			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.0	9.1	60.7		31.2	13.2	56.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.5	9.3	52.3		39.9	8.7	52.9				
Max Q Clear Time (g_c+I1), s		17.8	5.5	24.3		22.6	9.0	49.6				
Green Ext Time (p_c), s		1.0	0.0	7.0		4.1	0.0	2.4				

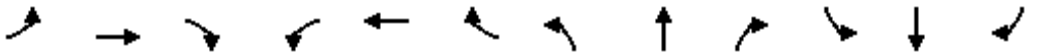
Intersection Summary												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	889	68	79	1370	128	108	430	60	89	425	104
Future Volume (veh/h)	103	889	68	79	1370	128	108	430	60	89	425	104
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	112	966	74	86	1489	139	117	467	65	97	462	113
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	143	1746	133	114	1637	153	305	1087	151	324	983	239
Arrive On Green	0.08	0.36	0.36	0.06	0.34	0.34	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	4838	370	1781	4751	443	838	3135	434	872	2835	689
Grp Volume(v), veh/h	112	679	361	86	1067	561	117	264	268	97	288	287
Grp Sat Flow(s),veh/h/ln	1781	1702	1804	1781	1702	1791	838	1777	1792	872	1777	1746
Q Serve(g_s), s	3.6	9.4	9.5	2.8	17.7	17.7	7.5	6.7	6.8	5.7	7.5	7.6
Cycle Q Clear(g_c), s	3.6	9.4	9.5	2.8	17.7	17.7	15.1	6.7	6.8	12.5	7.5	7.6
Prop In Lane	1.00		0.21	1.00		0.25	1.00		0.24	1.00		0.39
Lane Grp Cap(c), veh/h	143	1229	651	114	1173	617	305	616	621	324	616	606
V/C Ratio(X)	0.78	0.55	0.55	0.75	0.91	0.91	0.38	0.43	0.43	0.30	0.47	0.47
Avail Cap(c_a), veh/h	166	1229	651	217	1180	621	305	616	621	324	616	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	15.1	15.1	27.2	18.5	18.5	21.0	14.8	14.8	19.6	15.1	15.1
Incr Delay (d2), s/veh	18.7	0.5	1.0	9.7	10.4	17.5	3.6	2.2	2.2	2.4	2.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.1	3.4	1.4	7.5	9.1	1.7	2.8	2.9	1.3	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	15.6	16.1	36.9	28.9	36.0	24.6	17.0	17.0	22.0	17.6	17.7
LnGrp LOS	D	B	B	D	C	D	C	B	B	C	B	B
Approach Vol, veh/h		1152			1714			649			672	
Approach Delay, s/veh		18.7			31.6			18.4			18.3	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.0	8.3	25.8		25.0	9.3	24.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.5	7.2	18.8		20.5	5.5	20.5				
Max Q Clear Time (g_c+I1), s		17.1	4.8	11.5		14.5	5.6	19.7				
Green Ext Time (p_c), s		1.3	0.0	3.7		2.1	0.0	0.7				

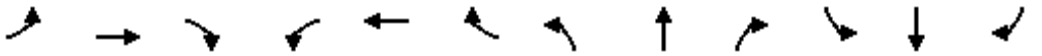
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	889	72	121	1259	92	194	643	59	208	539	131
Future Volume (veh/h)	106	889	72	121	1259	92	194	643	59	208	539	131
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	115	966	78	132	1368	100	211	699	64	226	586	142
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	145	1383	111	165	1451	106	238	893	398	256	928	414
Arrive On Green	0.08	0.29	0.29	0.09	0.30	0.30	0.13	0.25	0.25	0.14	0.26	0.26
Sat Flow, veh/h	1781	4816	388	1781	4856	355	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	115	682	362	132	959	509	211	699	64	226	586	142
Grp Sat Flow(s),veh/h/ln	1781	1702	1801	1781	1702	1806	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.1	14.3	14.3	5.8	22.0	22.0	9.3	14.7	2.5	10.0	11.7	5.8
Cycle Q Clear(g_c), s	5.1	14.3	14.3	5.8	22.0	22.0	9.3	14.7	2.5	10.0	11.7	5.8
Prop In Lane	1.00		0.22	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	977	517	165	1017	540	238	893	398	256	928	414
V/C Ratio(X)	0.79	0.70	0.70	0.80	0.94	0.94	0.89	0.78	0.16	0.88	0.63	0.34
Avail Cap(c_a), veh/h	145	977	517	203	1017	540	238	893	398	256	928	414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	25.4	25.4	35.6	27.4	27.4	34.0	27.9	23.4	33.6	26.1	24.0
Incr Delay (d2), s/veh	25.6	2.2	4.2	16.5	16.3	25.3	30.2	6.8	0.9	28.1	3.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	5.7	6.4	3.2	10.6	12.6	5.9	6.8	1.0	6.2	5.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	27.6	29.6	52.1	43.7	52.7	64.3	34.7	24.2	61.7	29.4	26.2
LnGrp LOS	E	C	C	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		1159			1600			974			954	
Approach Delay, s/veh		31.6			47.2			40.4			36.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	24.6	11.9	27.5	15.2	25.4	11.0	28.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	20.1	9.1	21.3	10.7	20.9	6.5	23.9
Max Q Clear Time (g_c+I1), s	12.0	16.7	7.8	16.3	11.3	13.7	7.1	24.0
Green Ext Time (p_c), s	0.0	1.6	0.0	2.8	0.0	2.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D



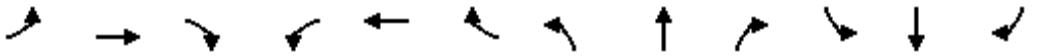
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	234	0	262	465	561	0	0	1030	520
Future Volume (veh/h)	0	0	0	234	0	262	465	561	0	0	1030	520
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
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	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				254	0	285	505	610	0	0	1120	565
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	2	2	2	2	0	0	2	2
Cap, veh/h				768	0	342	606	2304	0	0	1379	642
Arrive On Green				0.22	0.00	0.22	0.18	0.65	0.00	0.00	0.41	0.41
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	3572	1585
Grp Volume(v), veh/h				254	0	285	505	610	0	0	1120	565
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				4.0	0.0	11.4	9.3	4.8	0.0	0.0	19.3	21.8
Cycle Q Clear(g_c), s				4.0	0.0	11.4	9.3	4.8	0.0	0.0	19.3	21.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				768	0	342	606	2304	0	0	1379	642
V/C Ratio(X)				0.33	0.00	0.83	0.83	0.26	0.00	0.00	0.81	0.88
Avail Cap(c_a), veh/h				975	0	434	653	2304	0	0	1379	642
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.9	0.0	24.8	26.3	4.9	0.0	0.0	17.5	18.2
Incr Delay (d2), s/veh				0.3	0.0	10.7	8.6	0.3	0.0	0.0	5.3	15.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	0.0	4.8	4.3	1.4	0.0	0.0	7.7	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.2	0.0	35.6	34.9	5.2	0.0	0.0	22.8	34.1
LnGrp LOS				C	A	D	C	A	A	A	C	C
Approach Vol, veh/h					539			1115			1685	
Approach Delay, s/veh					29.2			18.7			26.6	
Approach LOS					C			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	47.4		16.1	31.3		18.8						
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5						
Max Green Setting (Gmax), s	42.9		12.5	25.9		18.1						
Max Q Clear Time (g_c+I1), s	6.8		11.3	23.8		13.4						
Green Ext Time (p_c), s	4.7		0.3	1.8		0.9						

Intersection Summary		
HCM 6th Ctrl Delay		24.4
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.



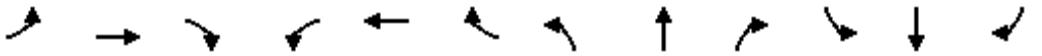
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	0	270	0	0	0	0	972	297	318	799	0
Future Volume (veh/h)	62	0	270	0	0	0	0	972	297	318	799	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
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	1870	1870	0
Adj Flow Rate, veh/h	45	0	317				0	1057	323	346	868	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	275	0	489				0	1552	692	474	2362	0
Arrive On Green	0.15	0.00	0.15				0.00	0.44	0.44	0.14	0.66	0.00
Sat Flow, veh/h	1781	0	3170				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	45	0	317				0	1057	323	346	868	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1728	1777	0
Q Serve(g_s), s	1.1	0.0	4.7				0.0	11.8	7.2	4.8	5.4	0.0
Cycle Q Clear(g_c), s	1.1	0.0	4.7				0.0	11.8	7.2	4.8	5.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	275	0	489				0	1552	692	474	2362	0
V/C Ratio(X)	0.16	0.00	0.65				0.00	0.68	0.47	0.73	0.37	0.00
Avail Cap(c_a), veh/h	646	0	1149				0	1552	692	522	2362	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	19.7				0.0	11.2	9.9	20.5	3.7	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.5				0.0	2.4	2.3	4.6	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	0.4	0.0	1.6				0.0	4.2	2.4	2.0	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	0.0	21.2				0.0	13.6	12.1	25.2	4.1	0.0
LnGrp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		362						1380			1214	
Approach Delay, s/veh		20.9						13.3			10.1	
Approach LOS		C						B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.3	26.2		12.2		37.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	7.5	21.0		18.0		33.0						
Max Q Clear Time (g_c+I1), s	6.8	13.8		6.7		7.4						
Green Ext Time (p_c), s	0.1	4.6		1.0		6.8						

Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			B									

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)	4	9	24	78	13	112	25	796	131	68	877	9
Future Volume (veh/h)	4	9	24	78	13	112	25	796	131	68	877	9
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	4	10	26	85	14	122	27	865	142	74	953	10
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	117	74	158	371	48	214	468	1871	307	449	2206	23
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	75	498	1065	1301	325	1442	583	3055	502	560	3603	38
Grp Volume(v), veh/h	40	0	0	99	0	122	27	503	504	74	470	493
Grp Sat Flow(s),veh/h/ln	1639	0	0	1626	0	1442	583	1777	1780	560	1777	1864
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.0	1.0	5.7	5.7	3.1	5.2	5.2
Cycle Q Clear(g_c), s	3.0	0.0	0.0	1.9	0.0	3.0	6.2	5.7	5.7	8.8	5.2	5.2
Prop In Lane	0.10		0.65	0.86		1.00	1.00		0.28	1.00		0.02
Lane Grp Cap(c), veh/h	348	0	0	419	0	214	468	1088	1090	449	1088	1141
V/C Ratio(X)	0.11	0.00	0.00	0.24	0.00	0.57	0.06	0.46	0.46	0.16	0.43	0.43
Avail Cap(c_a), veh/h	879	0	0	891	0	691	468	1088	1090	449	1088	1141
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	14.4	0.0	14.9	5.5	3.9	3.9	6.3	3.8	3.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	2.4	0.2	1.4	1.4	0.8	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.7	0.0	0.9	0.1	1.2	1.2	0.3	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	0.0	14.7	0.0	17.3	5.7	5.4	5.3	7.1	5.1	5.0
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		40			221			1034			1037	
Approach Delay, s/veh		14.1			16.1			5.4			5.2	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		10.1		27.5		10.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.0		23.0		18.0				
Max Q Clear Time (g_c+I1), s		8.2		5.0		10.8		5.0				
Green Ext Time (p_c), s		6.1		0.1		5.3		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			6.5									
HCM 6th LOS			A									

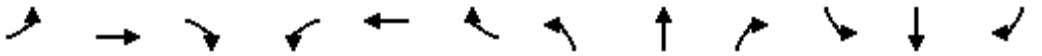
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Volume (veh/h)	193	414	0	748	364	1	986	331	0	0
Future Volume (veh/h)	193	414	0	748	364	1	986	331	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	210	450	0	813	396	1	1072	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2	2	2	2	2		
Cap, veh/h	588	523	0	1629	759	77	1668			
Arrive On Green	0.33	0.33	0.00	0.48	0.48	0.48	0.48	0.00		
Sat Flow, veh/h	1781	1585	0	3572	1585	0	3486	1585		
Grp Volume(v), veh/h	210	450	0	813	396	575	498	0		
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1585	1869	1617	1585		
Q Serve(g_s), s	4.2	12.5	0.0	7.7	8.2	0.0	10.9	0.0		
Cycle Q Clear(g_c), s	4.2	12.5	0.0	7.7	8.2	10.9	10.9	0.0		
Prop In Lane	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	588	523	0	1629	759	971	774			
V/C Ratio(X)	0.36	0.86	0.00	0.50	0.52	0.59	0.64			
Avail Cap(c_a), veh/h	701	624	0	1629	759	971	774			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.0	14.7	0.0	8.4	8.5	9.2	9.2	0.0		
Incr Delay (d2), s/veh	0.4	10.3	0.0	1.1	2.6	2.7	4.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	5.3	0.0	2.3	2.6	4.0	3.7	0.0		
Unsig. Movement Delay, s/veh										
LnGrp Delay(d),s/veh	12.3	25.0	0.0	9.5	11.1	11.9	13.3	0.0		
LnGrp LOS	B	C	A	A	B	B	B			
Approach Vol, veh/h	660			1209			1073	A		
Approach Delay, s/veh	21.0			10.0			12.6			
Approach LOS	C			B			B			

Timer - Assigned Phs		2		4		6				
Phs Duration (G+Y+Rc), s		27.0		20.0		27.0				
Change Period (Y+Rc), s		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		18.5		22.5				
Max Q Clear Time (g_c+I1), s		10.2		14.5		12.9				
Green Ext Time (p_c), s		6.5		1.0		4.8				

Intersection Summary										
HCM 6th Ctrl Delay			13.4							
HCM 6th LOS			B							

Notes

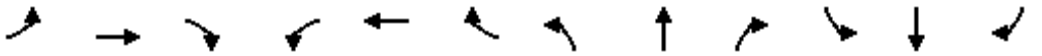
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	796	207	181	1272	121	80	735	231	58	745	83
Future Volume (veh/h)	117	796	207	181	1272	121	80	735	231	58	745	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	865	225	197	1383	132	87	799	251	63	810	90
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	162	1186	307	229	1570	150	204	1255	560	209	1139	127
Arrive On Green	0.09	0.29	0.29	0.13	0.33	0.33	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	4041	1045	1781	4741	452	619	3554	1585	537	3224	358
Grp Volume(v), veh/h	127	728	362	197	993	522	87	799	251	63	446	454
Grp Sat Flow(s),veh/h/ln	1781	1702	1682	1781	1702	1789	619	1777	1585	537	1777	1806
Q Serve(g_s), s	4.2	11.5	11.6	6.5	16.5	16.5	8.2	11.3	7.3	6.6	13.0	13.0
Cycle Q Clear(g_c), s	4.2	11.5	11.6	6.5	16.5	16.5	21.2	11.3	7.3	17.9	13.0	13.0
Prop In Lane	1.00		0.62	1.00		0.25	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	162	999	494	229	1127	592	204	1255	560	209	628	638
V/C Ratio(X)	0.79	0.73	0.73	0.86	0.88	0.88	0.43	0.64	0.45	0.30	0.71	0.71
Avail Cap(c_a), veh/h	163	1021	505	229	1146	602	204	1255	560	209	628	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	19.0	19.1	25.6	19.0	19.0	26.0	16.2	14.9	23.7	16.8	16.8
Incr Delay (d2), s/veh	21.7	2.6	5.3	26.9	8.1	14.1	6.4	2.5	2.6	3.7	6.7	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	4.4	4.7	4.2	6.9	8.2	1.5	4.5	2.7	1.0	5.9	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	21.7	24.4	52.5	27.1	33.0	32.4	18.7	17.5	27.3	23.5	23.4
LnGrp LOS	D	C	C	D	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1217			1712			1137			963	
Approach Delay, s/veh		25.3			31.8			19.5			23.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.7	12.2	22.1		25.7	9.9	24.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.8	7.7	18.0		20.8	5.5	20.2				
Max Q Clear Time (g_c+I1), s		23.2	8.5	13.6		19.9	6.2	18.5				
Green Ext Time (p_c), s		0.0	0.0	2.6		0.6	0.0	1.3				

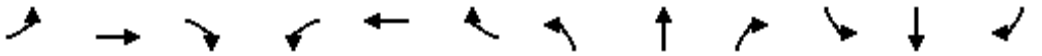
Intersection Summary												
HCM 6th Ctrl Delay			25.9									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	964	87	237	1466	140	103	549	217	66	380	122
Future Volume (veh/h)	119	964	87	237	1466	140	103	549	217	66	380	122
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	129	1048	95	258	1593	152	112	597	236	72	413	133
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	164	1412	128	289	1739	166	314	1119	499	237	1119	499
Arrive On Green	0.09	0.30	0.30	0.16	0.37	0.37	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1781	4765	431	1781	4741	452	861	3554	1585	659	3554	1585
Grp Volume(v), veh/h	129	748	395	258	1143	602	112	597	236	72	413	133
Grp Sat Flow(s),veh/h/ln	1781	1702	1793	1781	1702	1789	861	1777	1585	659	1777	1585
Q Serve(g_s), s	4.2	11.8	11.9	8.5	19.1	19.2	6.9	8.3	7.2	6.0	5.4	3.7
Cycle Q Clear(g_c), s	4.2	11.8	11.9	8.5	19.1	19.2	12.3	8.3	7.2	14.3	5.4	3.7
Prop In Lane	1.00		0.24	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	1009	531	289	1248	656	314	1119	499	237	1119	499
V/C Ratio(X)	0.79	0.74	0.74	0.89	0.92	0.92	0.36	0.53	0.47	0.30	0.37	0.27
Avail Cap(c_a), veh/h	170	1027	541	289	1255	659	314	1119	499	237	1119	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	18.9	19.0	24.5	18.0	18.0	20.6	16.8	16.5	22.7	15.8	15.3
Incr Delay (d2), s/veh	20.6	2.9	5.4	27.2	10.5	17.8	3.1	1.8	3.2	3.3	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	4.5	5.1	5.4	8.2	9.9	1.6	3.3	2.7	1.1	2.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	21.8	24.4	51.7	28.6	35.8	23.8	18.7	19.6	26.0	16.8	16.6
LnGrp LOS	D	C	C	D	C	D	C	B	B	C	B	B
Approach Vol, veh/h		1272			2003			945			618	
Approach Delay, s/veh		25.2			33.7			19.5			17.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.3	14.2	22.2		23.3	10.0	26.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.8	9.7	18.0		18.8	5.7	22.0				
Max Q Clear Time (g_c+I1), s		14.3	10.5	13.9		16.3	6.2	21.2				
Green Ext Time (p_c), s		2.2	0.0	2.6		0.9	0.0	0.7				

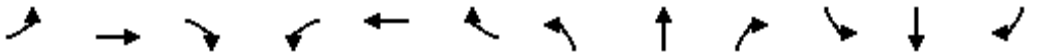
Intersection Summary												
HCM 6th Ctrl Delay			26.7									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	1021	89	40	1450	209	89	613	25	164	422	269
Future Volume (veh/h)	201	1021	89	40	1450	209	89	613	25	164	422	269
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	218	1110	97	43	1576	227	97	666	27	178	459	292
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	247	2216	193	65	1629	234	274	770	31	248	865	386
Arrive On Green	0.14	0.46	0.46	0.04	0.36	0.36	0.06	0.22	0.22	0.08	0.24	0.24
Sat Flow, veh/h	1781	4782	418	1781	4510	648	1781	3481	141	1781	3554	1585
Grp Volume(v), veh/h	218	790	417	43	1189	614	97	340	353	178	459	292
Grp Sat Flow(s),veh/h/ln	1781	1702	1795	1781	1702	1754	1781	1777	1845	1781	1777	1585
Q Serve(g_s), s	10.8	14.6	14.6	2.1	30.8	31.0	3.7	16.6	16.6	7.0	10.1	15.4
Cycle Q Clear(g_c), s	10.8	14.6	14.6	2.1	30.8	31.0	3.7	16.6	16.6	7.0	10.1	15.4
Prop In Lane	1.00		0.23	1.00		0.37	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	247	1577	832	65	1229	633	274	393	408	248	865	386
V/C Ratio(X)	0.88	0.50	0.50	0.66	0.97	0.97	0.35	0.86	0.87	0.72	0.53	0.76
Avail Cap(c_a), veh/h	247	1577	832	129	1229	633	274	393	408	248	865	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	16.9	16.9	42.8	28.2	28.3	25.2	33.8	33.8	26.4	29.6	31.6
Incr Delay (d2), s/veh	28.6	0.2	0.5	10.8	18.2	28.3	0.8	21.6	21.1	9.5	2.3	13.0
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	6.5	5.4	5.7	1.1	14.8	17.1	1.6	9.3	9.6	3.6	4.6	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	17.1	17.4	53.6	46.5	56.6	26.0	55.4	54.9	36.0	31.9	44.6
LnGrp LOS	E	B	B	D	D	E	C	E	D	D	C	D
Approach Vol, veh/h		1425			1846			790			929	
Approach Delay, s/veh		24.8			50.0			51.5			36.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	24.4	7.8	46.2	9.6	26.4	17.0	37.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.1	19.9	6.5	38.5	5.1	21.9	12.5	32.5
Max Q Clear Time (g_c+I1), s	9.0	18.6	4.1	16.6	5.7	17.4	12.8	33.0
Green Ext Time (p_c), s	0.0	0.6	0.0	8.4	0.0	1.8	0.0	0.0

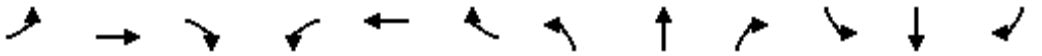
Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	1211	13	272	1548	73	150	1125	258	92	500	177
Future Volume (veh/h)	260	1211	13	272	1548	73	150	1125	258	92	500	177
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	283	1316	14	296	1683	79	163	1223	280	100	543	192
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	249	1378	15	308	1487	70	411	1094	248	147	1082	483
Arrive On Green	0.14	0.26	0.26	0.17	0.30	0.30	0.13	0.38	0.38	0.05	0.30	0.30
Sat Flow, veh/h	1781	5209	55	1781	4998	234	1781	2878	651	1781	3554	1585
Grp Volume(v), veh/h	283	860	470	296	1146	616	163	749	754	100	543	192
Grp Sat Flow(s),veh/h/ln	1781	1702	1860	1781	1702	1828	1781	1777	1753	1781	1777	1585
Q Serve(g_s), s	19.5	34.7	34.7	23.0	41.5	41.5	7.8	53.0	53.0	5.3	17.5	13.4
Cycle Q Clear(g_c), s	19.5	34.7	34.7	23.0	41.5	41.5	7.8	53.0	53.0	5.3	17.5	13.4
Prop In Lane	1.00		0.03	1.00		0.13	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	249	901	492	308	1013	544	411	675	666	147	1082	483
V/C Ratio(X)	1.14	0.95	0.95	0.96	1.13	1.13	0.40	1.11	1.13	0.68	0.50	0.40
Avail Cap(c_a), veh/h	249	901	492	308	1013	544	411	675	666	282	1350	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	50.5	50.5	57.2	49.0	49.0	25.2	43.2	43.2	36.9	39.8	38.4
Incr Delay (d2), s/veh	98.8	19.9	29.4	40.9	71.7	80.5	2.9	68.8	76.9	5.4	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	15.5	17.0	19.8	13.7	27.3	30.7	3.6	35.4	36.4	2.5	7.6	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	158.7	70.3	79.9	98.1	120.7	129.5	28.0	112.1	120.1	42.3	40.2	38.9
LnGrp LOS	F	E	E	F	F	F	C	F	F	D	D	D
Approach Vol, veh/h		1613			2058			1666			835	
Approach Delay, s/veh		88.6			120.1			107.5			40.1	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	57.5	28.6	41.4	22.5	47.0	24.0	46.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	53.0	24.1	36.9	18.0	53.0	19.5	41.5
Max Q Clear Time (g_c+I1), s	7.3	55.0	25.0	36.7	9.8	19.5	21.5	43.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.2	0.2	4.4	0.0	0.0

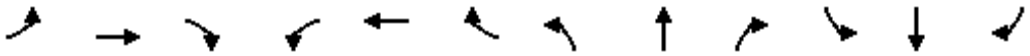
Intersection Summary	
HCM 6th Ctrl Delay	97.7
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	999	214	203	1179	240	202	641	99	227	1076	151
Future Volume (veh/h)	136	999	214	203	1179	240	202	641	99	227	1076	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1086	233	221	1282	261	220	697	108	247	1170	164
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	148	1179	253	245	1188	530	215	1241	190	275	1108	494
Arrive On Green	0.08	0.28	0.28	0.14	0.33	0.33	0.12	0.28	0.28	0.15	0.31	0.31
Sat Flow, veh/h	1781	4209	903	1781	3554	1585	1781	4466	685	1781	3554	1585
Grp Volume(v), veh/h	148	878	441	221	1282	261	220	530	275	247	1170	164
Grp Sat Flow(s),veh/h/ln	1781	1702	1708	1781	1777	1585	1781	1702	1747	1781	1777	1585
Q Serve(g_s), s	10.0	30.0	30.1	14.7	40.1	15.8	14.5	16.0	16.2	16.3	37.4	9.5
Cycle Q Clear(g_c), s	10.0	30.0	30.1	14.7	40.1	15.8	14.5	16.0	16.2	16.3	37.4	9.5
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	148	953	478	245	1188	530	215	946	486	275	1108	494
V/C Ratio(X)	1.00	0.92	0.92	0.90	1.08	0.49	1.02	0.56	0.57	0.90	1.06	0.33
Avail Cap(c_a), veh/h	148	953	478	245	1188	530	215	946	486	319	1108	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	41.9	41.9	51.0	40.0	31.8	52.8	37.0	37.1	49.8	41.3	31.7
Incr Delay (d2), s/veh	72.9	13.9	23.4	32.9	50.4	0.7	67.2	2.4	4.7	24.2	43.2	1.8
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	7.4	14.0	15.4	8.6	25.1	6.0	10.4	6.8	7.4	9.0	22.4	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.9	55.8	65.4	83.8	90.4	32.6	119.9	39.4	41.9	74.0	84.5	33.5
LnGrp LOS	F	E	E	F	F	C	F	D	D	E	F	C
Approach Vol, veh/h		1467			1764			1025			1581	
Approach Delay, s/veh		66.0			81.0			57.4			77.6	
Approach LOS		E			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	37.9	21.0	38.1	19.0	41.9	14.5	44.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	30.4	16.5	33.6	14.5	37.4	10.0	40.1
Max Q Clear Time (g_c+I1), s	18.3	18.2	16.7	32.1	16.5	39.4	12.0	42.1
Green Ext Time (p_c), s	0.2	3.9	0.0	1.1	0.0	0.0	0.0	0.0

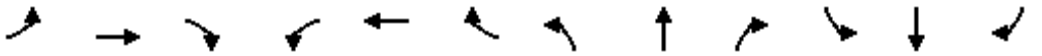
Intersection Summary			
HCM 6th Ctrl Delay		72.1	
HCM 6th LOS		E	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	794	285	262	1024	35	340	741	242	121	1356	177
Future Volume (veh/h)	99	794	285	262	1024	35	340	741	242	121	1356	177
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	108	863	310	285	1113	38	370	805	263	132	1474	192
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	208	1184	368	349	1384	47	442	1687	524	168	1721	224
Arrive On Green	0.06	0.23	0.23	0.10	0.27	0.27	0.13	0.33	0.33	0.09	0.30	0.30
Sat Flow, veh/h	3456	5106	1585	3456	5070	173	3456	5106	1585	1781	5805	755
Grp Volume(v), veh/h	108	863	310	285	747	404	370	805	263	132	1225	441
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1839	1728	1702	1585	1781	1609	1734
Q Serve(g_s), s	2.3	11.6	13.9	6.0	15.2	15.2	7.8	9.3	9.9	5.4	17.8	17.8
Cycle Q Clear(g_c), s	2.3	11.6	13.9	6.0	15.2	15.2	7.8	9.3	9.9	5.4	17.8	17.8
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	208	1184	368	349	929	502	442	1687	524	168	1431	514
V/C Ratio(X)	0.52	0.73	0.84	0.82	0.80	0.80	0.84	0.48	0.50	0.79	0.86	0.86
Avail Cap(c_a), veh/h	237	1239	384	349	936	506	442	1687	524	271	1431	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	26.3	27.2	32.7	25.1	25.1	31.6	19.8	20.0	32.9	24.6	24.6
Incr Delay (d2), s/veh	2.0	2.1	15.1	13.9	5.1	9.2	13.1	1.0	3.4	7.9	6.8	16.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.5	6.4	3.0	6.2	7.3	3.8	3.4	3.8	2.5	6.9	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	28.4	42.3	46.6	30.3	34.3	44.7	20.7	23.4	40.8	31.4	41.3
LnGrp LOS	D	C	D	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		1281			1436			1438			1798	
Approach Delay, s/veh		32.4			34.7			27.4			34.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	29.0	12.0	21.7	14.0	26.5	9.0	24.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.3	20.2	7.5	18.0	9.5	22.0	5.1	20.4
Max Q Clear Time (g_c+I1), s	7.4	11.9	8.0	15.9	9.8	19.8	4.3	17.2
Green Ext Time (p_c), s	0.1	3.8	0.0	1.4	0.0	1.8	0.0	2.0

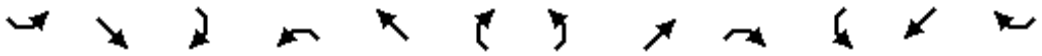
Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	361	418	25	240	1591	231	171	1476	318	288	1507	660
Future Volume (veh/h)	361	418	25	240	1591	231	171	1476	318	288	1507	660
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	392	454	27	261	1729	251	186	1604	346	313	1638	717
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	415	592	35	956	1413	439	760	1415	349	910	1345	735
Arrive On Green	0.12	0.12	0.12	0.28	0.28	0.28	0.22	0.22	0.22	0.26	0.26	0.26
Sat Flow, veh/h	3456	4931	291	3456	5106	1585	3456	6434	1585	3456	5106	2790
Grp Volume(v), veh/h	392	312	169	261	1729	251	186	1604	346	313	1638	717
Grp Sat Flow(s),veh/h/ln	1728	1702	1818	1728	1702	1585	1728	1609	1585	1728	1702	1395
Q Serve(g_s), s	16.9	13.3	13.5	8.9	41.5	20.4	6.7	33.0	32.7	11.0	39.5	38.2
Cycle Q Clear(g_c), s	16.9	13.3	13.5	8.9	41.5	20.4	6.7	33.0	32.7	11.0	39.5	38.2
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	415	408	218	956	1413	439	760	1415	349	910	1345	735
V/C Ratio(X)	0.95	0.76	0.77	0.27	1.22	0.57	0.24	1.13	0.99	0.34	1.22	0.98
Avail Cap(c_a), veh/h	415	408	218	956	1413	439	760	1415	349	910	1345	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.5	63.9	64.0	42.4	54.3	46.6	48.2	58.5	58.4	44.8	55.3	54.8
Incr Delay (d2), s/veh	30.6	8.3	15.8	0.2	107.3	1.8	0.8	69.3	46.3	1.0	105.2	27.8
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	9.1	6.2	7.2	3.8	31.5	8.2	2.9	19.9	17.3	4.8	29.6	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.1	72.3	79.8	42.6	161.6	48.4	49.0	127.8	104.7	45.8	160.4	82.6
LnGrp LOS	F	E	E	D	F	D	D	F	F	D	F	F
Approach Vol, veh/h		873			2241			2136			2668	
Approach Delay, s/veh		84.4			135.0			117.2			126.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.5		22.5		44.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		39.5		41.5				
Max Q Clear Time (g_c+I1), s		35.0		18.9		41.5		43.5				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

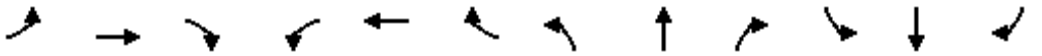
Intersection Summary												
HCM 6th Ctrl Delay			121.6									
HCM 6th LOS			F									



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	80	436	28	437	462	42	92	740	407	89	1108	95
Future Volume (veh/h)	80	436	28	437	462	42	92	740	407	89	1108	95
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	87	474	30	475	502	46	100	804	442	97	1204	103
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	111	599	267	479	1333	594	154	1125	524	122	1174	100
Arrive On Green	0.06	0.17	0.17	0.27	0.38	0.38	0.04	0.33	0.33	0.07	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3404	1585	1781	3313	283
Grp Volume(v), veh/h	87	474	30	475	502	46	100	804	442	97	645	662
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1781	1777	1819
Q Serve(g_s), s	5.3	14.0	1.8	29.2	11.3	2.1	3.1	22.7	28.4	5.9	38.9	38.9
Cycle Q Clear(g_c), s	5.3	14.0	1.8	29.2	11.3	2.1	3.1	22.7	28.4	5.9	38.9	38.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	111	599	267	479	1333	594	154	1125	524	122	630	645
V/C Ratio(X)	0.78	0.79	0.11	0.99	0.38	0.08	0.65	0.71	0.84	0.80	1.02	1.03
Avail Cap(c_a), veh/h	193	599	267	479	1333	594	161	1125	524	149	630	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	43.8	38.7	40.0	25.0	22.1	51.6	32.2	34.1	50.4	35.4	35.4
Incr Delay (d2), s/veh	11.4	10.3	0.9	39.1	0.8	0.3	8.5	2.2	12.0	21.2	42.1	42.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.9	0.7	17.5	4.8	0.8	1.5	9.6	12.5	3.3	23.7	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	54.1	39.5	79.1	25.8	22.3	60.1	34.4	46.1	71.6	77.5	78.0
LnGrp LOS	E	D	D	E	C	C	E	C	D	E	F	F
Approach Vol, veh/h		591			1023			1346			1404	
Approach Delay, s/veh		54.5			50.4			40.1			77.4	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	45.7	12.0	40.8	34.0	23.0	9.4	43.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.9	36.1	9.2	34.8	29.5	18.5	5.1	38.9
Max Q Clear Time (g_c+I1), s	7.3	13.3	7.9	30.4	31.2	16.0	5.1	40.9
Green Ext Time (p_c), s	0.1	3.3	0.0	3.0	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	56.5
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	245	1087	294	131	67	546	1579	262	103	900	24
Future Volume (veh/h)	28	245	1087	294	131	67	546	1579	262	103	900	24
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	30	266	1182	320	142	73	593	1716	285	112	978	26
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	75	1259	608	189	620	608	481	1670	745	101	908	24
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.27	0.47	0.47	0.06	0.26	0.26
Sat Flow, veh/h	126	3285	1585	368	1617	1585	1781	3554	1585	1781	3536	94
Grp Volume(v), veh/h	296	0	1182	320	142	73	593	1716	285	112	491	513
Grp Sat Flow(s),veh/h/ln	1794	1617	1585	368	1617	1585	1781	1777	1585	1781	1777	1853
Q Serve(g_s), s	0.5	0.0	57.5	57.5	8.9	4.5	40.5	70.5	17.4	8.5	38.5	38.5
Cycle Q Clear(g_c), s	17.4	0.0	57.5	57.5	8.9	4.5	40.5	70.5	17.4	8.5	38.5	38.5
Prop In Lane	0.10		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	714	620	608	189	620	608	481	1670	745	101	456	476
V/C Ratio(X)	0.41	0.00	1.95	1.69	0.23	0.12	1.23	1.03	0.38	1.11	1.08	1.08
Avail Cap(c_a), veh/h	714	620	608	189	620	608	481	1670	745	101	456	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	0.0	46.2	53.6	31.3	29.9	54.8	39.8	25.7	70.7	55.8	55.8
Incr Delay (d2), s/veh	0.4	0.0	431.4	333.6	0.2	0.1	121.9	29.3	1.5	122.2	64.5	63.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	95.3	24.8	3.6	1.8	34.1	36.3	6.8	7.3	25.1	26.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	0.0	477.7	387.2	31.5	30.0	176.6	69.1	27.2	192.9	120.3	119.4
LnGrp LOS	C	A	F	F	C	C	F	F	C	F	F	F
Approach Vol, veh/h		1478			535			2594			1116	
Approach Delay, s/veh		388.9			244.0			89.1			127.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	75.0		62.0	45.0	43.0		62.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	70.5		57.5	40.5	38.5		57.5				
Max Q Clear Time (g_c+I1), s	10.5	72.5		59.5	42.5	40.5		59.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			188.4									
HCM 6th LOS			F									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	2145	212	0	1441	494	553	1021	5	149	1346	4
Future Volume (veh/h)	0	2145	212	0	1441	494	553	1021	5	149	1346	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2332	230	0	1566	537	601	1110	5	162	1463	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2191	212	0	1645	734	573	1763	8	187	1446	4
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.46	0.17	0.34	0.34	0.10	0.28	0.28
Sat Flow, veh/h	0	4902	458	0	3647	1585	3456	5247	24	1781	5257	14
Grp Volume(v), veh/h	0	1665	897	0	1566	537	601	720	395	162	947	520
Grp Sat Flow(s),veh/h/ln	0	1702	1788	0	1777	1585	1728	1702	1866	1781	1702	1868
Q Serve(g_s), s	0.0	64.8	64.8	0.0	59.2	38.5	23.2	24.9	24.9	12.5	38.5	38.5
Cycle Q Clear(g_c), s	0.0	64.8	64.8	0.0	59.2	38.5	23.2	24.9	24.9	12.5	38.5	38.5
Prop In Lane	0.00		0.26	0.00		1.00	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	0	1576	828	0	1645	734	573	1144	627	187	936	514
V/C Ratio(X)	0.00	1.06	1.08	0.00	0.95	0.73	1.05	0.63	0.63	0.87	1.01	1.01
Avail Cap(c_a), veh/h	0	1576	828	0	1645	734	573	1144	627	239	936	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	37.6	37.6	0.0	36.1	30.5	58.4	39.1	39.1	61.7	50.8	50.8
Incr Delay (d2), s/veh	0.0	39.3	56.6	0.0	12.7	3.8	51.2	2.6	4.7	22.7	32.4	42.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.3	40.0	0.0	27.4	32.9	14.1	10.7	12.1	6.8	20.3	23.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	76.9	94.2	0.0	48.8	34.3	109.6	41.8	43.9	84.5	83.1	93.5
LnGrp LOS	A	F	F	A	D	C	F	D	D	F	F	F
Approach Vol, veh/h		2562			2103			1716			1629	
Approach Delay, s/veh		83.0			45.1			66.0			86.6	
Approach LOS		F			D			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.7	43.0		69.3	19.2	51.5		69.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	23.2	38.5		64.8	18.8	42.9		64.8				
Max Q Clear Time (g_c+I1), s	25.2	40.5		66.8	14.5	26.9		61.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	6.3		3.1				

Intersection Summary												
HCM 6th Ctrl Delay			70.1									
HCM 6th LOS			E									

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	119	488	84	276	140	0	90	1108	39	29	1471	363
Future Volume (veh/h)	119	488	84	276	140	0	90	1108	39	29	1471	363
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	129	530	91	300	152	0	98	1204	42	32	1599	395
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	533	619	276	369	846		139	2763	96	246	2785	865
Arrive On Green	0.17	0.17	0.17	0.16	0.17	0.00	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	217	5066	177	446	5106	1585
Grp Volume(v), veh/h	129	530	91	300	152	0	98	809	437	32	1599	395
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	217	1702	1839	446	1702	1585
Q Serve(g_s), s	5.7	15.8	5.5	15.0	2.8	0.0	36.9	15.5	15.5	5.0	22.6	16.5
Cycle Q Clear(g_c), s	5.7	15.8	5.5	15.0	2.8	0.0	59.5	15.5	15.5	20.5	22.6	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	533	619	276	369	846		139	1857	1003	246	2785	865
V/C Ratio(X)	0.24	0.86	0.33	0.81	0.18		0.70	0.44	0.44	0.13	0.57	0.46
Avail Cap(c_a), veh/h	533	619	276	384	889		139	1857	1003	246	2785	865
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	43.7	39.5	31.5	39.1	0.0	40.7	14.8	14.8	20.9	16.4	15.0
Incr Delay (d2), s/veh	1.1	14.2	3.2	12.3	0.1	0.0	14.8	0.2	0.3	0.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	8.1	2.4	7.6	1.2	0.0	3.3	5.8	6.3	0.5	8.5	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	57.9	42.6	43.8	39.2	0.0	55.5	14.9	15.1	21.1	16.7	15.4
LnGrp LOS	C	E	D	D	D		E	B	B	C	B	B
Approach Vol, veh/h		750			452	A		1344			2026	
Approach Delay, s/veh		50.8			42.2			17.9			16.5	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.6	23.5		64.0	22.5	22.6		64.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	19.0		59.5	18.0	19.0		59.5				
Max Q Clear Time (g_c+I1), s	17.0	17.8		61.5	7.7	4.8		24.6				
Green Ext Time (p_c), s	0.1	0.5		0.0	0.2	0.7		19.6				

Intersection Summary			
HCM 6th Ctrl Delay		25.1	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

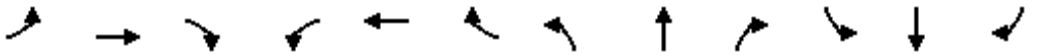
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	290	1467	531	381	1105	365	289	1092	199	467	1348	373
Future Volume (veh/h)	290	1467	531	381	1105	365	289	1092	199	467	1348	373
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	315	1646	543	414	1201	397	314	1187	216	508	1465	405
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	370	1748	494	385	1630	506	306	1434	445	545	1394	383
Arrive On Green	0.10	0.31	0.31	0.11	0.32	0.32	0.09	0.28	0.28	0.16	0.35	0.35
Sat Flow, veh/h	3563	5611	1585	3456	5106	1585	3456	5106	1585	3456	3984	1094
Grp Volume(v), veh/h	315	1646	543	414	1201	397	314	1187	216	508	1250	620
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1585	1728	1702	1585	1728	1702	1674
Q Serve(g_s), s	11.3	37.2	40.5	14.5	27.2	29.6	11.5	28.3	14.8	18.9	45.5	45.5
Cycle Q Clear(g_c), s	11.3	37.2	40.5	14.5	27.2	29.6	11.5	28.3	14.8	18.9	45.5	45.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	370	1748	494	385	1630	506	306	1434	445	545	1191	586
V/C Ratio(X)	0.85	0.94	1.10	1.07	0.74	0.78	1.03	0.83	0.49	0.93	1.05	1.06
Avail Cap(c_a), veh/h	414	1748	494	385	1630	506	306	1434	445	545	1191	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	43.6	44.7	57.8	39.4	40.2	59.2	43.8	38.9	54.1	42.3	42.3
Incr Delay (d2), s/veh	14.3	10.7	70.4	67.0	1.8	7.9	58.6	5.6	3.8	23.1	40.0	53.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	18.1	24.8	9.7	11.2	12.1	7.4	12.4	6.0	9.8	25.1	26.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	54.3	115.2	124.8	41.2	48.1	117.9	49.4	42.7	77.2	82.3	95.8
LnGrp LOS	E	D	F	F	D	D	F	D	D	E	F	F
Approach Vol, veh/h		2504			2012			1717			2378	
Approach Delay, s/veh		69.7			59.8			61.1			84.7	
Approach LOS		E			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	50.0	19.0	45.0	25.0	41.0	18.0	46.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	45.5	14.5	40.5	20.5	36.5	15.1	39.9
Max Q Clear Time (g_c+I1), s	13.5	47.5	16.5	42.5	20.9	30.3	13.3	31.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.0	0.2	5.3

Intersection Summary	
HCM 6th Ctrl Delay	69.8
HCM 6th LOS	E

Notes

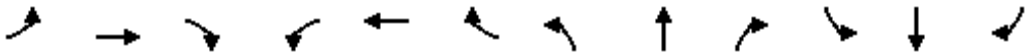
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1085	132	0	1245	436	0	0	91	546	96	804
Future Volume (vph)	0	1085	132	0	1245	436	0	0	91	546	96	804
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor		0.86			0.91	1.00			1.00	0.97	0.91	0.91
Frt		0.98			1.00	0.85			0.86	1.00	0.88	0.85
Flt Protected		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (prot)		6304			5085	1583			1611	3433	2979	1441
Flt Permitted		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (perm)		6304			5085	1583			1611	3433	2979	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1179	143	0	1353	474	0	0	99	593	104	874
RTOR Reduction (vph)	0	33	0	0	0	332	0	0	71	0	1	11
Lane Group Flow (vph)	0	1289	0	0	1353	142	0	0	28	593	540	426
Turn Type		NA			NA	Perm			Perm	Prot	NA	Perm
Protected Phases		4			8					1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)		19.5			19.5	19.5			18.7	13.3	36.5	36.5
Effective Green, g (s)		19.5			19.5	19.5			18.7	13.3	36.5	36.5
Actuated g/C Ratio		0.30			0.30	0.30			0.29	0.20	0.56	0.56
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1891			1525	474			463	702	1672	809
v/s Ratio Prot		0.20			c0.27					c0.17	0.18	
v/s Ratio Perm						0.09			0.02			c0.30
v/c Ratio		0.68			0.89	0.30			0.06	0.84	0.32	0.53
Uniform Delay, d1		20.0			21.7	17.5			16.8	24.9	7.6	8.9
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		1.0			6.6	0.4			0.3	9.2	0.5	2.4
Delay (s)		21.0			28.3	17.9			17.0	34.0	8.1	11.3
Level of Service		C			C	B			B	C	A	B
Approach Delay (s)		21.0			25.6			17.0			18.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

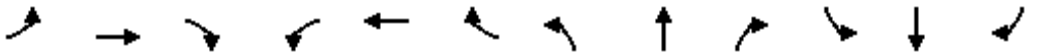
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1454	0	0	1358	940	459	0	364	0	0	0
Future Volume (vph)	0	1454	0	0	1358	940	459	0	364	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5		4.5			
Lane Util. Factor		0.86			0.95	1.00	0.97		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		6408			3539	1583	3433		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		6408			3539	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1580	0	0	1476	1022	499	0	396	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	468	0	0	25	0	0	0
Lane Group Flow (vph)	0	1580	0	0	1476	554	499	0	371	0	0	0
Turn Type		NA			NA	Perm	Perm		Perm			
Protected Phases		4			8							
Permitted Phases						8	2		2			
Actuated Green, G (s)		32.5			32.5	32.5	18.5		18.5			
Effective Green, g (s)		32.5			32.5	32.5	18.5		18.5			
Actuated g/C Ratio		0.54			0.54	0.54	0.31		0.31			
Clearance Time (s)		4.5			4.5	4.5	4.5		4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)		3471			1916	857	1058		859			
v/s Ratio Prot		0.25			c0.42							
v/s Ratio Perm						0.35	c0.15		0.13			
v/c Ratio		0.46			0.77	0.65	0.47		0.43			
Uniform Delay, d1		8.4			10.8	9.7	16.8		16.6			
Progression Factor		1.00			1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1			2.0	1.7	1.5		1.6			
Delay (s)		8.5			12.8	11.4	18.3		18.1			
Level of Service		A			B	B	B		B			
Approach Delay (s)		8.5			12.2			18.2			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

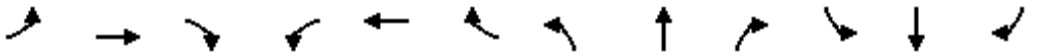
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	1322	173	104	1224	198	240	555	162	296	621	168
Future Volume (veh/h)	107	1322	173	104	1224	198	240	555	162	296	621	168
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	116	1437	188	113	1330	215	261	603	176	322	675	183
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	122	2085	273	154	1467	237	212	822	367	256	911	406
Arrive On Green	0.07	0.46	0.46	0.33	0.33	0.33	0.12	0.23	0.23	0.14	0.26	0.26
Sat Flow, veh/h	1781	4569	597	310	4430	716	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	116	1070	555	113	1022	523	261	603	176	322	675	183
Grp Sat Flow(s),veh/h/ln	1781	1702	1763	310	1702	1741	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.2	20.0	20.0	16.5	23.0	23.0	9.5	12.6	7.7	11.5	14.0	7.8
Cycle Q Clear(g_c), s	5.2	20.0	20.0	26.5	23.0	23.0	9.5	12.6	7.7	11.5	14.0	7.8
Prop In Lane	1.00		0.34	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	1553	804	154	1128	577	212	822	367	256	911	406
V/C Ratio(X)	0.95	0.69	0.69	0.73	0.91	0.91	1.23	0.73	0.48	1.26	0.74	0.45
Avail Cap(c_a), veh/h	122	1553	804	154	1128	577	212	822	367	256	911	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	17.3	17.3	35.3	25.6	25.6	35.2	28.5	26.6	34.3	27.3	25.0
Incr Delay (d2), s/veh	64.9	1.3	2.5	16.4	10.5	18.1	139.2	5.8	4.5	143.6	5.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	7.6	8.2	2.9	10.6	12.0	12.2	5.9	3.3	15.1	6.5	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.0	18.6	19.8	51.8	36.1	43.6	174.4	34.2	31.0	177.8	32.7	28.6
LnGrp LOS	F	B	B	D	D	D	F	C	C	F	C	C
Approach Vol, veh/h		1741			1658			1040			1180	
Approach Delay, s/veh		24.5			39.6			68.9			71.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	23.0		41.0	14.0	25.0	10.0	31.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.5	18.5		36.5	9.5	20.5	5.5	26.5				
Max Q Clear Time (g_c+I1), s	13.5	14.6		22.0	11.5	16.0	7.2	28.5				
Green Ext Time (p_c), s	0.0	1.8		9.7	0.0	2.2	0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay		47.1	
HCM 6th LOS		D	



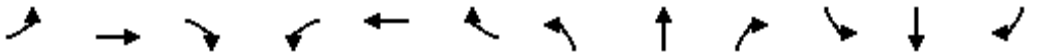
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1253	294	217	649	0	504	0	467	2	0	2
Future Volume (veh/h)	0	1253	294	217	649	0	504	0	467	2	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	0	1362	320	236	705	0	548	0	508	2	0	2
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	2	1368	610	259	1795	0	588	0	1284	154	17	117
Arrive On Green	0.00	0.38	0.38	0.08	0.50	0.00	0.17	0.00	0.41	0.19	0.00	0.19
Sat Flow, veh/h	1781	3554	1585	3456	3647	0	3563	0	3170	512	88	600
Grp Volume(v), veh/h	0	1362	320	236	705	0	548	0	508	4	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	0	1781	0	1585	1200	0	0
Q Serve(g_s), s	0.0	38.2	15.6	6.8	12.3	0.0	15.2	0.0	11.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	38.2	15.6	6.8	12.3	0.0	15.2	0.0	11.4	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.50		0.50
Lane Grp Cap(c), veh/h	2	1368	610	259	1795	0	588	0	1284	288	0	0
V/C Ratio(X)	0.00	1.00	0.52	0.91	0.39	0.00	0.93	0.00	0.40	0.01	0.00	0.00
Avail Cap(c_a), veh/h	89	1368	610	259	1795	0	588	0	1284	288	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	30.7	23.7	45.9	15.3	0.0	41.2	0.0	21.1	32.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	23.2	0.8	33.3	0.1	0.0	21.9	0.0	0.9	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.3	5.9	4.1	4.9	0.0	8.4	0.0	4.4	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	53.9	24.5	79.2	15.4	0.0	63.1	0.0	22.0	32.6	0.0	0.0
LnGrp LOS	A	D	C	E	B	A	E	A	C	C	A	A
Approach Vol, veh/h		1682			941			1056			4	
Approach Delay, s/veh		48.3			31.4			43.3			32.6	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	45.0	12.0	43.0	21.0	24.0	0.0	55.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	40.5	7.5	38.5	16.5	19.5	5.0	41.0
Max Q Clear Time (g_c+I1), s	13.4	8.8	40.2	17.2	2.2	0.0	14.3
Green Ext Time (p_c), s	2.2	0.0	0.0	0.0	0.0	0.0	5.6

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

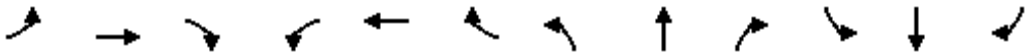
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	1110	43	60	868	79	230	702	128	180	243	117
Future Volume (veh/h)	109	1110	43	60	868	79	230	702	128	180	243	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	1207	47	65	943	86	250	763	139	196	264	127
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	145	1321	589	83	1110	101	460	917	409	277	366	171
Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.26	0.26	0.26	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3293	300	1781	3554	1585	1781	2351	1099
Grp Volume(v), veh/h	118	1207	47	65	509	520	250	763	139	196	198	193
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1816	1781	1777	1585	1781	1777	1673
Q Serve(g_s), s	7.0	34.7	2.1	3.9	28.5	28.6	13.0	21.8	7.7	11.2	11.3	11.8
Cycle Q Clear(g_c), s	7.0	34.7	2.1	3.9	28.5	28.6	13.0	21.8	7.7	11.2	11.3	11.8
Prop In Lane	1.00		1.00	1.00		0.17	1.00		1.00	1.00		0.66
Lane Grp Cap(c), veh/h	145	1321	589	83	599	612	460	917	409	277	277	260
V/C Ratio(X)	0.81	0.91	0.08	0.78	0.85	0.85	0.54	0.83	0.34	0.71	0.71	0.74
Avail Cap(c_a), veh/h	154	1374	613	88	621	635	460	917	409	622	621	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	32.1	21.8	50.6	33.0	33.0	34.4	37.6	32.4	43.0	43.1	43.3
Incr Delay (d2), s/veh	26.1	9.4	0.1	33.6	10.5	10.3	4.6	8.7	2.2	3.3	3.4	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	16.0	0.8	2.5	13.6	13.9	6.1	10.4	3.1	5.1	5.2	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	41.5	21.9	84.2	43.6	43.4	38.9	46.3	34.6	46.3	46.5	47.4
LnGrp LOS	E	D	C	F	D	D	D	D	C	D	D	D
Approach Vol, veh/h		1372			1094			1152			587	
Approach Delay, s/veh		43.7			45.9			43.3			46.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.2	9.5	44.4		21.2	13.2	40.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.7	5.3	41.5		37.5	9.3	37.5				
Max Q Clear Time (g_c+I1), s		23.8	5.9	36.7		13.8	9.0	30.6				
Green Ext Time (p_c), s		2.2	0.0	3.2		2.9	0.0	3.5				

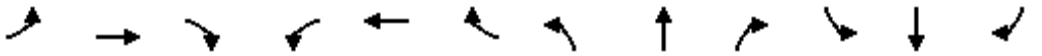
Intersection Summary												
HCM 6th Ctrl Delay			44.6									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	1685	112	79	797	113	107	670	127	113	455	86
Future Volume (veh/h)	114	1685	112	79	797	113	107	670	127	113	455	86
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	124	1832	122	86	866	123	116	728	138	123	495	93
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	158	1917	127	110	1651	233	299	1124	213	202	1127	211
Arrive On Green	0.09	0.39	0.39	0.06	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1781	4891	325	1781	4520	639	828	2981	565	639	2988	559
Grp Volume(v), veh/h	124	1274	680	86	651	338	116	434	432	123	293	295
Grp Sat Flow(s),veh/h/ln	1781	1702	1812	1781	1702	1755	828	1777	1769	639	1777	1770
Q Serve(g_s), s	5.4	29.0	29.2	3.8	12.0	12.1	9.7	16.1	16.1	14.0	9.8	9.9
Cycle Q Clear(g_c), s	5.4	29.0	29.2	3.8	12.0	12.1	19.7	16.1	16.1	30.1	9.8	9.9
Prop In Lane	1.00		0.18	1.00		0.36	1.00		0.32	1.00		0.32
Lane Grp Cap(c), veh/h	158	1334	710	110	1244	641	299	670	667	202	670	667
V/C Ratio(X)	0.79	0.95	0.96	0.78	0.52	0.53	0.39	0.65	0.65	0.61	0.44	0.44
Avail Cap(c_a), veh/h	266	1335	710	114	1244	641	299	670	667	202	670	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	23.6	23.6	36.9	19.9	19.9	25.9	20.5	20.5	33.5	18.6	18.6
Incr Delay (d2), s/veh	8.4	15.1	23.9	27.9	0.4	0.8	3.8	4.8	4.8	12.8	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	13.1	15.8	2.4	4.4	4.6	2.2	7.2	7.1	3.1	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	38.7	47.5	64.9	20.3	20.7	29.7	25.3	25.3	46.4	20.6	20.7
LnGrp LOS	D	D	D	E	C	C	C	C	C	D	C	C
Approach Vol, veh/h		2078			1075			982			711	
Approach Delay, s/veh		41.9			24.0			25.8			25.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.6	9.4	35.8		34.6	11.6	33.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.1	5.1	31.3		30.1	11.9	24.5				
Max Q Clear Time (g_c+I1), s		21.7	5.8	31.2		32.1	7.4	14.1				
Green Ext Time (p_c), s		4.0	0.0	0.1		0.0	0.1	4.4				

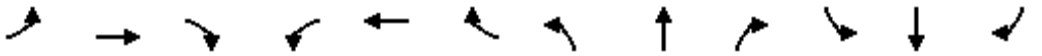
Intersection Summary												
HCM 6th Ctrl Delay			32.2									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	1595	106	114	819	116	143	652	86	190	601	128
Future Volume (veh/h)	205	1595	106	114	819	116	143	652	86	190	601	128
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	223	1734	115	124	890	126	155	709	93	207	653	139
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	259	1810	120	148	1392	196	180	770	343	232	873	389
Arrive On Green	0.15	0.37	0.37	0.08	0.31	0.31	0.10	0.22	0.22	0.13	0.25	0.25
Sat Flow, veh/h	1781	4892	324	1781	4522	637	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	223	1206	643	124	669	347	155	709	93	207	653	139
Grp Sat Flow(s),veh/h/ln	1781	1702	1812	1781	1702	1756	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.0	31.1	31.2	6.2	15.2	15.3	7.7	17.6	4.4	10.3	15.3	6.5
Cycle Q Clear(g_c), s	11.0	31.1	31.2	6.2	15.2	15.3	7.7	17.6	4.4	10.3	15.3	6.5
Prop In Lane	1.00		0.18	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1259	670	148	1048	540	180	770	343	232	873	389
V/C Ratio(X)	0.86	0.96	0.96	0.84	0.64	0.64	0.86	0.92	0.27	0.89	0.75	0.36
Avail Cap(c_a), veh/h	303	1260	671	148	1048	540	180	770	343	232	873	389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	27.7	27.7	40.6	26.8	26.9	39.8	34.5	29.3	38.5	31.4	28.1
Incr Delay (d2), s/veh	19.2	16.2	25.1	31.9	1.3	2.6	31.9	18.0	1.9	32.5	5.8	2.5
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	6.0	14.7	17.3	4.0	6.1	6.5	4.9	9.3	1.8	6.5	7.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	43.9	52.8	72.5	28.1	29.5	71.7	52.5	31.3	71.0	37.2	30.6
LnGrp LOS	E	D	D	E	C	C	E	D	C	E	D	C
Approach Vol, veh/h		2072			1140			957			999	
Approach Delay, s/veh		48.0			33.4			53.6			43.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	24.0	12.0	37.8	13.6	26.6	17.6	32.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.7	19.5	7.5	33.3	9.1	22.1	15.3	25.5
Max Q Clear Time (g_c+I1), s	12.3	19.6	8.2	33.2	9.7	17.3	13.0	17.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	2.1	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D



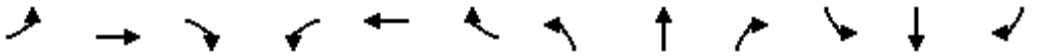
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	296	0	521	337	795	0	0	1164	153
Future Volume (veh/h)	0	0	0	296	0	521	337	795	0	0	1164	153
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
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	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				322	0	566	366	864	0	0	1265	166
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	2	2	2	2	0	0	2	2
Cap, veh/h				1178	0	524	452	1886	0	0	1511	198
Arrive On Green				0.33	0.00	0.33	0.13	0.53	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	4736	599
Grp Volume(v), veh/h				322	0	566	366	864	0	0	943	488
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1762
Q Serve(g_s), s				4.3	0.0	21.5	6.7	9.8	0.0	0.0	16.7	16.7
Cycle Q Clear(g_c), s				4.3	0.0	21.5	6.7	9.8	0.0	0.0	16.7	16.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				1178	0	524	452	1886	0	0	1126	583
V/C Ratio(X)				0.27	0.00	1.08	0.81	0.46	0.00	0.00	0.84	0.84
Avail Cap(c_a), veh/h				1178	0	524	452	1886	0	0	1126	583
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.0	0.0	21.8	27.5	9.5	0.0	0.0	20.1	20.1
Incr Delay (d2), s/veh				0.1	0.0	62.5	10.6	0.8	0.0	0.0	7.5	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				1.5	0.0	15.8	3.3	3.4	0.0	0.0	7.2	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.1	0.0	84.2	38.1	10.3	0.0	0.0	27.6	33.6
LnGrp LOS				B	A	F	D	B	A	A	C	C
Approach Vol, veh/h					888			1230			1431	
Approach Delay, s/veh					59.5			18.5			29.6	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	39.0		13.0	26.0		26.0						
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5						
Max Green Setting (Gmax), s	34.5		8.5	21.5		21.5						
Max Q Clear Time (g_c+I1), s	11.8		8.7	18.7		23.5						
Green Ext Time (p_c), s	6.5		0.0	2.2		0.0						

Intersection Summary		
HCM 6th Ctrl Delay		33.3
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.



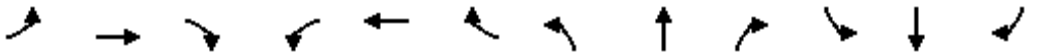
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	0	631	0	0	0	0	995	353	439	1018	0
Future Volume (veh/h)	214	0	631	0	0	0	0	995	353	439	1018	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
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	1870	1870	0
Adj Flow Rate, veh/h	155	0	769				0	1082	384	477	1107	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	458	0	815				0	1375	613	563	2183	0
Arrive On Green	0.26	0.00	0.26				0.00	0.39	0.39	0.16	0.61	0.00
Sat Flow, veh/h	1781	0	3170				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	155	0	769				0	1082	384	477	1107	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1728	1777	0
Q Serve(g_s), s	5.0	0.0	16.7				0.0	18.8	13.7	9.4	12.2	0.0
Cycle Q Clear(g_c), s	5.0	0.0	16.7				0.0	18.8	13.7	9.4	12.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	458	0	815				0	1375	613	563	2183	0
V/C Ratio(X)	0.34	0.00	0.94				0.00	0.79	0.63	0.85	0.51	0.00
Avail Cap(c_a), veh/h	458	0	815				0	1375	613	568	2183	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.2	0.0	25.5				0.0	18.9	17.4	28.4	7.6	0.0
Incr Delay (d2), s/veh	0.4	0.0	19.1				0.0	4.6	4.8	11.4	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	1.9	0.0	7.8				0.0	7.9	5.4	4.6	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	44.6				0.0	23.5	22.1	39.8	8.4	0.0
LnGrp LOS	C	A	D				A	C	C	D	A	A
Approach Vol, veh/h		924						1466			1584	
Approach Delay, s/veh		40.8						23.2			17.9	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.9	31.6		22.5		47.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	11.5	27.0		18.0		43.0						
Max Q Clear Time (g_c+I1), s	11.4	20.8		18.7		14.2						
Green Ext Time (p_c), s	0.0	4.2		0.0		9.6						

Intersection Summary												
HCM 6th Ctrl Delay			25.1									
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)	17	16	57	136	16	181	28	1412	279	91	854	15
Future Volume (veh/h)	17	16	57	136	16	181	28	1412	279	91	854	15
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	18	17	62	148	17	197	30	1535	303	99	928	16
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	68	69	158	249	20	286	435	2085	401	172	2507	43
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	102	347	795	870	100	1442	594	2973	572	252	3574	62
Grp Volume(v), veh/h	97	0	0	165	0	197	30	901	937	99	461	483
Grp Sat Flow(s),veh/h/ln	1244	0	0	970	0	1442	594	1777	1767	252	1777	1859
Q Serve(g_s), s	0.3	0.0	0.0	4.1	0.0	11.4	1.9	27.6	30.3	32.7	9.4	9.4
Cycle Q Clear(g_c), s	11.7	0.0	0.0	15.8	0.0	11.4	11.3	27.6	30.3	63.0	9.4	9.4
Prop In Lane	0.19		0.64	0.90		1.00	1.00		0.32	1.00		0.03
Lane Grp Cap(c), veh/h	294	0	0	268	0	286	435	1246	1240	172	1246	1304
V/C Ratio(X)	0.33	0.00	0.00	0.61	0.00	0.69	0.07	0.72	0.76	0.58	0.37	0.37
Avail Cap(c_a), veh/h	297	0	0	271	0	289	435	1246	1240	172	1246	1304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	0.0	36.1	0.0	33.4	7.7	8.1	8.5	29.7	5.4	5.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	4.0	0.0	6.6	0.3	3.7	4.3	13.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	3.8	0.0	4.4	0.3	9.6	10.6	2.7	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	0.0	0.0	40.2	0.0	40.1	8.0	11.8	12.8	43.0	6.3	6.2
LnGrp LOS	C	A	A	D	A	D	A	B	B	D	A	A
Approach Vol, veh/h		97			362			1868			1043	
Approach Delay, s/veh		31.4			40.1			12.3			9.7	
Approach LOS		C			D			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.5		22.3		67.5		22.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		63.0		18.0		63.0		18.0				
Max Q Clear Time (g_c+I1), s		32.3		13.7		65.0		17.8				
Green Ext Time (p_c), s		19.6		0.1		0.0		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									

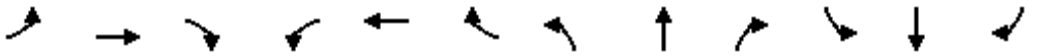
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Volume (veh/h)	306	294	0	1158	266	2	1032	242	0	0
Future Volume (veh/h)	306	294	0	1158	266	2	1032	242	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	333	320	0	1259	289	2	1122	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2	2	2	2	2		
Cap, veh/h	475	423	0	2188	502	83	1835			
Arrive On Green	0.27	0.27	0.00	0.53	0.53	0.53	0.53	0.00		
Sat Flow, veh/h	1781	1585	0	4319	952	1	3482	1585		
Grp Volume(v), veh/h	333	320	0	1033	515	602	522	0		
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1699	1866	1617	1585		
Q Serve(g_s), s	7.4	8.1	0.0	9.0	9.0	0.0	9.8	0.0		
Cycle Q Clear(g_c), s	7.4	8.1	0.0	9.0	9.0	9.8	9.8	0.0		
Prop In Lane	1.00	1.00	0.00		0.56	0.00		1.00		
Lane Grp Cap(c), veh/h	475	423	0	1794	895	1066	852			
V/C Ratio(X)	0.70	0.76	0.00	0.58	0.58	0.56	0.61			
Avail Cap(c_a), veh/h	735	654	0	1794	895	1066	852			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	14.4	14.7	0.0	7.0	7.0	7.2	7.2	0.0		
Incr Delay (d2), s/veh	1.9	2.8	0.0	1.4	2.7	2.2	3.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	2.8	0.0	2.4	2.8	3.2	3.0	0.0		
Unsig. Movement Delay, s/veh										
LnGrp Delay(d),s/veh	16.3	17.5	0.0	8.4	9.7	9.4	10.5	0.0		
LnGrp LOS	B	B	A	A	A	A	B			
Approach Vol, veh/h	653			1548			1124	A		
Approach Delay, s/veh	16.9			8.8			9.9			
Approach LOS	B			A			A			

Timer - Assigned Phs		2		4		6				
Phs Duration (G+Y+Rc), s		27.5		16.1		27.5				
Change Period (Y+Rc), s		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.0		23.0				
Max Q Clear Time (g_c+I1), s		11.0		10.1		11.8				
Green Ext Time (p_c), s		7.9		1.5		5.6				

Intersection Summary										
HCM 6th Ctrl Delay			10.8							
HCM 6th LOS			B							

Notes

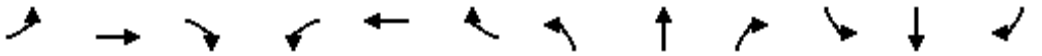
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1610	163	116	914	83	130	733	178	107	644	89
Future Volume (veh/h)	80	1610	163	116	914	83	130	733	178	107	644	89
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	87	1750	177	126	993	90	141	797	193	116	700	97
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	112	1809	182	151	1933	175	212	1288	575	191	1136	157
Arrive On Green	0.06	0.38	0.38	0.09	0.41	0.41	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1781	4714	475	1781	4766	431	682	3554	1585	569	3135	434
Grp Volume(v), veh/h	87	1262	665	126	709	374	141	797	193	116	397	400
Grp Sat Flow(s),veh/h/ln	1781	1702	1785	1781	1702	1793	682	1777	1585	569	1777	1792
Q Serve(g_s), s	3.8	29.0	29.3	5.6	12.5	12.5	14.3	14.7	7.1	14.3	14.7	14.7
Cycle Q Clear(g_c), s	3.8	29.0	29.3	5.6	12.5	12.5	29.0	14.7	7.1	29.0	14.7	14.7
Prop In Lane	1.00		0.27	1.00		0.24	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	112	1306	685	151	1381	727	212	1288	575	191	644	650
V/C Ratio(X)	0.77	0.97	0.97	0.83	0.51	0.51	0.66	0.62	0.34	0.61	0.62	0.62
Avail Cap(c_a), veh/h	207	1306	685	151	1381	727	212	1288	575	191	644	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	24.1	24.2	36.0	17.8	17.9	33.8	21.0	18.5	33.8	20.9	20.9
Incr Delay (d2), s/veh	10.8	17.4	27.2	30.8	0.3	0.6	15.3	2.2	1.6	13.5	4.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	13.8	16.4	3.6	4.6	4.9	3.6	6.2	2.7	3.0	6.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	41.5	51.4	66.9	18.2	18.5	49.1	23.2	20.1	47.2	25.3	25.3
LnGrp LOS	D	D	D	E	B	B	D	C	C	D	C	C
Approach Vol, veh/h		2014			1209			1131			913	
Approach Delay, s/veh		45.0			23.3			25.9			28.1	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.5	11.3	35.2		33.5	9.5	37.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		29.0	6.8	30.7		29.0	9.3	28.2				
Max Q Clear Time (g_c+I1), s		31.0	7.6	31.3		31.0	5.8	14.5				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	5.9				

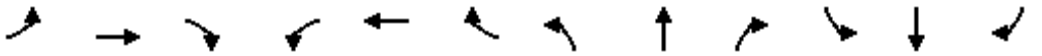
Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	1732	117	169	810	149	88	513	319	92	578	138
Future Volume (veh/h)	93	1732	117	169	810	149	88	513	319	92	578	138
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	101	1883	127	184	880	162	96	558	347	100	628	150
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	130	2054	138	221	2045	375	182	1012	451	184	1012	451
Arrive On Green	0.07	0.42	0.42	0.12	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	4887	329	1781	4337	794	694	3554	1585	616	3554	1585
Grp Volume(v), veh/h	101	1310	700	184	690	352	96	558	347	100	628	150
Grp Sat Flow(s),veh/h/ln	1781	1702	1811	1781	1702	1727	694	1777	1585	616	1777	1585
Q Serve(g_s), s	4.4	28.7	28.9	8.0	10.6	10.7	10.4	10.5	15.8	12.0	12.1	5.9
Cycle Q Clear(g_c), s	4.4	28.7	28.9	8.0	10.6	10.7	22.5	10.5	15.8	22.5	12.1	5.9
Prop In Lane	1.00		0.18	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	1430	761	221	1605	815	182	1012	451	184	1012	451
V/C Ratio(X)	0.78	0.92	0.92	0.83	0.43	0.43	0.53	0.55	0.77	0.54	0.62	0.33
Avail Cap(c_a), veh/h	228	1443	768	237	1605	815	182	1012	451	184	1012	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	21.6	21.7	33.8	13.8	13.9	34.6	24.0	25.9	33.9	24.6	22.3
Incr Delay (d2), s/veh	9.5	9.4	16.2	20.5	0.2	0.4	10.5	2.2	11.9	11.0	2.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	12.1	14.4	4.6	3.7	3.8	2.3	4.6	7.1	2.4	5.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	31.0	37.8	54.3	14.0	14.2	45.1	26.2	37.8	44.9	27.4	24.3
LnGrp LOS	D	C	D	D	B	B	D	C	D	D	C	C
Approach Vol, veh/h		2111			1226			1001			878	
Approach Delay, s/veh		33.9			20.1			32.0			28.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	14.3	37.7		27.0	10.3	41.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		22.5	10.5	33.5		22.5	10.1	33.9				
Max Q Clear Time (g_c+I1), s		24.5	10.0	30.9		24.5	6.4	12.7				
Green Ext Time (p_c), s		0.0	0.0	2.3		0.0	0.1	7.1				

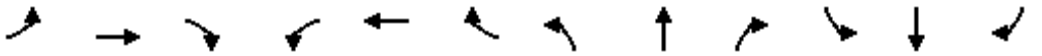
Intersection Summary												
HCM 6th Ctrl Delay			29.5									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	1729	87	83	1096	190	61	473	37	223	676	246
Future Volume (veh/h)	242	1729	87	83	1096	190	61	473	37	223	676	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	1870	1870	1870
Adj Flow Rate, veh/h	263	1879	95	90	1191	207	66	514	40	242	735	267
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	297	1989	100	115	1300	226	220	765	59	345	1030	460
Arrive On Green	0.17	0.40	0.40	0.06	0.30	0.30	0.05	0.23	0.23	0.11	0.29	0.29
Sat Flow, veh/h	1781	4978	251	1781	4377	761	1781	3341	259	1781	3554	1585
Grp Volume(v), veh/h	263	1284	690	90	926	472	66	273	281	242	735	267
Grp Sat Flow(s),veh/h/ln	1781	1702	1825	1781	1702	1733	1781	1777	1824	1781	1777	1585
Q Serve(g_s), s	12.9	32.6	32.7	4.5	23.5	23.5	2.5	12.5	12.6	9.0	16.6	12.9
Cycle Q Clear(g_c), s	12.9	32.6	32.7	4.5	23.5	23.5	2.5	12.5	12.6	9.0	16.6	12.9
Prop In Lane	1.00		0.14	1.00		0.44	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	297	1360	729	115	1011	515	220	407	417	345	1030	460
V/C Ratio(X)	0.88	0.94	0.95	0.78	0.92	0.92	0.30	0.67	0.67	0.70	0.71	0.58
Avail Cap(c_a), veh/h	308	1365	732	121	1011	515	241	407	417	345	1030	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	25.9	26.0	41.3	30.4	30.4	25.3	31.5	31.5	23.1	28.5	27.1
Incr Delay (d2), s/veh	24.3	13.2	21.2	26.6	12.6	21.2	0.8	8.5	8.4	6.3	4.2	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	7.4	14.7	17.4	2.8	10.9	12.4	1.1	6.2	6.4	4.3	7.5	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	39.1	47.1	67.9	43.0	51.6	26.1	40.0	39.9	29.3	32.7	32.4
LnGrp LOS	E	D	D	E	D	D	C	D	D	C	C	C
Approach Vol, veh/h		2237			1488			620			1244	
Approach Delay, s/veh		44.1			47.3			38.5			32.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	25.0	10.3	40.3	8.5	30.5	19.5	31.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	20.5	6.1	35.9	5.1	24.9	15.5	26.5
Max Q Clear Time (g_c+I1), s	11.0	14.6	6.5	34.7	4.5	18.6	14.9	25.5
Green Ext Time (p_c), s	0.0	1.7	0.0	1.1	0.0	3.2	0.0	0.8

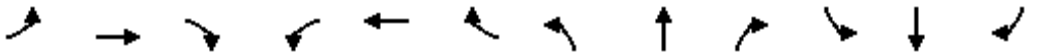
Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	1462	21	312	1387	50	164	828	315	199	955	230
Future Volume (veh/h)	248	1462	21	312	1387	50	164	828	315	199	955	230
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	270	1589	23	339	1508	54	178	900	342	216	1038	250
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	266	1419	21	295	1467	53	281	839	317	239	1128	503
Arrive On Green	0.15	0.27	0.27	0.17	0.29	0.29	0.12	0.33	0.33	0.11	0.32	0.32
Sat Flow, veh/h	1781	5186	75	1781	5061	181	1781	2522	954	1781	3554	1585
Grp Volume(v), veh/h	270	1043	569	339	1014	548	178	633	609	216	1038	250
Grp Sat Flow(s),veh/h/ln	1781	1702	1857	1781	1702	1838	1781	1777	1699	1781	1777	1585
Q Serve(g_s), s	22.1	40.5	40.5	24.5	42.9	42.9	9.2	49.2	49.2	13.6	41.7	18.9
Cycle Q Clear(g_c), s	22.1	40.5	40.5	24.5	42.9	42.9	9.2	49.2	49.2	13.6	41.7	18.9
Prop In Lane	1.00		0.04	1.00		0.10	1.00		0.56	1.00		1.00
Lane Grp Cap(c), veh/h	266	932	508	295	987	533	281	591	565	239	1128	503
V/C Ratio(X)	1.01	1.12	1.12	1.15	1.03	1.03	0.63	1.07	1.08	0.91	0.92	0.50
Avail Cap(c_a), veh/h	266	932	508	295	987	533	281	591	565	265	1177	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.9	53.7	53.7	61.7	52.5	52.5	33.1	49.4	49.4	44.4	48.7	40.9
Incr Delay (d2), s/veh	59.1	68.1	77.0	99.1	36.0	46.3	10.5	57.5	60.8	30.0	11.4	0.8
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	14.2	25.8	29.4	19.1	22.9	26.3	4.7	30.8	29.9	9.9	19.9	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.0	121.8	130.8	160.9	88.5	98.9	43.5	106.9	110.2	74.4	60.1	41.7
LnGrp LOS	F	F	F	F	F	F	D	F	F	E	E	D
Approach Vol, veh/h		1882			1901			1420			1504	
Approach Delay, s/veh		124.6			104.4			100.4			59.1	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	53.7	29.0	45.0	22.5	51.5	26.6	47.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	49.0	24.5	40.5	18.0	49.0	22.1	42.9
Max Q Clear Time (g_c+I1), s	15.6	51.2	26.5	42.5	11.2	43.7	24.1	44.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.2	3.3	0.0	0.0

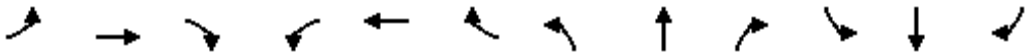
Intersection Summary	
HCM 6th Ctrl Delay	99.0
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	1275	157	267	1084	347	327	1257	305	287	806	208
Future Volume (veh/h)	226	1275	157	267	1084	347	327	1257	305	287	806	208
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	246	1386	171	290	1178	377	355	1366	332	312	876	226
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	210	1233	152	248	1028	459	351	1274	309	274	949	423
Arrive On Green	0.12	0.27	0.27	0.14	0.29	0.29	0.20	0.31	0.31	0.15	0.27	0.27
Sat Flow, veh/h	1781	4604	568	1781	3554	1585	1781	4101	995	1781	3554	1585
Grp Volume(v), veh/h	246	1025	532	290	1178	377	355	1133	565	312	876	226
Grp Sat Flow(s),veh/h/ln	1781	1702	1768	1781	1777	1585	1781	1702	1691	1781	1777	1585
Q Serve(g_s), s	16.5	37.5	37.5	19.5	40.5	31.1	27.6	43.5	43.5	21.5	33.6	17.1
Cycle Q Clear(g_c), s	16.5	37.5	37.5	19.5	40.5	31.1	27.6	43.5	43.5	21.5	33.6	17.1
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	210	912	474	248	1028	459	351	1058	526	274	949	423
V/C Ratio(X)	1.17	1.12	1.12	1.17	1.15	0.82	1.01	1.07	1.07	1.14	0.92	0.53
Avail Cap(c_a), veh/h	210	912	474	248	1028	459	351	1058	526	274	949	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	51.3	51.3	60.3	49.7	46.4	56.2	48.3	48.3	59.3	49.9	43.8
Incr Delay (d2), s/veh	116.2	70.0	79.9	110.5	77.3	11.5	50.8	49.0	60.7	97.8	15.6	4.8
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	14.1	24.5	26.8	16.3	28.6	13.5	17.1	25.2	26.7	17.0	16.7	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	178.0	121.2	131.1	170.8	127.1	57.8	107.0	97.2	109.0	157.0	65.5	48.6
LnGrp LOS	F	F	F	F	F	E	F	F	F	F	E	D
Approach Vol, veh/h		1803			1845			2053			1414	
Approach Delay, s/veh		131.9			119.8			102.1			83.0	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	48.0	24.0	42.0	32.1	41.9	21.0	45.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	43.5	19.5	37.5	27.6	37.4	16.5	40.5
Max Q Clear Time (g_c+I1), s	23.5	45.5	21.5	39.5	29.6	35.6	18.5	42.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0

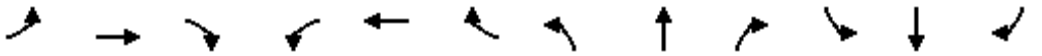
Intersection Summary	
HCM 6th Ctrl Delay	110.5
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	1377	296	255	816	82	365	1563	432	118	969	124
Future Volume (veh/h)	321	1377	296	255	816	82	365	1563	432	118	969	124
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	349	1497	322	277	887	89	397	1699	470	128	1053	135
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	424	1503	467	303	1224	122	474	1725	535	143	1635	208
Arrive On Green	0.12	0.29	0.29	0.09	0.26	0.26	0.14	0.34	0.34	0.08	0.28	0.28
Sat Flow, veh/h	3456	5106	1585	3456	4718	472	3456	5106	1585	1781	5823	740
Grp Volume(v), veh/h	349	1497	322	277	639	337	397	1699	470	128	871	317
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1785	1728	1702	1585	1781	1609	1737
Q Serve(g_s), s	8.9	26.3	16.2	7.2	15.4	15.5	10.1	29.7	25.1	6.4	14.3	14.4
Cycle Q Clear(g_c), s	8.9	26.3	16.2	7.2	15.4	15.5	10.1	29.7	25.1	6.4	14.3	14.4
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	424	1503	467	303	883	463	474	1725	535	143	1355	488
V/C Ratio(X)	0.82	1.00	0.69	0.91	0.72	0.73	0.84	0.99	0.88	0.90	0.64	0.65
Avail Cap(c_a), veh/h	468	1503	467	303	883	463	526	1725	535	143	1355	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	31.7	28.1	40.7	30.4	30.4	37.9	29.6	28.1	41.0	28.4	28.5
Incr Delay (d2), s/veh	10.4	22.1	4.3	30.3	3.0	5.7	10.6	18.4	18.2	46.5	2.4	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	13.2	6.3	4.2	6.3	7.0	4.7	14.0	11.5	4.5	5.4	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	53.8	32.4	71.1	33.3	36.1	48.4	48.0	46.2	87.5	30.8	35.1
LnGrp LOS	D	D	C	E	C	D	D	D	D	F	C	D
Approach Vol, veh/h		2168			1253			2566			1316	
Approach Delay, s/veh		49.9			42.4			47.7			37.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	34.9	12.4	31.0	16.8	29.8	15.5	27.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.2	30.4	7.9	26.5	13.7	23.9	12.2	22.2
Max Q Clear Time (g_c+I1), s	8.4	31.7	9.2	28.3	12.1	16.4	10.9	17.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.3	4.1	0.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	692	1476	203	284	556	313	50	1711	236	298	1833	412
Future Volume (veh/h)	692	1476	203	284	556	313	50	1711	236	298	1833	412
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	752	1604	221	309	604	340	54	1860	257	324	1992	448
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	887	1165	160	415	613	190	783	1458	359	956	1413	772
Arrive On Green	0.26	0.26	0.26	0.12	0.12	0.12	0.23	0.23	0.23	0.28	0.28	0.28
Sat Flow, veh/h	3456	4539	624	3456	5106	1585	3456	6434	1585	3456	5106	2790
Grp Volume(v), veh/h	752	1202	623	309	604	340	54	1860	257	324	1992	448
Grp Sat Flow(s),veh/h/ln	1728	1702	1758	1728	1702	1585	1728	1609	1585	1728	1702	1395
Q Serve(g_s), s	31.0	38.5	38.5	13.0	17.7	18.0	1.8	34.0	22.4	11.2	41.5	20.8
Cycle Q Clear(g_c), s	31.0	38.5	38.5	13.0	17.7	18.0	1.8	34.0	22.4	11.2	41.5	20.8
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	887	874	451	415	613	190	783	1458	359	956	1413	772
V/C Ratio(X)	0.85	1.38	1.38	0.75	0.99	1.79	0.07	1.28	0.72	0.34	1.41	0.58
Avail Cap(c_a), veh/h	887	874	451	415	613	190	783	1458	359	956	1413	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	55.8	55.8	63.8	65.9	66.0	45.6	58.0	53.5	43.3	54.3	46.7
Incr Delay (d2), s/veh	7.7	176.3	184.8	7.2	32.6	374.7	0.2	129.4	11.5	1.0	188.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	37.6	39.9	6.1	9.5	27.0	0.8	26.6	9.9	4.9	42.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	232.0	240.5	71.0	98.5	440.7	45.7	187.4	65.1	44.3	243.1	49.9
LnGrp LOS	E	F	F	E	F	F	D	F	E	D	F	D
Approach Vol, veh/h		2577			1253			2171			2764	
Approach Delay, s/veh		184.1			184.6			169.4			188.5	
Approach LOS		F			F			F			F	

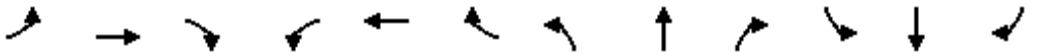
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.5		43.0		46.0		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		34.0		38.5		41.5		18.0				
Max Q Clear Time (g_c+I1), s		36.0		40.5		43.5		20.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			181.9									
HCM 6th LOS			F									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	123	652	51	423	589	68	125	1238	435	93	725	162
Future Volume (veh/h)	123	652	51	423	589	68	125	1238	435	93	725	162
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	134	709	55	460	640	74	136	1346	473	101	788	176
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	159	739	329	459	1339	597	183	1278	446	113	1018	227
Arrive On Green	0.09	0.21	0.21	0.26	0.38	0.38	0.05	0.34	0.34	0.06	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3736	1304	1781	2886	645
Grp Volume(v), veh/h	134	709	55	460	640	74	136	1226	593	101	485	479
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1636	1781	1777	1754
Q Serve(g_s), s	10.4	27.6	4.0	36.1	19.2	4.3	5.4	47.9	47.9	7.9	34.0	34.0
Cycle Q Clear(g_c), s	10.4	27.6	4.0	36.1	19.2	4.3	5.4	47.9	47.9	7.9	34.0	34.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.37
Lane Grp Cap(c), veh/h	159	739	329	459	1339	597	183	1165	560	113	627	619
V/C Ratio(X)	0.85	0.96	0.17	1.00	0.48	0.12	0.74	1.05	1.06	0.89	0.77	0.77
Avail Cap(c_a), veh/h	239	739	329	459	1339	597	200	1165	560	113	627	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.8	54.9	45.5	52.0	33.2	28.5	65.3	46.0	46.1	65.1	40.3	40.3
Incr Delay (d2), s/veh	15.7	24.6	1.1	42.4	1.2	0.4	12.7	41.3	55.0	52.4	6.0	6.1
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	5.4	14.8	1.7	21.2	8.4	1.7	2.7	26.7	27.8	5.2	15.9	15.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.5	79.5	46.6	94.3	34.4	29.0	78.1	87.3	101.1	117.5	46.3	46.4
LnGrp LOS	E	E	D	F	C	C	E	F	F	F	D	D
Approach Vol, veh/h		898			1174			1955			1065	
Approach Delay, s/veh		77.3			57.5			90.9			53.1	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	57.2	13.4	52.4	40.6	33.6	11.9	53.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.8	46.4	8.9	47.9	36.1	29.1	8.1	48.7
Max Q Clear Time (g_c+I1), s	12.4	21.2	9.9	49.9	38.1	29.6	7.4	36.0
Green Ext Time (p_c), s	0.2	4.5	0.0	0.0	0.0	0.0	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	72.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	220	520	54	260	90	462	926	76	64	1241	31
Future Volume (veh/h)	67	220	520	54	260	90	462	926	76	64	1241	31
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	73	239	565	59	283	98	502	1007	83	70	1349	34
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	105	299	293	85	330	293	511	2236	997	90	1392	35
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.29	0.63	0.63	0.05	0.39	0.39
Sat Flow, veh/h	179	1617	1585	136	1782	1585	1781	3554	1585	1781	3542	89
Grp Volume(v), veh/h	73	239	565	88	254	98	502	1007	83	70	676	707
Grp Sat Flow(s),veh/h/ln	179	1617	1585	301	1617	1585	1781	1777	1585	1781	1777	1854
Q Serve(g_s), s	3.3	14.1	18.5	4.4	15.2	5.4	28.0	14.7	2.0	3.9	37.3	37.4
Cycle Q Clear(g_c), s	18.5	14.1	18.5	18.5	15.2	5.4	28.0	14.7	2.0	3.9	37.3	37.4
Prop In Lane	1.00		1.00	0.67		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	105	299	293	116	299	293	511	2236	997	90	698	729
V/C Ratio(X)	0.69	0.80	1.93	0.76	0.85	0.33	0.98	0.45	0.08	0.77	0.97	0.97
Avail Cap(c_a), veh/h	105	299	293	116	299	293	511	2236	997	169	698	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	39.0	40.8	45.3	39.4	35.4	35.4	9.6	7.3	46.9	29.7	29.8
Incr Delay (d2), s/veh	18.0	14.2	429.4	24.7	20.1	0.7	35.0	0.7	0.2	13.1	27.1	26.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.7	42.1	3.0	7.6	2.1	16.5	5.1	0.7	2.0	20.0	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	53.1	470.2	70.0	59.5	36.1	70.4	10.2	7.4	60.0	56.9	56.5
LnGrp LOS	E	D	F	E	E	D	E	B	A	E	E	E
Approach Vol, veh/h		877			440			1592			1453	
Approach Delay, s/veh		323.0			56.4			29.1			56.9	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	67.4		23.0	33.2	43.8		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	58.5		18.5	28.7	39.3		18.5				
Max Q Clear Time (g_c+I1), s	5.9	16.7		20.5	30.0	39.4		20.5				
Green Ext Time (p_c), s	0.0	8.7		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		100.2	
HCM 6th LOS		F	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	1654	141	0	1738	488	589	1088	10	214	932	11
Future Volume (veh/h)	0	1654	141	0	1738	488	589	1088	10	214	932	11
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	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1798	153	0	1889	530	640	1183	11	233	1013	12
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, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2375	202	0	1761	785	613	1276	12	245	1064	13
Arrive On Green	0.00	0.50	0.50	0.00	0.50	0.50	0.18	0.24	0.24	0.14	0.20	0.20
Sat Flow, veh/h	0	4963	407	0	3647	1585	3456	5217	49	1781	5202	62
Grp Volume(v), veh/h	0	1275	676	0	1889	530	640	772	422	233	663	362
Grp Sat Flow(s),veh/h/ln	0	1702	1797	0	1777	1585	1728	1702	1862	1781	1702	1859
Q Serve(g_s), s	0.0	33.2	33.5	0.0	54.5	27.9	19.5	24.4	24.4	14.3	21.2	21.2
Cycle Q Clear(g_c), s	0.0	33.2	33.5	0.0	54.5	27.9	19.5	24.4	24.4	14.3	21.2	21.2
Prop In Lane	0.00		0.23	0.00		1.00	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	0	1687	890	0	1761	785	613	832	455	245	696	380
V/C Ratio(X)	0.00	0.76	0.76	0.00	1.07	0.67	1.04	0.93	0.93	0.95	0.95	0.95
Avail Cap(c_a), veh/h	0	1687	890	0	1761	785	613	832	455	245	696	380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.4	22.4	0.0	27.8	21.0	45.3	40.6	40.6	47.1	43.2	43.2
Incr Delay (d2), s/veh	0.0	2.0	3.8	0.0	44.0	2.3	48.6	17.8	27.4	44.5	24.2	35.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.8	14.0	0.0	31.8	24.9	12.2	11.9	14.2	9.2	11.0	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.4	26.3	0.0	71.8	23.3	93.8	58.4	68.0	91.6	67.4	78.8
LnGrp LOS	A	C	C	A	F	C	F	E	E	F	E	E
Approach Vol, veh/h		1951			2419			1834			1258	
Approach Delay, s/veh		25.0			61.1			73.0			75.2	
Approach LOS		C			E			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.0	27.0		59.0	19.6	31.4		59.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	19.5	22.5		54.5	15.1	26.9		54.5				
Max Q Clear Time (g_c+I1), s	21.5	23.2		35.5	16.3	26.4		56.5				
Green Ext Time (p_c), s	0.0	0.0		12.9	0.0	0.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		57.0	
HCM 6th LOS		E	

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	78	407	125	462	362	6	98	1162	62	119	1170	342
Future Volume (veh/h)	78	407	125	462	362	6	98	1162	62	119	1170	342
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	85	442	136	502	393	0	107	1263	67	129	1272	372
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	697	858	383	628	1204		134	1697	90	145	1746	542
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.00	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	305	4964	263	412	5106	1585
Grp Volume(v), veh/h	85	442	136	502	393	0	107	866	464	129	1272	372
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	305	1702	1823	412	1702	1585
Q Serve(g_s), s	2.0	8.0	5.3	15.5	4.8	0.0	9.2	16.8	16.8	8.7	16.3	15.1
Cycle Q Clear(g_c), s	2.0	8.0	5.3	15.5	4.8	0.0	25.5	16.8	16.8	25.5	16.3	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	697	858	383	628	1204		134	1164	623	145	1746	542
V/C Ratio(X)	0.12	0.52	0.36	0.80	0.33		0.80	0.74	0.74	0.89	0.73	0.69
Avail Cap(c_a), veh/h	697	858	383	638	1232		134	1164	623	145	1746	542
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	24.5	23.5	15.5	23.6	0.0	35.7	21.7	21.7	35.7	21.5	21.1
Incr Delay (d2), s/veh	0.4	2.2	2.6	7.0	0.2	0.0	27.7	2.6	4.8	44.2	1.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.5	2.2	6.8	1.9	0.0	2.9	6.7	7.5	4.1	6.3	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	26.7	26.1	22.5	23.8	0.0	63.3	24.3	26.5	79.9	23.1	24.7
LnGrp LOS	B	C	C	C	C		E	C	C	E	C	C
Approach Vol, veh/h		663			895	A		1437			1773	
Approach Delay, s/veh		24.6			23.1			27.9			27.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	22.5		30.0	22.5	22.1		30.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	18.0		25.5	18.0	18.0		25.5				
Max Q Clear Time (g_c+I1), s	17.5	10.0		27.5	4.0	6.8		27.5				
Green Ext Time (p_c), s	0.1	2.1		0.0	0.1	1.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		26.4	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

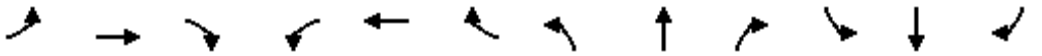
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	333	1305	357	396	1424	401	319	1181	467	537	1107	365
Future Volume (veh/h)	333	1305	357	396	1424	401	319	1181	467	537	1107	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	362	1418	388	430	1548	436	347	1284	508	584	1203	397
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	389	1641	464	452	1604	498	371	1306	406	590	1212	400
Arrive On Green	0.11	0.29	0.29	0.13	0.31	0.31	0.11	0.26	0.26	0.17	0.32	0.32
Sat Flow, veh/h	3563	5611	1585	3456	5106	1585	3456	5106	1585	3456	3797	1252
Grp Volume(v), veh/h	362	1418	388	430	1548	436	347	1284	508	584	1078	522
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1585	1728	1702	1585	1728	1702	1645
Q Serve(g_s), s	12.1	28.7	27.5	14.8	35.8	31.2	12.0	30.0	30.7	20.2	37.9	37.9
Cycle Q Clear(g_c), s	12.1	28.7	27.5	14.8	35.8	31.2	12.0	30.0	30.7	20.2	37.9	37.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	389	1641	464	452	1604	498	371	1306	406	590	1086	525
V/C Ratio(X)	0.93	0.86	0.84	0.95	0.96	0.88	0.93	0.98	1.25	0.99	0.99	0.99
Avail Cap(c_a), veh/h	389	1641	464	452	1604	498	371	1306	406	590	1086	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	40.2	39.8	51.8	40.5	38.9	53.1	44.4	44.7	49.6	40.7	40.7
Incr Delay (d2), s/veh	28.8	5.1	12.6	30.2	15.0	15.9	30.4	21.1	132.6	34.2	25.6	37.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	13.3	11.8	8.1	16.3	13.7	6.7	14.8	26.4	11.3	19.1	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	45.3	52.4	81.9	55.5	54.9	83.5	65.5	177.3	83.8	66.3	78.5
LnGrp LOS	F	D	D	F	E	D	F	E	F	F	E	E
Approach Vol, veh/h		2168			2414			2139			2184	
Approach Delay, s/veh		52.6			60.1			95.0			73.9	
Approach LOS		D			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	42.8	20.2	39.6	25.0	35.2	17.6	42.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.9	38.3	15.7	35.1	20.5	30.7	13.1	37.7
Max Q Clear Time (g_c+I1), s	14.0	39.9	16.8	30.7	22.2	32.7	14.1	37.8
Green Ext Time (p_c), s	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E

Notes

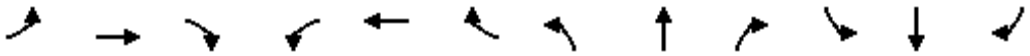
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1833	228	0	1533	562	0	0	786	1004	272	702
Future Volume (vph)	0	1833	228	0	1533	562	0	0	786	1004	272	702
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor		0.86			0.91	1.00			1.00	0.97	0.91	0.91
Frt		0.98			1.00	0.85			0.86	1.00	0.92	0.85
Flt Protected		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (prot)		6301			5085	1583			1611	3433	3104	1441
Flt Permitted		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (perm)		6301			5085	1583			1611	3433	3104	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1992	248	0	1666	611	0	0	854	1091	296	763
RTOR Reduction (vph)	0	19	0	0	0	331	0	0	34	0	0	5
Lane Group Flow (vph)	0	2221	0	0	1666	280	0	0	820	1091	678	376
Turn Type		NA			NA	Perm			Perm	Prot	NA	Perm
Protected Phases		4			8					1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)		33.5			33.5	33.5			46.5	26.5	77.5	77.5
Effective Green, g (s)		33.5			33.5	33.5			46.5	26.5	77.5	77.5
Actuated g/C Ratio		0.28			0.28	0.28			0.39	0.22	0.65	0.65
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1759			1419	441			624	758	2004	930
v/s Ratio Prot		c0.35			0.33					c0.32	0.22	
v/s Ratio Perm						0.18			c0.51			0.26
v/c Ratio		1.26			1.17	0.64			1.31	1.44	0.34	0.40
Uniform Delay, d1		43.2			43.2	37.9			36.8	46.8	9.6	10.2
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		123.0			86.1	3.0			152.7	205.2	0.5	1.3
Delay (s)		166.2			129.4	40.9			189.5	251.9	10.1	11.5
Level of Service		F			F	D			F	F	B	B
Approach Delay (s)		166.2			105.6			189.5			133.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	141.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	118.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2966	0	0	1179	767	524	0	552	0	0	0
Future Volume (vph)	0	2966	0	0	1179	767	524	0	552	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5		4.5			
Lane Util. Factor		0.86			0.95	1.00	0.97		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		6408			3539	1583	3433		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		6408			3539	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	3224	0	0	1282	834	570	0	600	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	382	0	0	19	0	0	0
Lane Group Flow (vph)	0	3224	0	0	1282	452	570	0	581	0	0	0
Turn Type		NA			NA	Perm	Perm		Perm			
Protected Phases		4			8							
Permitted Phases						8	2		2			
Actuated Green, G (s)		32.5			32.5	32.5	18.5		18.5			
Effective Green, g (s)		32.5			32.5	32.5	18.5		18.5			
Actuated g/C Ratio		0.54			0.54	0.54	0.31		0.31			
Clearance Time (s)		4.5			4.5	4.5	4.5		4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)		3471			1916	857	1058		859			
v/s Ratio Prot		c0.50			0.36							
v/s Ratio Perm						0.29	0.17		c0.21			
v/c Ratio		0.93			0.67	0.53	0.54		0.68			
Uniform Delay, d1		12.7			9.9	8.8	17.2		18.1			
Progression Factor		1.00			1.00	1.00	1.00		1.00			
Incremental Delay, d2		5.1			0.9	0.6	2.0		4.3			
Delay (s)		17.8			10.8	9.4	19.2		22.4			
Level of Service		B			B	A	B		C			
Approach Delay (s)		17.8			10.2			20.8			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	221	27	1007	74	963
v/c Ratio	0.13	0.39	0.08	0.43	0.23	0.41
Control Delay	9.1	10.7	4.9	5.1	6.9	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	10.7	4.9	5.1	6.9	5.2
Queue Length 50th (ft)	3	13	2	49	6	49
Queue Length 95th (ft)	19	33	10	96	26	94
Internal Link Dist (ft)	55	291		153		271
Turn Bay Length (ft)			40		100	
Base Capacity (vph)	724	1264	346	2318	326	2347
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.17	0.08	0.43	0.23	0.41

Intersection Summary

Distance to freeway off-ramp is is approx. 160 ft.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	97	362	30	1838	99	944
v/c Ratio	0.31	0.74	0.08	0.73	0.96	0.37
Control Delay	16.7	38.2	4.8	9.4	100.3	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	38.2	4.8	9.4	100.3	5.2
Queue Length 50th (ft)	16	83	4	257	42	87
Queue Length 95th (ft)	58	132	13	376	#103	128
Internal Link Dist (ft)	55	291		153		271
Turn Bay Length (ft)			40		100	
Base Capacity (vph)	361	578	379	2517	103	2558
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.63	0.08	0.73	0.96	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Distance to freeway off-ramp is is approx. 160 ft.

Lane Group	EBL	EBT	EBR	WBL	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	314	176	1004	541	204	1463	295	2134
v/c Ratio	0.17	0.09	1.20	1.17	1.03	0.88	0.92	1.57dr
Control Delay	15.3	26.7	130.2	146.3	131.1	52.6	92.8	64.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	26.7	130.2	146.3	131.1	52.6	92.8	64.4
Queue Length 50th (ft)	65	35	~945	~279	~94	340	129	~500
Queue Length 95th (ft)	91	53	#1204	#394	#176	388	#217	#595
Internal Link Dist (ft)		430				303		392
Turn Bay Length (ft)	175		300	150	175		140	
Base Capacity (vph)	1861	1897	834	462	198	1660	319	2002
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.09	1.20	1.17	1.03	0.88	0.92	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	314	176	1004	541	204	1463	295	2134
v/c Ratio	0.17	0.09	1.20	1.17	1.03	0.88	0.92	1.57dr
Control Delay	15.3	26.7	130.2	146.3	131.1	52.6	92.8	64.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	26.7	130.2	146.3	131.1	52.6	92.8	64.4
Queue Length 50th (ft)	65	35	~945	~279	~94	340	129	~500
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Internal Link Dist (ft)		430				303		392
Turn Bay Length (ft)	175		300	150	175		140	
Base Capacity (vph)	1861	1897	834	462	198	1660	319	2002
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.09	1.20	1.17	1.03	0.88	0.92	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

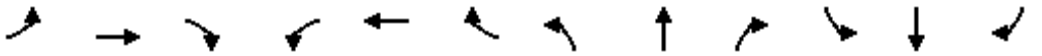
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

APPENDIX D

HIGHWAY CAPACITY MANUAL LEVEL OF SERVICE WORKSHEETS

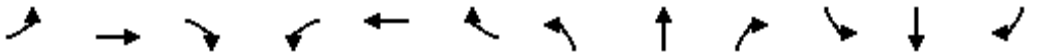
General Plan Buildout (2040) With Proposed Land Use Element



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	979	121	75	1350	151	233	533	185	303	492	163
Future Volume (veh/h)	164	979	121	75	1350	151	233	533	185	303	492	163
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	178	1064	132	82	1467	164	253	579	201	329	535	177
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	180	2101	260	217	1424	159	279	746	333	327	841	375
Arrive On Green	0.10	0.46	0.46	0.31	0.31	0.31	0.16	0.21	0.21	0.18	0.24	0.24
Sat Flow, veh/h	1781	4602	570	468	4660	521	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	178	787	409	82	1071	560	253	579	201	329	535	177
Grp Sat Flow(s),veh/h/ln	1781	1702	1768	468	1702	1777	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.0	14.7	14.7	13.5	27.5	27.5	12.6	13.8	10.3	16.5	12.2	8.6
Cycle Q Clear(g_c), s	9.0	14.7	14.7	14.7	27.5	27.5	12.6	13.8	10.3	16.5	12.2	8.6
Prop In Lane	1.00		0.32	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	1555	807	217	1040	543	279	746	333	327	841	375
V/C Ratio(X)	0.99	0.51	0.51	0.38	1.03	1.03	0.91	0.78	0.60	1.01	0.64	0.47
Avail Cap(c_a), veh/h	180	1555	807	217	1040	543	279	746	333	327	841	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.4	17.3	17.3	27.3	31.3	31.3	37.3	33.6	32.2	36.8	30.9	29.5
Incr Delay (d2), s/veh	63.5	0.3	0.5	1.1	35.9	46.8	30.8	7.8	7.9	51.7	3.7	4.2
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	7.1	5.6	5.9	1.6	16.2	18.5	7.8	6.7	4.7	11.8	5.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.9	17.5	17.8	28.4	67.1	78.0	68.1	41.3	40.1	88.4	34.5	33.7
LnGrp LOS	F	B	B	C	F	F	E	D	D	F	C	C
Approach Vol, veh/h		1374			1713			1033			1041	
Approach Delay, s/veh		28.8			68.8			47.6			51.4	
Approach LOS		C			E			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	23.4		45.6	18.6	25.8	13.6	32.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	18.9		41.1	14.1	21.3	9.1	27.5				
Max Q Clear Time (g_c+I1), s	18.5	15.8		16.7	14.6	14.2	11.0	29.5				
Green Ext Time (p_c), s	0.0	1.4		9.6	0.0	2.5	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			50.4									
HCM 6th LOS			D									



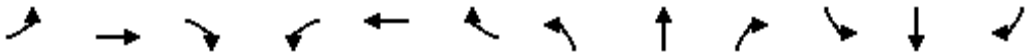
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	681	283	220	696	0	320	0	190	0	0	0
Future Volume (veh/h)	0	681	283	220	696	0	320	0	190	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	0	740	308	239	757	0	348	0	207	0	0	0
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	3	879	392	325	1444	0	438	0	1469	0	514	0
Arrive On Green	0.00	0.25	0.25	0.09	0.41	0.00	0.12	0.00	0.46	0.00	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	3456	3647	0	3563	0	3170	0	1870	0
Grp Volume(v), veh/h	0	740	308	239	757	0	348	0	207	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	0	1781	0	1585	0	1870	0
Q Serve(g_s), s	0.0	13.7	12.5	4.6	11.1	0.0	6.6	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.7	12.5	4.6	11.1	0.0	6.6	0.0	2.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	3	879	392	325	1444	0	438	0	1469	0	514	0
V/C Ratio(X)	0.00	0.84	0.79	0.73	0.52	0.00	0.79	0.00	0.14	0.00	0.00	0.00
Avail Cap(c_a), veh/h	129	926	413	325	1444	0	438	0	1469	0	514	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.7	24.3	30.5	15.5	0.0	29.4	0.0	10.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.8	9.3	8.4	0.3	0.0	9.7	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.3	5.5	2.3	4.3	0.0	3.3	0.0	0.9	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.6	33.5	38.8	15.8	0.0	39.1	0.0	10.8	0.0	0.0	0.0
LnGrp LOS	A	C	C	D	B	A	D	A	B	A	A	A
Approach Vol, veh/h		1048			996			555			0	
Approach Delay, s/veh		32.1			21.3			28.6			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.5	11.0	21.6	13.0	23.5	0.0	32.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	32.0	6.5	18.0	8.5	19.0	5.0	19.5
Max Q Clear Time (g_c+I1), s	4.6	6.6	15.7	8.6	0.0	0.0	13.1
Green Ext Time (p_c), s	0.8	0.0	1.4	0.0	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

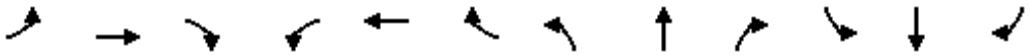
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	833	104	49	1172	116	181	426	52	238	402	176
Future Volume (veh/h)	94	833	104	49	1172	116	181	426	52	238	402	176
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	102	905	113	53	1274	126	197	463	57	259	437	191
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	124	1564	698	68	1336	132	283	564	251	396	536	232
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.16	0.16	0.16	0.22	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3267	322	1781	3554	1585	1781	2414	1045
Grp Volume(v), veh/h	102	905	113	53	691	709	197	463	57	259	321	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1812	1781	1777	1585	1781	1777	1682
Q Serve(g_s), s	7.2	24.5	5.5	3.8	48.1	48.6	13.4	16.1	4.0	16.9	21.9	22.3
Cycle Q Clear(g_c), s	7.2	24.5	5.5	3.8	48.1	48.6	13.4	16.1	4.0	16.9	21.9	22.3
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	124	1564	698	68	727	741	283	564	251	396	395	374
V/C Ratio(X)	0.82	0.58	0.16	0.77	0.95	0.96	0.70	0.82	0.23	0.65	0.81	0.82
Avail Cap(c_a), veh/h	124	1564	698	135	734	749	283	564	251	555	554	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	26.9	21.6	61.0	36.6	36.7	50.9	52.1	47.0	45.3	47.2	47.4
Incr Delay (d2), s/veh	34.3	0.5	0.1	16.7	21.8	22.7	13.4	12.7	2.1	1.8	6.2	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	10.3	2.1	2.0	24.7	25.5	7.0	8.1	1.7	7.6	10.3	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.0	27.4	21.7	77.7	58.4	59.4	64.3	64.8	49.1	47.1	53.5	54.6
LnGrp LOS	F	C	C	E	E	E	E	E	D	D	D	D
Approach Vol, veh/h		1120			1453			717			887	
Approach Delay, s/veh		32.8			59.6			63.4			52.0	
Approach LOS		C			E			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.8	9.4	60.8		32.9	13.4	56.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.3	9.7	52.1		39.9	8.9	52.9				
Max Q Clear Time (g_c+I1), s		18.1	5.8	26.5		24.3	9.2	50.6				
Green Ext Time (p_c), s		0.9	0.0	7.3		4.2	0.0	1.7				

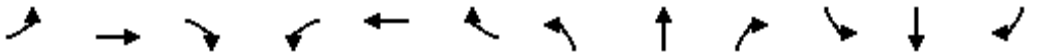
Intersection Summary												
HCM 6th Ctrl Delay			51.5									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	775	76	79	1370	128	125	430	64	89	490	105
Future Volume (veh/h)	103	775	76	79	1370	128	125	430	64	89	490	105
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	112	842	83	86	1489	139	136	467	70	97	533	114
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	143	1706	167	114	1637	153	278	1075	160	322	1011	215
Arrive On Green	0.08	0.36	0.36	0.06	0.34	0.34	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1781	4727	464	1781	4751	443	784	3101	463	868	2915	621
Grp Volume(v), veh/h	112	605	320	86	1067	561	136	267	270	97	324	323
Grp Sat Flow(s),veh/h/ln	1781	1702	1787	1781	1702	1791	784	1777	1787	868	1777	1759
Q Serve(g_s), s	3.6	8.2	8.2	2.8	17.7	17.7	9.9	6.8	6.9	5.7	8.6	8.7
Cycle Q Clear(g_c), s	3.6	8.2	8.2	2.8	17.7	17.7	18.6	6.8	6.9	12.6	8.6	8.7
Prop In Lane	1.00		0.26	1.00		0.25	1.00		0.26	1.00		0.35
Lane Grp Cap(c), veh/h	143	1229	645	114	1173	617	278	616	620	322	616	610
V/C Ratio(X)	0.78	0.49	0.50	0.75	0.91	0.91	0.49	0.43	0.44	0.30	0.53	0.53
Avail Cap(c_a), veh/h	166	1229	645	217	1180	621	278	616	620	322	616	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	14.7	14.7	27.2	18.5	18.5	22.9	14.8	14.9	19.7	15.4	15.5
Incr Delay (d2), s/veh	18.7	0.3	0.6	9.7	10.4	17.5	6.0	2.2	2.2	2.4	3.2	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.7	2.9	1.4	7.5	9.1	2.2	2.8	2.9	1.3	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	15.0	15.3	36.9	28.9	36.0	28.9	17.0	17.1	22.1	18.6	18.7
LnGrp LOS	D	B	B	D	C	D	C	B	B	C	B	B
Approach Vol, veh/h		1037			1714			673			744	
Approach Delay, s/veh		18.4			31.6			19.5			19.1	
Approach LOS		B			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.0	8.3	25.8		25.0	9.3	24.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.5	7.2	18.8		20.5	5.5	20.5				
Max Q Clear Time (g_c+I1), s		20.6	4.8	10.2		14.6	5.6	19.7				
Green Ext Time (p_c), s		0.0	0.0	3.6		2.3	0.0	0.7				

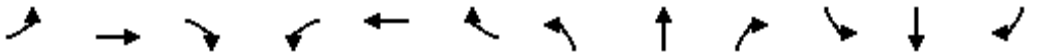
Intersection Summary												
HCM 6th Ctrl Delay			24.1									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	889	72	121	1259	92	194	643	56	183	539	131
Future Volume (veh/h)	106	889	72	121	1259	92	194	643	56	183	539	131
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	115	966	78	132	1368	100	211	699	61	199	586	142
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	143	1381	111	166	1457	106	238	900	402	226	877	391
Arrive On Green	0.08	0.29	0.29	0.09	0.30	0.30	0.13	0.25	0.25	0.13	0.25	0.25
Sat Flow, veh/h	1781	4816	388	1781	4856	355	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	115	682	362	132	959	509	211	699	61	199	586	142
Grp Sat Flow(s),veh/h/ln	1781	1702	1801	1781	1702	1806	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.8	13.4	13.5	5.4	20.6	20.6	8.7	13.7	2.2	8.2	11.2	5.6
Cycle Q Clear(g_c), s	4.8	13.4	13.5	5.4	20.6	20.6	8.7	13.7	2.2	8.2	11.2	5.6
Prop In Lane	1.00		0.22	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	976	516	166	1021	542	238	900	402	226	877	391
V/C Ratio(X)	0.81	0.70	0.70	0.79	0.94	0.94	0.89	0.78	0.15	0.88	0.67	0.36
Avail Cap(c_a), veh/h	143	976	516	207	1021	542	238	900	402	226	877	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	23.9	23.9	33.3	25.6	25.6	32.0	26.0	21.7	32.2	25.5	23.4
Incr Delay (d2), s/veh	27.9	2.2	4.2	15.5	15.7	24.5	30.8	6.5	0.8	30.8	4.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	5.3	5.9	3.0	9.9	11.8	5.7	6.3	0.9	5.4	5.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.8	26.1	28.1	48.8	41.2	50.1	62.8	32.5	22.5	63.0	29.5	26.0
LnGrp LOS	E	C	C	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		1159			1600			971			927	
Approach Delay, s/veh		30.3			44.7			38.5			36.2	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	23.5	11.5	26.0	14.5	23.0	10.5	27.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	19.0	8.7	19.8	10.0	18.5	6.0	22.5
Max Q Clear Time (g_c+I1), s	10.2	15.7	7.4	15.5	10.7	13.2	6.8	22.6
Green Ext Time (p_c), s	0.0	1.5	0.0	2.5	0.0	2.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D



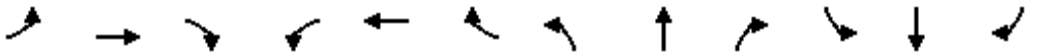
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	229	0	262	465	561	0	0	898	520
Future Volume (veh/h)	0	0	0	229	0	262	465	561	0	0	898	520
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
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	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				249	0	285	505	610	0	0	976	565
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	2	2	2	2	0	0	2	2
Cap, veh/h				785	0	349	614	2240	0	0	1286	599
Arrive On Green				0.22	0.00	0.22	0.18	0.63	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	3572	1585
Grp Volume(v), veh/h				249	0	285	505	610	0	0	976	565
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1585
Q Serve(g_s), s				3.5	0.0	10.3	8.5	4.6	0.0	0.0	15.1	20.8
Cycle Q Clear(g_c), s				3.5	0.0	10.3	8.5	4.6	0.0	0.0	15.1	20.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				785	0	349	614	2240	0	0	1286	599
V/C Ratio(X)				0.32	0.00	0.82	0.82	0.27	0.00	0.00	0.76	0.94
Avail Cap(c_a), veh/h				1064	0	473	659	2240	0	0	1286	599
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	22.3	23.9	5.0	0.0	0.0	16.4	18.1
Incr Delay (d2), s/veh				0.2	0.0	7.8	7.8	0.3	0.0	0.0	4.2	25.2
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				1.3	0.0	4.1	3.9	1.3	0.0	0.0	5.9	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				19.9	0.0	30.2	31.7	5.3	0.0	0.0	20.6	43.3
LnGrp LOS				B	A	C	C	A	A	A	C	D
Approach Vol, veh/h					534			1115			1541	
Approach Delay, s/veh					25.4			17.2			28.9	
Approach LOS					C			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		42.5			15.2	27.3		17.8				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		38.0			11.5	22.0		18.0				
Max Q Clear Time (g_c+I1), s		6.6			10.5	22.8		12.3				
Green Ext Time (p_c), s		4.6			0.2	0.0		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			24.2									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



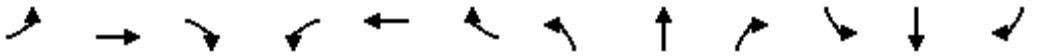
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	0	270	0	0	0	0	972	302	318	827	0
Future Volume (veh/h)	62	0	270	0	0	0	0	972	302	318	827	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
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	1870	1870	0
Adj Flow Rate, veh/h	45	0	317				0	1057	328	346	899	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	275	0	489				0	1552	692	474	2362	0
Arrive On Green	0.15	0.00	0.15				0.00	0.44	0.44	0.14	0.66	0.00
Sat Flow, veh/h	1781	0	3170				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	45	0	317				0	1057	328	346	899	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1728	1777	0
Q Serve(g_s), s	1.1	0.0	4.7				0.0	11.8	7.3	4.8	5.6	0.0
Cycle Q Clear(g_c), s	1.1	0.0	4.7				0.0	11.8	7.3	4.8	5.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	275	0	489				0	1552	692	474	2362	0
V/C Ratio(X)	0.16	0.00	0.65				0.00	0.68	0.47	0.73	0.38	0.00
Avail Cap(c_a), veh/h	646	0	1149				0	1552	692	522	2362	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	19.7				0.0	11.2	9.9	20.5	3.7	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.5				0.0	2.4	2.3	4.6	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	0.4	0.0	1.6				0.0	4.2	2.5	2.0	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	0.0	21.2				0.0	13.6	12.2	25.2	4.2	0.0
LnGrp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		362						1385			1245	
Approach Delay, s/veh		20.9						13.3			10.0	
Approach LOS		C						B			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.3	26.2		12.2		37.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	7.5	21.0		18.0		33.0						
Max Q Clear Time (g_c+I1), s	6.8	13.8		6.7		7.6						
Green Ext Time (p_c), s	0.1	4.6		1.0		7.1						

Intersection Summary			
HCM 6th Ctrl Delay			12.9
HCM 6th LOS			B

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)	4	12	34	83	13	112	26	917	130	68	931	9
Future Volume (veh/h)	4	12	34	83	13	112	26	917	130	68	931	9
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	4	13	37	90	14	122	28	997	141	74	1012	10
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	97	67	161	329	40	207	449	2026	286	406	2337	23
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	53	464	1125	1207	281	1442	552	3126	442	494	3605	36
Grp Volume(v), veh/h	54	0	0	104	0	122	28	566	572	74	499	523
Grp Sat Flow(s),veh/h/ln	1642	0	0	1488	0	1442	552	1777	1791	494	1777	1864
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	3.4	1.1	7.1	7.1	3.9	5.9	5.9
Cycle Q Clear(g_c), s	1.2	0.0	0.0	2.6	0.0	3.4	7.1	7.1	7.1	11.1	5.9	5.9
Prop In Lane	0.07		0.69	0.87		1.00	1.00		0.25	1.00		0.02
Lane Grp Cap(c), veh/h	325	0	0	369	0	207	449	1152	1161	406	1152	1208
V/C Ratio(X)	0.17	0.00	0.00	0.28	0.00	0.59	0.06	0.49	0.49	0.18	0.43	0.43
Avail Cap(c_a), veh/h	766	0	0	753	0	601	449	1152	1161	406	1152	1208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	0.0	16.9	0.0	17.3	5.4	3.9	3.9	6.8	3.7	3.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.0	2.7	0.3	1.5	1.5	1.0	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.9	0.0	1.1	0.1	1.6	1.6	0.4	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	0.0	0.0	17.3	0.0	20.0	5.7	5.4	5.4	7.8	4.9	4.9
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		54			226			1166			1096	
Approach Delay, s/veh		16.6			18.7			5.4			5.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.5		10.7		32.5		10.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0				
Max Q Clear Time (g_c+I1), s		9.1		3.2		13.1		5.4				
Green Ext Time (p_c), s		8.0		0.2		6.5		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			6.7									
HCM 6th LOS			A									

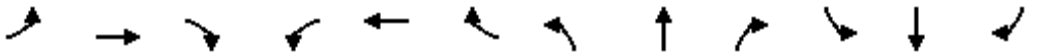
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Volume (veh/h)	193	444	0	708	364	1	1056	331	0	0
Future Volume (veh/h)	193	444	0	708	364	1	1056	331	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	210	483	0	770	396	1	1148	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2	2	2	2	2		
Cap, veh/h	613	545	0	1651	769	69	1691			
Arrive On Green	0.34	0.34	0.00	0.48	0.48	0.48	0.48	0.00		
Sat Flow, veh/h	1781	1585	0	3572	1585	0	3486	1585		
Grp Volume(v), veh/h	210	483	0	770	396	616	533	0		
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1585	1869	1617	1585		
Q Serve(g_s), s	4.6	15.1	0.0	7.9	9.0	0.0	13.3	0.0		
Cycle Q Clear(g_c), s	4.6	15.1	0.0	7.9	9.0	13.3	13.3	0.0		
Prop In Lane	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	613	545	0	1651	769	975	784			
V/C Ratio(X)	0.34	0.89	0.00	0.47	0.52	0.63	0.68			
Avail Cap(c_a), veh/h	694	618	0	1651	769	975	784			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	12.8	16.3	0.0	9.0	9.3	10.4	10.4	0.0		
Incr Delay (d2), s/veh	0.3	13.4	0.0	0.9	2.5	3.1	4.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	6.8	0.0	2.5	3.0	5.1	4.7	0.0		
Unsig. Movement Delay, s/veh										
LnGrp Delay(d),s/veh	13.2	29.7	0.0	10.0	11.8	13.5	15.1	0.0		
LnGrp LOS	B	C	A	A	B	B	B			
Approach Vol, veh/h	693			1166			1149	A		
Approach Delay, s/veh	24.7			10.6			14.3			
Approach LOS	C			B			B			

Timer - Assigned Phs		2		4		6				
Phs Duration (G+Y+Rc), s		30.0		22.6		30.0				
Change Period (Y+Rc), s		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		20.5		25.5				
Max Q Clear Time (g_c+I1), s		11.0		17.1		15.3				
Green Ext Time (p_c), s		7.0		1.0		5.3				

Intersection Summary										
HCM 6th Ctrl Delay			15.2							
HCM 6th LOS			B							

Notes

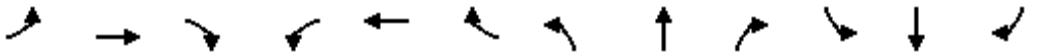
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	796	216	209	1272	126	80	684	231	58	780	72
Future Volume (veh/h)	113	796	216	209	1272	126	80	684	231	58	780	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	865	235	227	1383	137	87	743	251	63	848	78
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	157	1143	309	258	1619	160	190	1223	546	217	1133	104
Arrive On Green	0.09	0.29	0.29	0.14	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3999	1081	1781	4722	468	604	3554	1585	567	3290	303
Grp Volume(v), veh/h	123	736	364	227	997	523	87	743	251	63	458	468
Grp Sat Flow(s),veh/h/ln	1781	1702	1676	1781	1702	1786	604	1777	1585	567	1777	1816
Q Serve(g_s), s	4.1	11.8	11.9	7.5	16.3	16.3	7.0	10.4	7.4	6.2	13.7	13.7
Cycle Q Clear(g_c), s	4.1	11.8	11.9	7.5	16.3	16.3	20.7	10.4	7.4	16.6	13.7	13.7
Prop In Lane	1.00		0.64	1.00		0.26	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	157	973	479	258	1167	612	190	1223	546	217	612	625
V/C Ratio(X)	0.78	0.76	0.76	0.88	0.85	0.85	0.46	0.61	0.46	0.29	0.75	0.75
Avail Cap(c_a), veh/h	163	1021	503	258	1203	631	190	1223	546	217	612	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	19.5	19.6	25.1	18.3	18.3	27.2	16.3	15.3	23.2	17.4	17.4
Incr Delay (d2), s/veh	21.1	3.1	6.4	27.3	6.1	10.8	7.7	2.2	2.8	3.4	8.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.6	5.0	4.9	6.5	7.7	1.6	4.2	2.7	1.0	6.4	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	22.7	26.0	52.4	24.4	29.2	34.9	18.6	18.1	26.6	25.6	25.4
LnGrp LOS	D	C	C	D	C	C	C	B	B	C	C	C
Approach Vol, veh/h		1223			1747			1081			989	
Approach Delay, s/veh		26.2			29.5			19.8			25.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.2	13.2	21.6		25.2	9.8	25.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.8	8.7	18.0		19.8	5.5	21.2				
Max Q Clear Time (g_c+I1), s		22.7	9.5	13.9		18.6	6.1	18.3				
Green Ext Time (p_c), s		0.0	0.0	2.5		0.7	0.0	2.2				

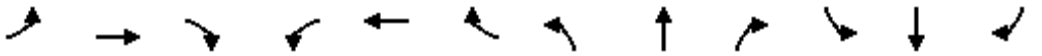
Intersection Summary												
HCM 6th Ctrl Delay			25.8									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	964	87	237	1466	146	103	549	217	61	380	131
Future Volume (veh/h)	114	964	87	237	1466	146	103	549	217	61	380	131
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	124	1048	95	258	1593	159	112	597	236	66	413	142
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	158	1411	128	290	1746	174	313	1120	499	237	1120	499
Arrive On Green	0.09	0.30	0.30	0.16	0.37	0.37	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1781	4765	431	1781	4719	470	854	3554	1585	659	3554	1585
Grp Volume(v), veh/h	124	748	395	258	1148	604	112	597	236	66	413	142
Grp Sat Flow(s),veh/h/ln	1781	1702	1793	1781	1702	1786	854	1777	1585	659	1777	1585
Q Serve(g_s), s	4.1	11.8	11.9	8.5	19.1	19.2	7.0	8.2	7.1	5.5	5.4	4.0
Cycle Q Clear(g_c), s	4.1	11.8	11.9	8.5	19.1	19.2	12.4	8.2	7.1	13.7	5.4	4.0
Prop In Lane	1.00		0.24	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	1008	531	290	1259	661	313	1120	499	237	1120	499
V/C Ratio(X)	0.78	0.74	0.74	0.89	0.91	0.91	0.36	0.53	0.47	0.28	0.37	0.28
Avail Cap(c_a), veh/h	164	1027	541	290	1267	664	313	1120	499	237	1120	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	18.9	19.0	24.5	17.9	17.9	20.6	16.8	16.4	22.5	15.8	15.4
Incr Delay (d2), s/veh	21.0	2.9	5.4	27.1	10.1	17.1	3.2	1.8	3.2	2.9	0.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.5	5.1	5.4	8.1	9.8	1.6	3.3	2.7	1.0	2.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	21.8	24.4	51.5	28.0	35.0	23.8	18.6	19.6	25.4	16.8	16.8
LnGrp LOS	D	C	C	D	C	D	C	B	B	C	B	B
Approach Vol, veh/h		1267			2010			945			621	
Approach Delay, s/veh		25.2			33.1			19.5			17.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.3	14.2	22.2		23.3	9.8	26.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.8	9.7	18.0		18.8	5.5	22.2				
Max Q Clear Time (g_c+I1), s		14.4	10.5	13.9		15.7	6.1	21.2				
Green Ext Time (p_c), s		2.2	0.0	2.6		1.1	0.0	0.9				

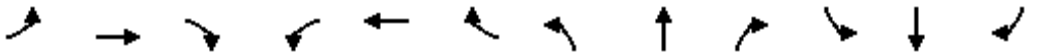
Intersection Summary												
HCM 6th Ctrl Delay			26.4									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	1021	89	40	1450	209	92	613	25	164	422	281
Future Volume (veh/h)	201	1021	89	40	1450	209	92	613	25	164	422	281
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	218	1110	97	43	1576	227	100	666	27	178	459	305
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	247	2216	193	65	1629	234	273	770	31	248	865	386
Arrive On Green	0.14	0.46	0.46	0.04	0.36	0.36	0.06	0.22	0.22	0.08	0.24	0.24
Sat Flow, veh/h	1781	4782	418	1781	4510	648	1781	3481	141	1781	3554	1585
Grp Volume(v), veh/h	218	790	417	43	1189	614	100	340	353	178	459	305
Grp Sat Flow(s),veh/h/ln	1781	1702	1795	1781	1702	1754	1781	1777	1845	1781	1777	1585
Q Serve(g_s), s	10.8	14.6	14.6	2.1	30.8	31.0	3.9	16.6	16.6	7.0	10.1	16.2
Cycle Q Clear(g_c), s	10.8	14.6	14.6	2.1	30.8	31.0	3.9	16.6	16.6	7.0	10.1	16.2
Prop In Lane	1.00		0.23	1.00		0.37	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	247	1577	832	65	1229	633	273	393	408	248	865	386
V/C Ratio(X)	0.88	0.50	0.50	0.66	0.97	0.97	0.37	0.86	0.87	0.72	0.53	0.79
Avail Cap(c_a), veh/h	247	1577	832	129	1229	633	273	393	408	248	865	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	16.9	16.9	42.8	28.2	28.3	25.3	33.8	33.8	26.4	29.6	31.9
Incr Delay (d2), s/veh	28.6	0.2	0.5	10.8	18.2	28.3	0.8	21.6	21.1	9.5	2.3	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	5.4	5.7	1.1	14.8	17.1	1.7	9.3	9.6	3.6	4.6	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	17.1	17.4	53.6	46.5	56.6	26.1	55.4	54.9	36.0	31.9	47.1
LnGrp LOS	E	B	B	D	D	E	C	E	D	D	C	D
Approach Vol, veh/h		1425			1846			793			942	
Approach Delay, s/veh		24.8			50.0			51.5			37.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	24.4	7.8	46.2	9.6	26.4	17.0	37.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.1	19.9	6.5	38.5	5.1	21.9	12.5	32.5
Max Q Clear Time (g_c+I1), s	9.0	18.6	4.1	16.6	5.9	18.2	12.8	33.0
Green Ext Time (p_c), s	0.0	0.6	0.0	8.4	0.0	1.5	0.0	0.0

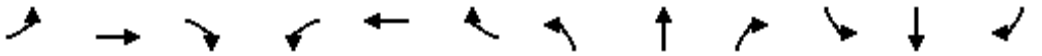
Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	1211	13	272	1548	66	150	995	276	92	500	177
Future Volume (veh/h)	260	1211	13	272	1548	66	150	995	276	92	500	177
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	283	1316	14	296	1683	72	163	1082	300	100	543	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	1423	15	317	1529	65	399	1006	277	148	1033	461
Arrive On Green	0.15	0.27	0.27	0.18	0.30	0.30	0.13	0.37	0.37	0.05	0.29	0.29
Sat Flow, veh/h	1781	5209	55	1781	5021	215	1781	2754	757	1781	3554	1585
Grp Volume(v), veh/h	283	860	470	296	1141	614	163	695	687	100	543	192
Grp Sat Flow(s),veh/h/ln	1781	1702	1860	1781	1702	1832	1781	1777	1734	1781	1777	1585
Q Serve(g_s), s	20.5	34.3	34.3	22.9	42.5	42.5	8.0	51.0	51.0	5.4	17.9	13.6
Cycle Q Clear(g_c), s	20.5	34.3	34.3	22.9	42.5	42.5	8.0	51.0	51.0	5.4	17.9	13.6
Prop In Lane	1.00		0.03	1.00		0.12	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	262	930	508	317	1036	558	399	649	634	148	1033	461
V/C Ratio(X)	1.08	0.92	0.92	0.93	1.10	1.10	0.41	1.07	1.08	0.67	0.53	0.42
Avail Cap(c_a), veh/h	262	930	508	318	1036	558	399	649	634	281	1298	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	49.3	49.3	56.5	48.5	48.5	26.4	44.3	44.3	37.6	41.4	39.9
Incr Delay (d2), s/veh	79.1	14.6	22.9	33.4	59.7	68.9	3.1	55.7	60.8	5.2	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	16.2	18.9	13.1	26.2	29.6	3.7	31.8	31.9	2.5	7.8	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.7	64.0	72.2	89.9	108.2	117.4	29.5	100.0	105.1	42.9	41.9	40.5
LnGrp LOS	F	E	E	F	F	F	C	F	F	D	D	D
Approach Vol, veh/h		1613			2051			1545			835	
Approach Delay, s/veh		79.5			108.3			94.8			41.7	
Approach LOS		E			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	55.5	29.4	42.6	22.5	45.1	25.0	47.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	51.0	24.9	38.1	18.0	51.0	20.5	42.5
Max Q Clear Time (g_c+I1), s	7.4	53.0	24.9	36.3	10.0	19.9	22.5	44.5
Green Ext Time (p_c), s	0.1	0.0	0.0	1.3	0.2	4.4	0.0	0.0

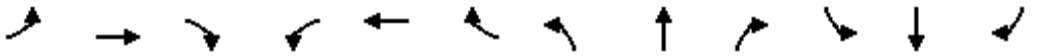
Intersection Summary			
HCM 6th Ctrl Delay		88.0	
HCM 6th LOS		F	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	999	223	179	1179	240	202	641	99	227	945	151
Future Volume (veh/h)	136	999	223	179	1179	240	202	641	99	227	945	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	1086	242	195	1282	261	220	697	108	247	1027	164
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	148	1281	285	218	1229	548	215	1189	182	275	1066	476
Arrive On Green	0.08	0.31	0.31	0.12	0.35	0.35	0.12	0.27	0.27	0.15	0.30	0.30
Sat Flow, veh/h	1781	4177	930	1781	3554	1585	1781	4466	685	1781	3554	1585
Grp Volume(v), veh/h	148	885	443	195	1282	261	220	530	275	247	1027	164
Grp Sat Flow(s),veh/h/ln	1781	1702	1703	1781	1777	1585	1781	1702	1747	1781	1777	1585
Q Serve(g_s), s	10.0	29.2	29.3	12.9	41.5	15.5	14.5	16.2	16.5	16.3	34.1	9.7
Cycle Q Clear(g_c), s	10.0	29.2	29.3	12.9	41.5	15.5	14.5	16.2	16.5	16.3	34.1	9.7
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	148	1044	522	218	1229	548	215	907	465	275	1066	476
V/C Ratio(X)	1.00	0.85	0.85	0.89	1.04	0.48	1.02	0.58	0.59	0.90	0.96	0.34
Avail Cap(c_a), veh/h	148	1044	522	218	1229	548	215	907	465	319	1066	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	39.0	39.0	51.9	39.3	30.7	52.8	38.2	38.3	49.8	41.3	32.8
Incr Delay (d2), s/veh	72.9	6.7	12.4	33.8	37.7	0.6	67.2	2.7	5.5	24.2	20.0	2.0
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	7.4	12.8	13.6	7.7	23.8	5.9	10.4	7.0	7.6	9.0	17.4	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.9	45.6	51.4	85.7	76.9	31.4	119.9	41.0	43.8	74.0	61.4	34.8
LnGrp LOS	F	D	D	F	F	C	F	D	D	E	E	C
Approach Vol, veh/h		1476			1738			1025			1438	
Approach Delay, s/veh		55.6			71.1			58.7			60.5	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	36.5	19.2	41.3	19.0	40.5	14.5	46.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	29.0	14.7	36.8	14.5	36.0	10.0	41.5
Max Q Clear Time (g_c+I1), s	18.3	18.5	14.9	31.3	16.5	36.1	12.0	43.5
Green Ext Time (p_c), s	0.2	3.6	0.0	3.6	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.1
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	794	285	262	1024	33	340	741	242	139	1246	177
Future Volume (veh/h)	99	794	285	262	1024	33	340	741	242	139	1246	177
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	108	863	310	285	1113	36	370	805	263	151	1354	192
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	208	1184	368	349	1386	45	442	1629	506	188	1701	241
Arrive On Green	0.06	0.23	0.23	0.10	0.27	0.27	0.13	0.32	0.32	0.11	0.30	0.30
Sat Flow, veh/h	3456	5106	1585	3456	5081	164	3456	5106	1585	1781	5738	811
Grp Volume(v), veh/h	108	863	310	285	746	403	370	805	263	151	1138	408
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1841	1728	1702	1585	1781	1609	1724
Q Serve(g_s), s	2.3	11.6	13.9	6.0	15.1	15.1	7.8	9.5	10.1	6.1	16.1	16.2
Cycle Q Clear(g_c), s	2.3	11.6	13.9	6.0	15.1	15.1	7.8	9.5	10.1	6.1	16.1	16.2
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	208	1184	368	349	929	502	442	1629	506	188	1431	511
V/C Ratio(X)	0.52	0.73	0.84	0.82	0.80	0.80	0.84	0.49	0.52	0.80	0.80	0.80
Avail Cap(c_a), veh/h	237	1239	384	349	936	506	442	1629	506	228	1431	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	26.3	27.2	32.7	25.1	25.1	31.6	20.4	20.6	32.4	24.0	24.1
Incr Delay (d2), s/veh	2.0	2.1	15.1	13.9	5.1	9.1	13.1	1.1	3.8	15.6	4.7	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.5	6.4	3.0	6.2	7.3	3.8	3.5	3.9	3.3	6.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	28.4	42.3	46.6	30.2	34.2	44.7	21.5	24.4	48.1	28.7	36.3
LnGrp LOS	D	C	D	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		1281			1434			1438			1697	
Approach Delay, s/veh		32.4			34.6			28.0			32.3	
Approach LOS		C			C			C			C	

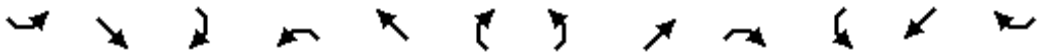
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	28.2	12.0	21.7	14.0	26.5	9.0	24.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	22.0	7.5	18.0	9.5	22.0	5.1	20.4
Max Q Clear Time (g_c+I1), s	8.1	12.1	8.0	15.9	9.8	18.2	4.3	17.1
Green Ext Time (p_c), s	0.0	4.2	0.0	1.4	0.0	2.8	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	333	481	26	240	1604	231	239	1476	318	288	1507	888
Future Volume (veh/h)	333	481	26	240	1604	231	239	1476	318	288	1507	888
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	362	523	28	261	1743	251	260	1604	346	313	1638	965
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	411	591	31	957	1414	439	761	1417	349	911	1346	735
Arrive On Green	0.12	0.12	0.12	0.28	0.28	0.28	0.22	0.22	0.22	0.26	0.26	0.26
Sat Flow, veh/h	3456	4963	264	3456	5106	1585	3456	6434	1585	3456	5106	2790
Grp Volume(v), veh/h	362	358	193	261	1743	251	260	1604	346	313	1638	965
Grp Sat Flow(s),veh/h/ln	1728	1702	1823	1728	1702	1585	1728	1609	1585	1728	1702	1395
Q Serve(g_s), s	15.4	15.5	15.7	8.9	41.5	20.4	9.5	33.0	32.6	11.0	39.5	39.5
Cycle Q Clear(g_c), s	15.4	15.5	15.7	8.9	41.5	20.4	9.5	33.0	32.6	11.0	39.5	39.5
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	405	217	957	1414	439	761	1417	349	911	1346	735
V/C Ratio(X)	0.88	0.88	0.89	0.27	1.23	0.57	0.34	1.13	0.99	0.34	1.22	1.31
Avail Cap(c_a), veh/h	415	409	219	957	1414	439	761	1417	349	911	1346	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.9	65.0	65.0	42.4	54.2	46.5	49.3	58.4	58.3	44.7	55.2	55.2
Incr Delay (d2), s/veh	18.9	19.5	33.1	0.2	111.0	1.8	1.2	68.8	46.0	1.0	104.6	150.1
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	7.8	7.7	9.2	3.8	32.0	8.2	4.2	19.9	17.2	4.8	29.5	28.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.9	84.5	98.1	42.5	165.2	48.3	50.5	127.2	104.3	45.7	159.8	205.3
LnGrp LOS	F	F	F	D	F	D	D	F	F	D	F	F
Approach Vol, veh/h		913			2255			2210			2916	
Approach Delay, s/veh		87.1			138.0			114.6			162.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.5		22.3		44.0		46.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.0		18.0		39.5		41.5				
Max Q Clear Time (g_c+I1), s		35.0		17.7		41.5		43.5				
Green Ext Time (p_c), s		0.0		0.2		0.0		0.0				

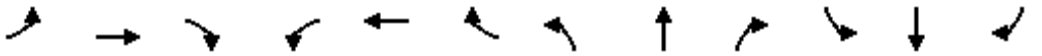
Intersection Summary												
HCM 6th Ctrl Delay			134.8									
HCM 6th LOS			F									



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	80	436	28	385	462	39	92	740	407	79	1108	95
Future Volume (veh/h)	80	436	28	385	462	39	92	740	407	79	1108	95
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	87	474	30	418	502	42	100	804	442	86	1204	103
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	111	696	310	410	1291	576	163	1130	526	110	1148	98
Arrive On Green	0.06	0.20	0.20	0.23	0.36	0.36	0.05	0.33	0.33	0.06	0.35	0.35
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3404	1585	1781	3313	283
Grp Volume(v), veh/h	87	474	30	418	502	42	100	804	442	86	645	662
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1781	1777	1819
Q Serve(g_s), s	4.8	12.3	1.5	22.9	10.4	1.7	2.8	20.6	25.7	4.7	34.5	34.5
Cycle Q Clear(g_c), s	4.8	12.3	1.5	22.9	10.4	1.7	2.8	20.6	25.7	4.7	34.5	34.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	111	696	310	410	1291	576	163	1130	526	110	616	630
V/C Ratio(X)	0.78	0.68	0.10	1.02	0.39	0.07	0.62	0.71	0.84	0.78	1.05	1.05
Avail Cap(c_a), veh/h	188	696	310	410	1291	576	177	1130	526	138	616	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	37.2	32.8	38.3	23.5	20.7	46.6	29.1	30.8	46.1	32.5	32.5
Incr Delay (d2), s/veh	11.2	5.3	0.6	49.8	0.9	0.2	5.5	2.1	11.6	20.3	49.3	49.9
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	2.4	5.7	0.6	15.2	4.3	0.7	1.3	8.5	11.3	2.7	22.7	23.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	42.5	33.4	88.1	24.4	21.0	52.0	31.2	42.4	66.4	81.8	82.4
LnGrp LOS	E	D	C	F	C	C	D	C	D	E	F	F
Approach Vol, veh/h		591			962			1346			1393	
Approach Delay, s/veh		44.2			51.9			36.4			81.2	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	40.7	10.6	37.6	27.4	24.0	9.2	39.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	31.9	7.7	31.9	22.9	19.5	5.1	34.5
Max Q Clear Time (g_c+I1), s	6.8	12.4	6.7	27.7	24.9	14.3	4.8	36.5
Green Ext Time (p_c), s	0.1	3.1	0.0	2.8	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	55.5
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	245	1060	305	131	67	594	1579	229	103	900	24
Future Volume (veh/h)	28	245	1060	305	131	67	594	1579	229	103	900	24
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	30	266	1152	332	142	73	646	1716	249	112	978	26
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	70	1165	560	185	572	560	528	1724	769	116	897	24
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.30	0.49	0.49	0.07	0.25	0.25
Sat Flow, veh/h	119	3296	1585	379	1617	1585	1781	3554	1585	1781	3536	94
Grp Volume(v), veh/h	296	0	1152	332	142	73	646	1716	249	112	491	513
Grp Sat Flow(s),veh/h/ln	1798	1617	1585	379	1617	1585	1781	1777	1585	1781	1777	1853
Q Serve(g_s), s	0.6	0.0	49.5	49.5	8.7	4.4	41.5	67.3	13.4	8.8	35.5	35.5
Cycle Q Clear(g_c), s	17.1	0.0	49.5	49.5	8.7	4.4	41.5	67.3	13.4	8.8	35.5	35.5
Prop In Lane	0.10		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	664	572	560	185	572	560	528	1724	769	116	451	470
V/C Ratio(X)	0.45	0.00	2.06	1.79	0.25	0.13	1.22	1.00	0.32	0.97	1.09	1.09
Avail Cap(c_a), veh/h	664	572	560	185	572	560	528	1724	769	116	451	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	45.3	52.1	32.1	30.7	49.3	35.9	22.0	65.3	52.3	52.3
Incr Delay (d2), s/veh	0.5	0.0	481.2	377.1	0.2	0.1	116.6	20.7	1.1	73.1	69.2	68.3
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	7.9	0.0	94.2	26.1	3.5	1.7	35.1	32.6	5.2	6.3	24.1	25.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	526.4	429.2	32.3	30.8	165.9	56.6	23.1	138.4	121.4	120.6
LnGrp LOS	D	A	F	F	C	C	F	E	C	F	F	F
Approach Vol, veh/h		1448			547			2611			1116	
Approach Delay, s/veh		426.0			273.0			80.4			122.7	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.6	72.4		54.0	46.0	40.0		54.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.1	67.9		49.5	41.5	35.5		49.5				
Max Q Clear Time (g_c+I1), s	10.8	69.3		51.5	43.5	37.5		51.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			194.5									
HCM 6th LOS			F									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	2145	212	0	1441	485	552	1021	5	149	1346	4
Future Volume (veh/h)	0	2145	212	0	1441	485	552	1021	5	149	1346	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2332	230	0	1566	527	600	1110	5	162	1463	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2166	210	0	1626	725	545	1748	8	188	1476	4
Arrive On Green	0.00	0.46	0.46	0.00	0.46	0.46	0.16	0.33	0.33	0.11	0.28	0.28
Sat Flow, veh/h	0	4902	458	0	3647	1585	3456	5247	24	1781	5257	14
Grp Volume(v), veh/h	0	1665	897	0	1566	527	600	720	395	162	947	520
Grp Sat Flow(s),veh/h/ln	0	1702	1788	0	1777	1585	1728	1702	1866	1781	1702	1868
Q Serve(g_s), s	0.0	59.5	59.5	0.0	55.5	35.1	20.5	23.3	23.3	11.6	36.1	36.1
Cycle Q Clear(g_c), s	0.0	59.5	59.5	0.0	55.5	35.1	20.5	23.3	23.3	11.6	36.1	36.1
Prop In Lane	0.00		0.26	0.00		1.00	1.00		0.01	1.00		0.01
Lane Grp Cap(c), veh/h	0	1558	818	0	1626	725	545	1134	622	188	956	524
V/C Ratio(X)	0.00	1.07	1.10	0.00	0.96	0.73	1.10	0.64	0.64	0.86	0.99	0.99
Avail Cap(c_a), veh/h	0	1558	818	0	1626	725	545	1134	622	221	956	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	35.3	35.3	0.0	34.2	28.6	54.7	36.7	36.7	57.2	46.6	46.6
Incr Delay (d2), s/veh	0.0	43.6	61.1	0.0	14.5	3.7	69.1	2.7	4.9	25.2	27.0	37.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	32.7	38.4	0.0	26.0	30.1	14.0	9.9	11.2	6.5	18.4	21.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	78.9	96.3	0.0	48.6	32.3	123.9	39.4	41.6	82.4	73.6	83.8
LnGrp LOS	A	F	F	A	D	C	F	D	D	F	E	F
Approach Vol, veh/h		2562			2093			1715			1629	
Approach Delay, s/veh		85.0			44.5			69.4			77.7	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	41.0		64.0	18.2	47.8		64.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	36.5		59.5	16.1	40.9		59.5				
Max Q Clear Time (g_c+I1), s	22.5	38.1		61.5	13.6	25.3		57.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	6.3		1.7				

Intersection Summary			
HCM 6th Ctrl Delay		69.6	
HCM 6th LOS		E	

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	112	488	84	276	140	0	90	1108	43	29	1471	363
Future Volume (veh/h)	112	488	84	276	140	0	90	1108	43	29	1471	363
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	122	530	91	300	152	0	98	1204	47	32	1599	395
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	533	619	276	369	846		139	2750	107	245	2785	865
Arrive On Green	0.17	0.17	0.17	0.16	0.17	0.00	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	217	5042	197	444	5106	1585
Grp Volume(v), veh/h	122	530	91	300	152	0	98	813	438	32	1599	395
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	217	1702	1835	444	1702	1585
Q Serve(g_s), s	5.4	15.8	5.5	15.0	2.8	0.0	36.9	15.5	15.6	5.1	22.6	16.5
Cycle Q Clear(g_c), s	5.4	15.8	5.5	15.0	2.8	0.0	59.5	15.5	15.6	20.6	22.6	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	533	619	276	369	846		139	1857	1001	245	2785	865
V/C Ratio(X)	0.23	0.86	0.33	0.81	0.18		0.70	0.44	0.44	0.13	0.57	0.46
Avail Cap(c_a), veh/h	533	619	276	384	889		139	1857	1001	245	2785	865
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	43.7	39.5	31.5	39.1	0.0	40.7	14.8	14.8	21.0	16.4	15.0
Incr Delay (d2), s/veh	1.0	14.2	3.2	12.3	0.1	0.0	14.8	0.2	0.3	0.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.1	2.4	7.6	1.2	0.0	3.3	5.8	6.4	0.5	8.5	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	57.9	42.6	43.8	39.2	0.0	55.5	15.0	15.1	21.2	16.7	15.4
LnGrp LOS	C	E	D	D	D		E	B	B	C	B	B
Approach Vol, veh/h		743			452	A		1349			2026	
Approach Delay, s/veh		51.0			42.2			18.0			16.5	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.6	23.5		64.0	22.5	22.6		64.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	19.0		59.5	18.0	19.0		59.5				
Max Q Clear Time (g_c+I1), s	17.0	17.8		61.5	7.4	4.8		24.6				
Green Ext Time (p_c), s	0.1	0.5		0.0	0.2	0.7		19.6				

Intersection Summary			
HCM 6th Ctrl Delay		25.1	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

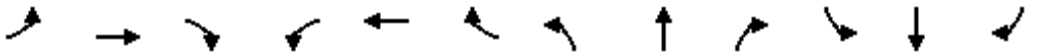
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	304	1467	575	381	1105	365	289	1092	199	412	1348	373
Future Volume (veh/h)	304	1467	575	381	1105	365	289	1092	199	412	1348	373
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	330	1700	555	414	1201	397	314	1187	216	448	1465	405
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	389	1753	495	360	1569	487	274	1494	464	487	1411	387
Arrive On Green	0.11	0.31	0.31	0.10	0.31	0.31	0.08	0.29	0.29	0.14	0.35	0.35
Sat Flow, veh/h	3563	5611	1585	3456	5106	1585	3456	5106	1585	3456	3984	1094
Grp Volume(v), veh/h	330	1700	555	414	1201	397	314	1187	216	448	1250	620
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1585	1728	1702	1585	1728	1702	1674
Q Serve(g_s), s	10.9	35.9	37.5	12.5	25.6	27.8	9.5	25.7	13.4	15.4	42.5	42.5
Cycle Q Clear(g_c), s	10.9	35.9	37.5	12.5	25.6	27.8	9.5	25.7	13.4	15.4	42.5	42.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	389	1753	495	360	1569	487	274	1494	464	487	1206	593
V/C Ratio(X)	0.85	0.97	1.12	1.15	0.77	0.81	1.15	0.79	0.47	0.92	1.04	1.05
Avail Cap(c_a), veh/h	433	1753	495	360	1569	487	274	1494	464	487	1206	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	40.7	41.2	53.8	37.6	38.4	55.3	39.1	34.8	50.9	38.8	38.8
Incr Delay (d2), s/veh	13.4	14.9	77.8	94.8	2.3	10.3	100.4	4.5	3.3	22.9	36.0	49.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	18.0	24.5	10.0	10.5	11.6	7.9	11.0	5.4	8.1	23.0	24.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	55.6	119.0	148.6	39.9	48.7	155.6	43.6	38.1	73.8	74.8	88.2
LnGrp LOS	E	E	F	F	D	D	F	D	D	E	F	F
Approach Vol, veh/h		2585			2012			1717			2318	
Approach Delay, s/veh		70.5			64.0			63.4			78.2	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	47.0	17.0	42.0	21.4	39.6	17.6	41.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	42.5	12.5	37.5	16.9	35.1	14.6	35.4
Max Q Clear Time (g_c+I1), s	11.5	44.5	14.5	39.5	17.4	27.7	12.9	29.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	4.6	0.2	3.8

Intersection Summary	
HCM 6th Ctrl Delay	69.6
HCM 6th LOS	E

Notes

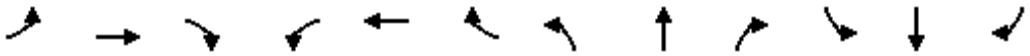
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1085	134	0	1245	449	0	0	91	546	98	804
Future Volume (vph)	0	1085	134	0	1245	449	0	0	91	546	98	804
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor		0.86			0.91	1.00			1.00	0.97	0.91	0.91
Frt		0.98			1.00	0.85			0.86	1.00	0.88	0.85
Flt Protected		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (prot)		6302			5085	1583			1611	3433	2982	1441
Flt Permitted		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (perm)		6302			5085	1583			1611	3433	2982	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1179	146	0	1353	488	0	0	99	593	107	874
RTOR Reduction (vph)	0	34	0	0	0	342	0	0	71	0	1	11
Lane Group Flow (vph)	0	1291	0	0	1353	146	0	0	28	593	543	426
Turn Type		NA			NA	Perm			Perm	Prot	NA	Perm
Protected Phases		4			8					1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)		19.5			19.5	19.5			18.7	13.3	36.5	36.5
Effective Green, g (s)		19.5			19.5	19.5			18.7	13.3	36.5	36.5
Actuated g/C Ratio		0.30			0.30	0.30			0.29	0.20	0.56	0.56
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1890			1525	474			463	702	1674	809
v/s Ratio Prot		0.20			c0.27					c0.17	0.18	
v/s Ratio Perm						0.09			0.02			c0.30
v/c Ratio		0.68			0.89	0.31			0.06	0.84	0.32	0.53
Uniform Delay, d1		20.0			21.7	17.6			16.8	24.9	7.6	8.9
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		1.0			6.6	0.4			0.3	9.2	0.5	2.4
Delay (s)		21.1			28.3	17.9			17.0	34.0	8.2	11.3
Level of Service		C			C	B			B	C	A	B
Approach Delay (s)		21.1			25.6			17.0			18.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

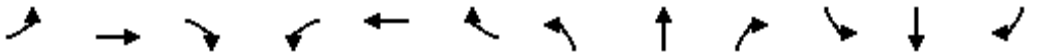
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1454	0	0	1358	940	482	0	364	0	0	0
Future Volume (vph)	0	1454	0	0	1358	940	482	0	364	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5		4.5			
Lane Util. Factor		0.86			0.95	1.00	0.97		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		6408			3539	1583	3433		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		6408			3539	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1580	0	0	1476	1022	524	0	396	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	468	0	0	25	0	0	0
Lane Group Flow (vph)	0	1580	0	0	1476	554	524	0	371	0	0	0
Turn Type		NA			NA	Perm	Perm		Perm			
Protected Phases		4			8							
Permitted Phases						8	2		2			
Actuated Green, G (s)		32.5			32.5	32.5	18.5		18.5			
Effective Green, g (s)		32.5			32.5	32.5	18.5		18.5			
Actuated g/C Ratio		0.54			0.54	0.54	0.31		0.31			
Clearance Time (s)		4.5			4.5	4.5	4.5		4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)		3471			1916	857	1058		859			
v/s Ratio Prot		0.25			c0.42							
v/s Ratio Perm						0.35	c0.15		0.13			
v/c Ratio		0.46			0.77	0.65	0.50		0.43			
Uniform Delay, d1		8.4			10.8	9.7	16.9		16.6			
Progression Factor		1.00			1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.1			2.0	1.7	1.7		1.6			
Delay (s)		8.5			12.8	11.4	18.6		18.1			
Level of Service		A			B	B	B		B			
Approach Delay (s)		8.5			12.2			18.4			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

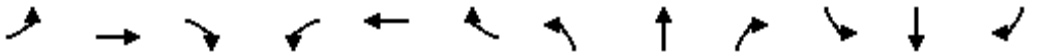
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	1322	169	105	1224	198	238	555	162	296	621	168
Future Volume (veh/h)	107	1322	169	105	1224	198	238	555	162	296	621	168
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	116	1437	184	114	1330	215	259	603	176	322	675	183
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	122	2091	268	155	1467	237	212	822	367	256	911	406
Arrive On Green	0.07	0.46	0.46	0.33	0.33	0.33	0.12	0.23	0.23	0.14	0.26	0.26
Sat Flow, veh/h	1781	4582	586	311	4430	716	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	116	1067	554	114	1022	523	259	603	176	322	675	183
Grp Sat Flow(s),veh/h/ln	1781	1702	1765	311	1702	1741	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.2	19.9	19.9	16.6	23.0	23.0	9.5	12.6	7.7	11.5	14.0	7.8
Cycle Q Clear(g_c), s	5.2	19.9	19.9	26.5	23.0	23.0	9.5	12.6	7.7	11.5	14.0	7.8
Prop In Lane	1.00		0.33	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	1553	805	155	1128	577	212	822	367	256	911	406
V/C Ratio(X)	0.95	0.69	0.69	0.74	0.91	0.91	1.22	0.73	0.48	1.26	0.74	0.45
Avail Cap(c_a), veh/h	122	1553	805	155	1128	577	212	822	367	256	911	406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	17.2	17.2	35.3	25.6	25.6	35.2	28.5	26.6	34.3	27.3	25.0
Incr Delay (d2), s/veh	64.9	1.3	2.5	16.8	10.5	18.1	135.6	5.8	4.5	143.6	5.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	7.6	8.1	2.9	10.6	12.0	12.0	5.9	3.3	15.1	6.5	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.0	18.5	19.7	52.1	36.1	43.6	170.8	34.2	31.0	177.8	32.7	28.6
LnGrp LOS	F	B	B	D	D	D	F	C	C	F	C	C
Approach Vol, veh/h		1737			1659			1038			1180	
Approach Delay, s/veh		24.5			39.6			67.8			71.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	23.0		41.0	14.0	25.0	10.0	31.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	18.5		36.5	9.5	20.5	5.5	26.5
Max Q Clear Time (g_c+I1), s	13.5	14.6		21.9	11.5	16.0	7.2	28.5
Green Ext Time (p_c), s	0.0	1.8		9.8	0.0	2.2	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		46.9
HCM 6th LOS		D



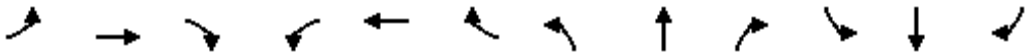
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1190	294	217	658	0	518	0	467	2	0	2
Future Volume (veh/h)	0	1190	294	217	658	0	518	0	467	2	0	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	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	0	1293	320	236	715	0	563	0	508	2	0	2
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	2	1244	555	253	1682	0	574	0	1353	170	19	129
Arrive On Green	0.00	0.35	0.35	0.07	0.47	0.00	0.16	0.00	0.43	0.22	0.00	0.22
Sat Flow, veh/h	1781	3554	1585	3456	3647	0	3563	0	3170	512	88	600
Grp Volume(v), veh/h	0	1293	320	236	715	0	563	0	508	4	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	0	1781	0	1585	1200	0	0
Q Serve(g_s), s	0.0	31.5	14.8	6.1	11.9	0.0	14.2	0.0	9.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	31.5	14.8	6.1	11.9	0.0	14.2	0.0	9.8	0.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.50		0.50
Lane Grp Cap(c), veh/h	2	1244	555	253	1682	0	574	0	1353	319	0	0
V/C Ratio(X)	0.00	1.04	0.58	0.93	0.43	0.00	0.98	0.00	0.38	0.01	0.00	0.00
Avail Cap(c_a), veh/h	99	1244	555	253	1682	0	574	0	1353	319	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	29.3	23.8	41.5	15.6	0.0	37.6	0.0	17.6	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	36.4	1.5	38.3	0.2	0.0	32.6	0.0	0.8	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	19.3	5.7	3.9	4.7	0.0	8.7	0.0	3.7	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	65.7	25.3	79.8	15.8	0.0	70.2	0.0	18.4	27.8	0.0	0.0
LnGrp LOS	A	F	C	E	B	A	E	A	B	C	A	A
Approach Vol, veh/h		1613			951			1071			4	
Approach Delay, s/veh		57.6			31.7			45.6			27.8	
Approach LOS		E			C			D			C	

Timer - Assigned Phs	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.9	11.1	36.0	19.0	23.9	0.0	47.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.4	6.6	31.5	14.5	19.4	5.0	33.1
Max Q Clear Time (g_c+I1), s	11.8	8.1	33.5	16.2	2.2	0.0	13.9
Green Ext Time (p_c), s	2.2	0.0	0.0	0.0	0.0	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	47.3
HCM 6th LOS	D

Notes

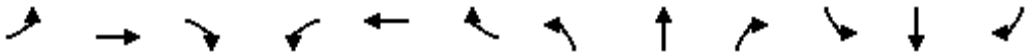
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	1110	43	63	868	74	230	702	114	191	276	106
Future Volume (veh/h)	109	1110	43	63	868	74	230	702	114	191	276	106
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	118	1207	47	68	943	80	250	763	124	208	300	115
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	144	1319	588	87	1125	95	469	936	417	285	405	152
Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.26	0.26	0.26	0.16	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3315	281	1781	3554	1585	1781	2528	949
Grp Volume(v), veh/h	118	1207	47	68	505	518	250	763	124	208	209	206
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1820	1781	1777	1585	1781	1777	1700
Q Serve(g_s), s	7.5	37.2	2.2	4.3	30.2	30.2	13.8	23.2	7.2	12.8	12.9	13.3
Cycle Q Clear(g_c), s	7.5	37.2	2.2	4.3	30.2	30.2	13.8	23.2	7.2	12.8	12.9	13.3
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	144	1319	588	87	603	617	469	936	417	285	285	272
V/C Ratio(X)	0.82	0.92	0.08	0.78	0.84	0.84	0.53	0.82	0.30	0.73	0.73	0.76
Avail Cap(c_a), veh/h	153	1374	613	88	622	637	469	936	417	642	641	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	34.5	23.4	54.1	35.1	35.1	36.3	39.8	33.9	45.9	46.0	46.2
Incr Delay (d2), s/veh	27.3	9.5	0.1	34.9	9.7	9.5	4.3	7.8	1.8	3.6	3.7	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	17.3	0.8	2.8	14.3	14.6	6.5	10.9	3.0	5.9	5.9	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.3	44.0	23.5	89.0	44.8	44.6	40.6	47.5	35.7	49.5	49.6	50.4
LnGrp LOS	E	D	C	F	D	D	D	D	D	D	D	D
Approach Vol, veh/h		1372			1091			1137			623	
Approach Delay, s/veh		46.3			47.4			44.7			49.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.8	10.1	47.2		22.9	13.8	43.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.3	5.7	44.5		41.5	9.9	40.3				
Max Q Clear Time (g_c+I1), s		25.2	6.3	39.2		15.3	9.5	32.2				
Green Ext Time (p_c), s		2.8	0.0	3.5		3.1	0.0	3.9				

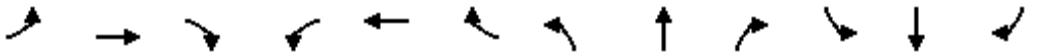
Intersection Summary												
HCM 6th Ctrl Delay			46.7									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	1685	112	82	805	113	107	585	127	113	455	86
Future Volume (veh/h)	102	1685	112	82	805	113	107	585	127	113	455	86
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	111	1832	122	89	875	123	116	636	138	123	495	93
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	143	1948	129	114	1728	242	272	949	206	208	976	183
Arrive On Green	0.08	0.40	0.40	0.06	0.38	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1781	4891	325	1781	4527	633	828	2905	629	696	2988	559
Grp Volume(v), veh/h	111	1274	680	89	657	341	116	389	385	123	293	295
Grp Sat Flow(s),veh/h/ln	1781	1702	1812	1781	1702	1756	828	1777	1757	696	1777	1770
Q Serve(g_s), s	3.9	23.0	23.1	3.1	9.5	9.5	8.4	12.1	12.1	8.8	8.5	8.6
Cycle Q Clear(g_c), s	3.9	23.0	23.1	3.1	9.5	9.5	17.0	12.1	12.1	20.9	8.5	8.6
Prop In Lane	1.00		0.18	1.00		0.36	1.00		0.36	1.00		0.32
Lane Grp Cap(c), veh/h	143	1355	721	114	1299	670	272	581	574	208	581	578
V/C Ratio(X)	0.77	0.94	0.94	0.78	0.51	0.51	0.43	0.67	0.67	0.59	0.51	0.51
Avail Cap(c_a), veh/h	265	1357	722	142	1299	670	272	581	574	208	581	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	18.5	18.5	29.5	15.2	15.2	24.3	18.6	18.6	28.5	17.4	17.4
Incr Delay (d2), s/veh	8.6	12.7	20.7	19.5	0.3	0.6	4.8	6.0	6.1	11.7	3.1	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.9	12.2	1.9	3.2	3.3	1.9	5.5	5.5	2.5	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	31.2	39.3	49.0	15.5	15.8	29.1	24.6	24.7	40.2	20.5	20.6
LnGrp LOS	D	C	D	D	B	B	C	C	C	D	C	C
Approach Vol, veh/h		2065			1087			890			711	
Approach Delay, s/veh		34.2			18.3			25.2			23.9	
Approach LOS		C			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.4	8.6	30.0		25.4	9.6	28.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		20.9	5.1	25.5		20.9	9.5	21.1				
Max Q Clear Time (g_c+I1), s		19.0	5.1	25.1		22.9	5.9	11.5				
Green Ext Time (p_c), s		1.0	0.0	0.3		0.0	0.1	4.2				

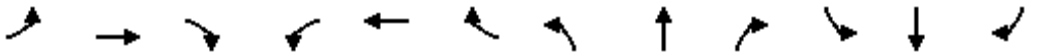
Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	1595	104	125	831	120	143	652	90	190	601	128
Future Volume (veh/h)	205	1595	104	125	831	120	143	652	90	190	601	128
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	223	1734	113	136	903	130	155	709	98	207	653	139
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	259	1791	117	158	1394	200	180	770	343	230	869	387
Arrive On Green	0.15	0.37	0.37	0.09	0.31	0.31	0.10	0.22	0.22	0.13	0.24	0.24
Sat Flow, veh/h	1781	4898	319	1781	4511	647	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	223	1204	643	136	681	352	155	709	98	207	653	139
Grp Sat Flow(s),veh/h/ln	1781	1702	1813	1781	1702	1754	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.0	31.3	31.4	6.8	15.5	15.6	7.7	17.6	4.6	10.3	15.3	6.5
Cycle Q Clear(g_c), s	11.0	31.3	31.4	6.8	15.5	15.6	7.7	17.6	4.6	10.3	15.3	6.5
Prop In Lane	1.00		0.18	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	1244	663	158	1052	542	180	770	343	230	869	387
V/C Ratio(X)	0.86	0.97	0.97	0.86	0.65	0.65	0.86	0.92	0.29	0.90	0.75	0.36
Avail Cap(c_a), veh/h	303	1244	663	158	1052	542	180	770	343	230	869	387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	28.0	28.1	40.4	26.9	26.9	39.8	34.5	29.4	38.6	31.5	28.2
Incr Delay (d2), s/veh	19.2	18.3	27.5	34.8	1.4	2.7	31.9	18.0	2.1	34.3	6.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	15.0	17.8	4.4	6.2	6.7	4.9	9.3	1.9	6.6	7.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	46.3	55.6	75.3	28.3	29.6	71.8	52.5	31.5	72.9	37.4	30.7
LnGrp LOS	E	D	E	E	C	C	E	D	C	E	D	C
Approach Vol, veh/h		2070			1169			962			999	
Approach Delay, s/veh		50.3			34.1			53.5			43.8	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	24.0	12.5	37.4	13.6	26.5	17.6	32.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.6	19.5	8.0	32.9	9.1	22.0	15.3	25.6
Max Q Clear Time (g_c+I1), s	12.3	19.6	8.8	33.4	9.7	17.3	13.0	17.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.0	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D



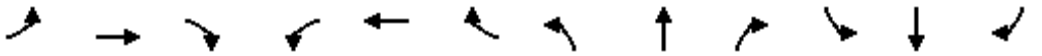
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	296	0	521	337	795	0	0	1164	153
Future Volume (veh/h)	0	0	0	296	0	521	337	795	0	0	1164	153
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
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	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				322	0	566	366	864	0	0	1265	166
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	2	2	2	2	0	0	2	2
Cap, veh/h				1178	0	524	452	1886	0	0	1511	198
Arrive On Green				0.33	0.00	0.33	0.13	0.53	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3563	0	1585	3456	3647	0	0	4736	599
Grp Volume(v), veh/h				322	0	566	366	864	0	0	943	488
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1777	0	0	1702	1762
Q Serve(g_s), s				4.3	0.0	21.5	6.7	9.8	0.0	0.0	16.7	16.7
Cycle Q Clear(g_c), s				4.3	0.0	21.5	6.7	9.8	0.0	0.0	16.7	16.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.34
Lane Grp Cap(c), veh/h				1178	0	524	452	1886	0	0	1126	583
V/C Ratio(X)				0.27	0.00	1.08	0.81	0.46	0.00	0.00	0.84	0.84
Avail Cap(c_a), veh/h				1178	0	524	452	1886	0	0	1126	583
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.0	0.0	21.8	27.5	9.5	0.0	0.0	20.1	20.1
Incr Delay (d2), s/veh				0.1	0.0	62.5	10.6	0.8	0.0	0.0	7.5	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				1.5	0.0	15.8	3.3	3.4	0.0	0.0	7.2	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.1	0.0	84.2	38.1	10.3	0.0	0.0	27.6	33.6
LnGrp LOS				B	A	F	D	B	A	A	C	C
Approach Vol, veh/h					888			1230			1431	
Approach Delay, s/veh					59.5			18.5			29.6	
Approach LOS					E			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		39.0			13.0	26.0		26.0				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		34.5			8.5	21.5		21.5				
Max Q Clear Time (g_c+I1), s		11.8			8.7	18.7		23.5				
Green Ext Time (p_c), s		6.5			0.0	2.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			33.3									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



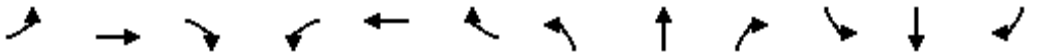
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	0	631	0	0	0	0	995	378	439	1018	0
Future Volume (veh/h)	214	0	631	0	0	0	0	995	378	439	1018	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
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	1870	1870	0
Adj Flow Rate, veh/h	155	0	769				0	1082	411	477	1107	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	458	0	815				0	1375	613	563	2183	0
Arrive On Green	0.26	0.00	0.26				0.00	0.39	0.39	0.16	0.61	0.00
Sat Flow, veh/h	1781	0	3170				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	155	0	769				0	1082	411	477	1107	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1777	1585	1728	1777	0
Q Serve(g_s), s	5.0	0.0	16.7				0.0	18.8	15.0	9.4	12.2	0.0
Cycle Q Clear(g_c), s	5.0	0.0	16.7				0.0	18.8	15.0	9.4	12.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	458	0	815				0	1375	613	563	2183	0
V/C Ratio(X)	0.34	0.00	0.94				0.00	0.79	0.67	0.85	0.51	0.00
Avail Cap(c_a), veh/h	458	0	815				0	1375	613	568	2183	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.2	0.0	25.5				0.0	18.9	17.8	28.4	7.6	0.0
Incr Delay (d2), s/veh	0.4	0.0	19.1				0.0	4.6	5.7	11.4	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	1.9	0.0	7.8				0.0	7.9	6.0	4.6	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	44.6				0.0	23.5	23.5	39.8	8.4	0.0
LnGrp LOS	C	A	D				A	C	C	D	A	A
Approach Vol, veh/h		924						1493			1584	
Approach Delay, s/veh		40.8						23.5			17.9	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.9	31.6		22.5		47.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	11.5	27.0		18.0		43.0						
Max Q Clear Time (g_c+I1), s	11.4	20.8		18.7		14.2						
Green Ext Time (p_c), s	0.0	4.3		0.0		9.6						

Intersection Summary												
HCM 6th Ctrl Delay			25.3									
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)	18	17	63	139	16	181	29	1230	283	91	854	15
Future Volume (veh/h)	18	17	63	139	16	181	29	1230	283	91	854	15
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	20	18	68	151	17	197	32	1337	308	99	928	16
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	69	68	159	250	20	288	433	2015	456	211	2502	43
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.70	0.70	0.70	0.70	0.70	0.70
Sat Flow, veh/h	105	338	794	872	98	1442	594	2879	651	304	3574	62
Grp Volume(v), veh/h	106	0	0	168	0	197	32	816	829	99	461	483
Grp Sat Flow(s),veh/h/ln	1238	0	0	970	0	1442	594	1777	1753	304	1777	1859
Q Serve(g_s), s	0.3	0.0	0.0	4.3	0.0	11.4	2.1	22.9	24.2	24.7	9.5	9.5
Cycle Q Clear(g_c), s	11.7	0.0	0.0	16.0	0.0	11.4	11.5	22.9	24.2	49.0	9.5	9.5
Prop In Lane	0.19		0.64	0.90		1.00	1.00		0.37	1.00		0.03
Lane Grp Cap(c), veh/h	295	0	0	270	0	288	433	1244	1227	211	1244	1301
V/C Ratio(X)	0.36	0.00	0.00	0.62	0.00	0.68	0.07	0.66	0.68	0.47	0.37	0.37
Avail Cap(c_a), veh/h	295	0	0	270	0	288	433	1244	1227	211	1244	1301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	0.0	36.2	0.0	33.4	7.8	7.5	7.7	21.6	5.5	5.5
Incr Delay (d2), s/veh	0.7	0.0	0.0	4.4	0.0	6.5	0.3	2.7	3.0	7.3	0.9	0.8
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	2.0	0.0	0.0	3.9	0.0	4.4	0.3	7.9	8.3	2.1	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	0.0	40.6	0.0	39.8	8.1	10.2	10.7	28.9	6.3	6.3
LnGrp LOS	C	A	A	D	A	D	A	B	B	C	A	A
Approach Vol, veh/h		106			365			1677			1043	
Approach Delay, s/veh		31.6			40.2			10.4			8.5	
Approach LOS		C			D			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.5		22.5		67.5		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		63.0		18.0		63.0		18.0				
Max Q Clear Time (g_c+I1), s		26.2		13.7		51.0		18.0				
Green Ext Time (p_c), s		18.4		0.2		6.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.9									
HCM 6th LOS			B									

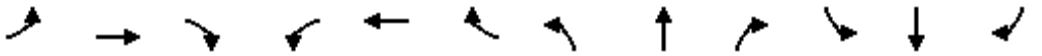
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Volume (veh/h)	306	309	0	1227	266	2	1032	242	0	0
Future Volume (veh/h)	306	309	0	1227	266	2	1032	242	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	333	336	0	1334	289	2	1122	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2	2	2	2	2		
Cap, veh/h	475	422	0	2322	503	73	1924			
Arrive On Green	0.27	0.27	0.00	0.55	0.55	0.55	0.55	0.00		
Sat Flow, veh/h	1781	1585	0	4370	909	1	3482	1585		
Grp Volume(v), veh/h	333	336	0	1081	542	602	522	0		
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1707	1866	1617	1585		
Q Serve(g_s), s	8.4	9.8	0.0	10.4	10.4	0.0	10.6	0.0		
Cycle Q Clear(g_c), s	8.4	9.8	0.0	10.4	10.4	10.6	10.6	0.0		
Prop In Lane	1.00	1.00	0.00		0.53	0.00		1.00		
Lane Grp Cap(c), veh/h	475	422	0	1881	943	1104	894			
V/C Ratio(X)	0.70	0.80	0.00	0.57	0.58	0.55	0.58			
Avail Cap(c_a), veh/h	662	589	0	1881	943	1104	894			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	16.5	17.0	0.0	7.3	7.3	7.3	7.4	0.0		
Incr Delay (d2), s/veh	1.9	5.1	0.0	1.3	2.5	1.9	2.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.3	3.8	0.0	2.9	3.3	3.5	3.2	0.0		
Unsig. Movement Delay, s/veh										
LnGrp Delay(d),s/veh	18.4	22.1	0.0	8.6	9.8	9.3	10.1	0.0		
LnGrp LOS	B	C	A	A	A	A	B			
Approach Vol, veh/h	669			1623			1124	A		
Approach Delay, s/veh	20.3			9.0			9.7			
Approach LOS	C			A			A			

Timer - Assigned Phs		2		4		6				
Phs Duration (G+Y+Rc), s		32.0		17.8		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5				
Max Green Setting (Gmax), s		27.5		18.5		27.5				
Max Q Clear Time (g_c+I1), s		12.4		11.8		12.6				
Green Ext Time (p_c), s		9.8		1.4		6.6				

Intersection Summary										
HCM 6th Ctrl Delay			11.4							
HCM 6th LOS			B							

Notes

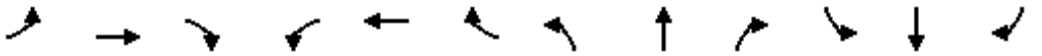
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	1610	157	131	914	83	143	725	203	107	626	100
Future Volume (veh/h)	81	1610	157	131	914	83	143	725	203	107	626	100
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	88	1750	171	142	993	90	155	788	221	116	680	109
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	114	1744	170	160	1882	170	223	1324	590	198	1143	183
Arrive On Green	0.06	0.37	0.37	0.09	0.39	0.39	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	4731	461	1781	4766	431	687	3554	1585	559	3068	491
Grp Volume(v), veh/h	88	1258	663	142	709	374	155	788	221	116	394	395
Grp Sat Flow(s),veh/h/ln	1781	1702	1787	1781	1702	1793	687	1777	1585	559	1777	1782
Q Serve(g_s), s	3.9	29.5	29.5	6.3	12.7	12.8	15.5	14.3	8.1	15.5	14.3	14.3
Cycle Q Clear(g_c), s	3.9	29.5	29.5	6.3	12.7	12.8	29.8	14.3	8.1	29.8	14.3	14.3
Prop In Lane	1.00		0.26	1.00		0.24	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	114	1255	659	160	1345	708	223	1324	590	198	662	664
V/C Ratio(X)	0.77	1.00	1.01	0.89	0.53	0.53	0.70	0.60	0.37	0.59	0.59	0.60
Avail Cap(c_a), veh/h	207	1255	659	160	1345	708	223	1324	590	198	662	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	25.2	25.3	36.0	18.5	18.5	33.4	20.2	18.3	32.8	20.2	20.2
Incr Delay (d2), s/veh	10.7	25.9	36.6	40.1	0.4	0.7	16.5	2.0	1.8	12.0	3.9	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	2.0	15.4	18.1	4.4	4.7	5.0	4.0	6.0	3.1	2.9	6.3	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	51.1	61.9	76.1	18.9	19.2	49.8	22.2	20.1	44.8	24.1	24.2
LnGrp LOS	D	F	F	E	B	B	D	C	C	D	C	C
Approach Vol, veh/h		2009			1225			1164			905	
Approach Delay, s/veh		54.5			25.6			25.5			26.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.3	11.7	34.0		34.3	9.6	36.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		29.8	7.2	29.5		29.8	9.3	27.4				
Max Q Clear Time (g_c+I1), s		31.8	8.3	31.5		31.8	5.9	14.8				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	5.6				

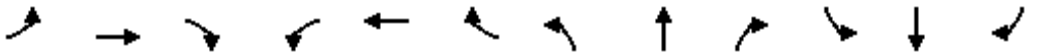
Intersection Summary												
HCM 6th Ctrl Delay			36.7									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1732	117	169	933	149	88	513	319	95	578	126
Future Volume (veh/h)	101	1732	117	169	933	149	88	513	319	95	578	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	1883	127	184	1014	162	96	558	347	103	628	137
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	141	2054	138	221	2066	329	183	1012	451	184	1012	451
Arrive On Green	0.08	0.42	0.42	0.12	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	4887	329	1781	4439	708	702	3554	1585	616	3554	1585
Grp Volume(v), veh/h	110	1310	700	184	777	399	96	558	347	103	628	137
Grp Sat Flow(s),veh/h/ln	1781	1702	1811	1781	1702	1743	702	1777	1585	616	1777	1585
Q Serve(g_s), s	4.8	28.7	28.9	8.0	12.5	12.5	10.4	10.5	15.8	12.0	12.1	5.3
Cycle Q Clear(g_c), s	4.8	28.7	28.9	8.0	12.5	12.5	22.5	10.5	15.8	22.5	12.1	5.3
Prop In Lane	1.00		0.18	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	1430	761	221	1584	811	183	1012	451	184	1012	451
V/C Ratio(X)	0.78	0.92	0.92	0.83	0.49	0.49	0.52	0.55	0.77	0.56	0.62	0.30
Avail Cap(c_a), veh/h	237	1443	768	237	1584	811	183	1012	451	184	1012	451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	21.6	21.7	33.8	14.6	14.6	34.5	24.0	25.9	34.1	24.6	22.1
Incr Delay (d2), s/veh	9.0	9.4	16.2	20.5	0.2	0.5	10.3	2.2	11.9	11.7	2.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	12.1	14.4	4.6	4.4	4.6	2.3	4.6	7.1	2.5	5.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	31.0	37.8	54.3	14.9	15.1	44.9	26.2	37.8	45.8	27.4	23.9
LnGrp LOS	D	C	D	D	B	B	D	C	D	D	C	C
Approach Vol, veh/h		2120			1360			1001			868	
Approach Delay, s/veh		33.9			20.3			32.0			29.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	14.3	37.7		27.0	10.8	41.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		22.5	10.5	33.5		22.5	10.5	33.5				
Max Q Clear Time (g_c+I1), s		24.5	10.0	30.9		24.5	6.8	14.5				
Green Ext Time (p_c), s		0.0	0.0	2.3		0.0	0.1	7.7				

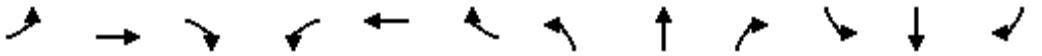
Intersection Summary												
HCM 6th Ctrl Delay			29.3									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	1729	91	83	1096	190	64	473	37	223	676	246
Future Volume (veh/h)	242	1729	91	83	1096	190	64	473	37	223	676	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	1870	1870	1870
Adj Flow Rate, veh/h	263	1879	99	90	1191	207	70	514	40	242	735	267
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	297	2015	106	115	1327	231	216	743	58	339	1004	448
Arrive On Green	0.17	0.41	0.41	0.06	0.30	0.30	0.05	0.22	0.22	0.11	0.28	0.28
Sat Flow, veh/h	1781	4966	261	1781	4377	761	1781	3341	259	1781	3554	1585
Grp Volume(v), veh/h	263	1287	691	90	926	472	70	273	281	242	735	267
Grp Sat Flow(s),veh/h/ln	1781	1702	1823	1781	1702	1733	1781	1777	1824	1781	1777	1585
Q Serve(g_s), s	12.9	32.3	32.5	4.5	23.3	23.3	2.7	12.6	12.7	9.1	16.7	13.0
Cycle Q Clear(g_c), s	12.9	32.3	32.5	4.5	23.3	23.3	2.7	12.6	12.7	9.1	16.7	13.0
Prop In Lane	1.00		0.14	1.00		0.44	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	297	1381	740	115	1032	525	216	395	406	339	1004	448
V/C Ratio(X)	0.88	0.93	0.93	0.78	0.90	0.90	0.32	0.69	0.69	0.71	0.73	0.60
Avail Cap(c_a), veh/h	309	1389	744	121	1032	525	236	395	406	339	1004	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	25.4	25.4	41.2	29.8	29.8	25.7	31.9	32.0	23.5	29.0	27.7
Incr Delay (d2), s/veh	24.2	11.5	18.9	26.6	10.5	18.1	0.9	9.5	9.4	7.0	4.7	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	14.3	16.9	2.8	10.5	11.9	1.2	6.3	6.5	4.4	7.7	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	36.9	44.3	67.8	40.3	48.0	26.6	41.4	41.4	30.5	33.7	33.4
LnGrp LOS	E	D	D	E	D	D	C	D	D	C	C	C
Approach Vol, veh/h		2241			1488			624			1244	
Approach Delay, s/veh		42.0			44.4			39.7			33.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	24.4	10.3	40.8	8.6	29.8	19.4	31.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	19.9	6.1	36.5	5.1	24.3	15.5	27.1
Max Q Clear Time (g_c+I1), s	11.1	14.7	6.5	34.5	4.7	18.7	14.9	25.3
Green Ext Time (p_c), s	0.0	1.5	0.0	1.8	0.0	2.9	0.1	1.4

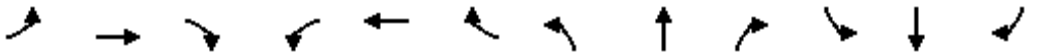
Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	1462	21	294	1387	50	164	828	298	199	955	230
Future Volume (veh/h)	248	1462	21	294	1387	50	164	828	298	199	955	230
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	270	1589	23	320	1508	54	178	900	324	216	1038	250
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	266	1454	21	283	1467	53	281	852	306	239	1128	503
Arrive On Green	0.15	0.28	0.28	0.16	0.29	0.29	0.12	0.33	0.33	0.11	0.32	0.32
Sat Flow, veh/h	1781	5186	75	1781	5061	181	1781	2563	919	1781	3554	1585
Grp Volume(v), veh/h	270	1043	569	320	1014	548	178	623	601	216	1038	250
Grp Sat Flow(s),veh/h/ln	1781	1702	1857	1781	1702	1838	1781	1777	1705	1781	1777	1585
Q Serve(g_s), s	22.1	41.5	41.5	23.5	42.9	42.9	9.2	49.2	49.2	13.6	41.7	18.9
Cycle Q Clear(g_c), s	22.1	41.5	41.5	23.5	42.9	42.9	9.2	49.2	49.2	13.6	41.7	18.9
Prop In Lane	1.00		0.04	1.00		0.10	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	266	955	521	283	987	533	281	591	567	239	1128	503
V/C Ratio(X)	1.01	1.09	1.09	1.13	1.03	1.03	0.63	1.05	1.06	0.91	0.92	0.50
Avail Cap(c_a), veh/h	266	955	521	283	987	533	281	591	567	265	1177	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.9	53.2	53.2	62.2	52.5	52.5	33.1	49.4	49.4	44.4	48.7	40.9
Incr Delay (d2), s/veh	59.1	57.7	67.0	93.6	36.0	46.3	10.5	52.1	54.8	30.0	11.4	0.8
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	14.2	25.1	28.7	17.9	22.9	26.3	4.7	29.9	29.1	9.9	19.9	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.0	111.0	120.3	155.9	88.5	98.9	43.5	101.5	104.2	74.4	60.1	41.7
LnGrp LOS	F	F	F	F	F	F	D	F	F	E	E	D
Approach Vol, veh/h		1882			1882			1402			1504	
Approach Delay, s/veh		115.4			103.0			95.3			59.1	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	53.7	28.0	46.0	22.5	51.5	26.6	47.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	49.0	23.5	41.5	18.0	49.0	22.1	42.9
Max Q Clear Time (g_c+I1), s	15.6	51.2	25.5	43.5	11.2	43.7	24.1	44.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.2	3.3	0.0	0.0

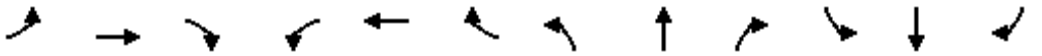
Intersection Summary	
HCM 6th Ctrl Delay	95.0
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	1275	160	267	1084	347	327	1257	305	287	806	208
Future Volume (veh/h)	229	1275	160	267	1084	347	327	1257	305	287	806	208
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	249	1386	174	290	1178	377	355	1366	332	312	876	226
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	223	1263	159	248	1028	459	351	1245	302	274	924	412
Arrive On Green	0.13	0.28	0.28	0.14	0.29	0.29	0.20	0.30	0.30	0.15	0.26	0.26
Sat Flow, veh/h	1781	4594	577	1781	3554	1585	1781	4101	995	1781	3554	1585
Grp Volume(v), veh/h	249	1027	533	290	1178	377	355	1133	565	312	876	226
Grp Sat Flow(s),veh/h/ln	1781	1702	1767	1781	1777	1585	1781	1702	1691	1781	1777	1585
Q Serve(g_s), s	17.5	38.5	38.5	19.5	40.5	31.1	27.6	42.5	42.5	21.5	33.9	17.2
Cycle Q Clear(g_c), s	17.5	38.5	38.5	19.5	40.5	31.1	27.6	42.5	42.5	21.5	33.9	17.2
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	223	936	486	248	1028	459	351	1033	513	274	924	412
V/C Ratio(X)	1.12	1.10	1.10	1.17	1.15	0.82	1.01	1.10	1.10	1.14	0.95	0.55
Avail Cap(c_a), veh/h	223	936	486	248	1028	459	351	1033	513	274	924	412
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	50.8	50.8	60.3	49.7	46.4	56.2	48.7	48.8	59.3	50.9	44.7
Incr Delay (d2), s/veh	95.7	59.6	69.9	110.5	77.3	11.5	50.8	58.3	69.7	97.8	19.4	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	23.8	26.1	16.3	28.6	13.5	17.1	26.0	27.4	17.0	17.3	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.0	110.3	120.7	170.8	127.1	57.8	107.0	107.1	118.5	157.0	70.3	49.9
LnGrp LOS	F	F	F	F	F	E	F	F	F	F	E	D
Approach Vol, veh/h		1809			1845			2053			1414	
Approach Delay, s/veh		119.8			119.8			110.2			86.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	47.0	24.0	43.0	32.1	40.9	22.0	45.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	42.5	19.5	38.5	27.6	36.4	17.5	40.5
Max Q Clear Time (g_c+I1), s	23.5	44.5	21.5	40.5	29.6	35.9	19.5	42.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

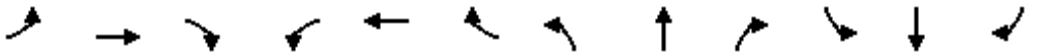
Intersection Summary	
HCM 6th Ctrl Delay	110.4
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	1377	332	255	816	82	378	1369	432	118	969	124
Future Volume (veh/h)	321	1377	332	255	816	82	378	1369	432	118	969	124
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	349	1497	361	277	887	89	411	1488	470	128	1053	135
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	424	1560	484	326	1308	131	486	1617	502	148	1510	192
Arrive On Green	0.12	0.31	0.31	0.09	0.28	0.28	0.14	0.32	0.32	0.08	0.26	0.26
Sat Flow, veh/h	3456	5106	1585	3456	4718	472	3456	5106	1585	1781	5823	740
Grp Volume(v), veh/h	349	1497	361	277	639	337	411	1488	470	128	871	317
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1785	1728	1702	1585	1781	1609	1737
Q Serve(g_s), s	8.9	25.9	18.4	7.1	15.0	15.1	10.4	25.3	25.9	6.4	14.7	14.9
Cycle Q Clear(g_c), s	8.9	25.9	18.4	7.1	15.0	15.1	10.4	25.3	25.9	6.4	14.7	14.9
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	424	1560	484	326	944	495	486	1617	502	148	1251	450
V/C Ratio(X)	0.82	0.96	0.75	0.85	0.68	0.68	0.85	0.92	0.94	0.86	0.70	0.70
Avail Cap(c_a), veh/h	468	1560	484	326	944	495	530	1617	502	148	1251	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	30.7	28.1	40.1	28.9	29.0	37.7	29.7	29.9	40.7	30.1	30.2
Incr Delay (d2), s/veh	10.4	14.3	6.2	18.5	2.0	3.8	11.3	10.0	27.1	37.2	3.2	8.9
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	4.2	12.0	7.4	3.7	6.0	6.6	4.9	11.0	13.0	4.2	5.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	45.0	34.3	58.7	30.9	32.7	49.0	39.7	57.0	77.9	33.4	39.1
LnGrp LOS	D	D	C	E	C	C	D	D	E	E	C	D
Approach Vol, veh/h		2207			1253			2369			1316	
Approach Delay, s/veh		43.9			37.5			44.7			39.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	33.0	13.0	32.0	17.2	27.8	15.5	29.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	28.5	8.5	27.5	13.8	22.2	12.2	23.8
Max Q Clear Time (g_c+I1), s	8.4	27.9	9.1	27.9	12.4	16.9	10.9	17.1
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.2	3.1	0.2	3.2

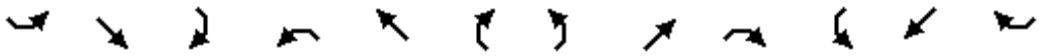
Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1050	1438	302	284	543	313	63	1711	236	298	1833	514
Future Volume (veh/h)	1050	1438	302	284	543	313	63	1711	236	298	1833	514
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	1141	1563	328	309	590	340	68	1860	257	324	1992	559
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	887	1086	227	415	613	190	806	1501	370	933	1379	753
Arrive On Green	0.26	0.26	0.26	0.12	0.12	0.12	0.23	0.23	0.23	0.27	0.27	0.27
Sat Flow, veh/h	3456	4233	883	3456	5106	1585	3456	6434	1585	3456	5106	2790
Grp Volume(v), veh/h	1141	1255	636	309	590	340	68	1860	257	324	1992	559
Grp Sat Flow(s),veh/h/ln	1728	1702	1711	1728	1702	1585	1728	1609	1585	1728	1702	1395
Q Serve(g_s), s	38.5	38.5	38.5	13.0	17.2	18.0	2.3	35.0	22.3	11.3	40.5	27.4
Cycle Q Clear(g_c), s	38.5	38.5	38.5	13.0	17.2	18.0	2.3	35.0	22.3	11.3	40.5	27.4
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	887	874	439	415	613	190	806	1501	370	933	1379	753
V/C Ratio(X)	1.29	1.44	1.45	0.75	0.96	1.79	0.08	1.24	0.69	0.35	1.44	0.74
Avail Cap(c_a), veh/h	887	874	439	415	613	190	806	1501	370	933	1379	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	55.8	55.8	63.8	65.7	66.0	45.0	57.5	52.6	44.1	54.8	50.0
Incr Delay (d2), s/veh	137.4	203.0	213.8	7.2	27.3	374.7	0.2	113.4	10.3	1.0	204.4	6.5
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	33.4	40.9	42.4	6.1	9.0	27.0	1.0	25.7	9.8	4.9	43.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	193.2	258.8	269.6	71.0	92.9	440.7	45.2	170.9	62.9	45.1	259.1	56.5
LnGrp LOS	F	F	F	E	F	F	D	F	E	D	F	E
Approach Vol, veh/h		3032			1239			2185			2875	
Approach Delay, s/veh		236.4			182.9			154.3			195.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.5		43.0		45.0		22.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		35.0		38.5		40.5		18.0				
Max Q Clear Time (g_c+I1), s		37.0		40.5		42.5		20.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

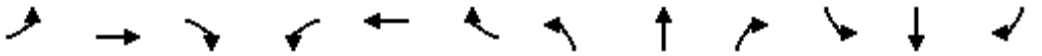
Intersection Summary												
HCM 6th Ctrl Delay			197.5									
HCM 6th LOS			F									



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	123	652	51	423	589	70	125	1075	435	96	719	162
Future Volume (veh/h)	123	652	51	423	589	70	125	1075	435	96	719	162
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	134	709	55	460	640	76	136	1168	473	104	782	176
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	164	724	323	462	1318	588	194	1097	443	118	915	206
Arrive On Green	0.09	0.20	0.20	0.26	0.37	0.37	0.06	0.31	0.31	0.07	0.32	0.32
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3571	1443	1781	2882	649
Grp Volume(v), veh/h	134	709	55	460	640	76	136	1113	528	104	482	476
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1611	1781	1777	1754
Q Serve(g_s), s	8.1	21.8	3.1	28.4	15.2	3.5	4.3	33.8	33.8	6.4	28.0	28.0
Cycle Q Clear(g_c), s	8.1	21.8	3.1	28.4	15.2	3.5	4.3	33.8	33.8	6.4	28.0	28.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.37
Lane Grp Cap(c), veh/h	164	724	323	462	1318	588	194	1046	495	118	564	557
V/C Ratio(X)	0.82	0.98	0.17	1.00	0.49	0.13	0.70	1.06	1.07	0.88	0.85	0.85
Avail Cap(c_a), veh/h	257	724	323	462	1318	588	207	1046	495	118	564	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	43.6	36.1	40.7	26.5	22.9	51.0	38.1	38.1	50.9	35.2	35.2
Incr Delay (d2), s/veh	10.9	28.9	1.1	41.0	1.3	0.5	9.4	46.6	59.4	47.9	12.2	12.3
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	4.1	12.3	1.3	17.2	6.4	1.4	2.1	20.6	21.2	4.4	13.8	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	72.4	37.3	81.7	27.8	23.3	60.4	84.7	97.5	98.9	47.3	47.5
LnGrp LOS	E	E	D	F	C	C	E	F	F	F	D	D
Approach Vol, veh/h		898			1176			1777			1062	
Approach Delay, s/veh		68.4			48.6			86.6			52.5	
Approach LOS		E			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	45.3	11.8	38.3	33.0	26.9	10.7	39.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.9	35.0	7.3	33.8	28.5	22.4	6.6	34.5
Max Q Clear Time (g_c+I1), s	10.1	17.2	8.4	35.8	30.4	23.8	6.3	30.0
Green Ext Time (p_c), s	0.1	4.1	0.0	0.0	0.0	0.0	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	66.8
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	220	521	59	260	101	462	928	76	64	1241	31
Future Volume (veh/h)	67	220	521	59	260	101	462	928	76	64	1241	31
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	73	239	566	64	283	110	502	1009	83	70	1349	34
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	101	299	293	88	323	293	511	2236	997	90	1392	35
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.29	0.63	0.63	0.05	0.39	0.39
Sat Flow, veh/h	159	1617	1585	140	1746	1585	1781	3554	1585	1781	3542	89
Grp Volume(v), veh/h	73	239	566	88	259	110	502	1009	83	70	676	707
Grp Sat Flow(s),veh/h/ln	159	1617	1585	269	1617	1585	1781	1777	1585	1781	1777	1854
Q Serve(g_s), s	3.0	14.1	18.5	4.4	15.5	6.1	28.0	14.7	2.0	3.9	37.3	37.4
Cycle Q Clear(g_c), s	18.5	14.1	18.5	18.5	15.5	6.1	28.0	14.7	2.0	3.9	37.3	37.4
Prop In Lane	1.00		1.00	0.73		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	101	299	293	112	299	293	511	2236	997	90	698	729
V/C Ratio(X)	0.72	0.80	1.93	0.79	0.87	0.38	0.98	0.45	0.08	0.77	0.97	0.97
Avail Cap(c_a), veh/h	101	299	293	112	299	293	511	2236	997	169	698	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	39.0	40.8	46.2	39.5	35.7	35.4	9.6	7.3	46.9	29.7	29.8
Incr Delay (d2), s/veh	21.9	14.2	431.0	30.0	22.3	0.8	35.0	0.7	0.2	13.1	27.1	26.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.7	42.2	3.1	7.9	2.4	16.5	5.1	0.7	2.0	20.0	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.3	53.1	471.7	76.2	61.9	36.5	70.4	10.3	7.4	60.0	56.9	56.5
LnGrp LOS	E	D	F	E	E	D	E	B	A	E	E	E
Approach Vol, veh/h		878			457			1594			1453	
Approach Delay, s/veh		324.5			58.5			29.1			56.9	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	67.4		23.0	33.2	43.8		23.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	58.5		18.5	28.7	39.3		18.5				
Max Q Clear Time (g_c+I1), s	5.9	16.7		20.5	30.0	39.4		20.5				
Green Ext Time (p_c), s	0.0	8.8		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		100.5	
HCM 6th LOS		F	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	1654	141	0	1738	488	565	1088	10	244	1070	10
Future Volume (veh/h)	0	1654	141	0	1738	488	565	1088	10	244	1070	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1798	153	0	1889	530	614	1183	11	265	1163	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	0	2	2	2	2	2	2	2	2
Cap, veh/h	0	2377	202	0	1762	786	590	1256	12	269	1152	11
Arrive On Green	0.00	0.50	0.50	0.00	0.50	0.50	0.17	0.24	0.24	0.15	0.22	0.22
Sat Flow, veh/h	0	4963	407	0	3647	1585	3456	5217	49	1781	5216	49
Grp Volume(v), veh/h	0	1275	676	0	1889	530	614	772	422	265	759	415
Grp Sat Flow(s),veh/h/ln	0	1702	1797	0	1777	1585	1728	1702	1862	1781	1702	1861
Q Serve(g_s), s	0.0	36.2	36.5	0.0	59.5	30.4	20.5	26.7	26.7	17.8	26.5	26.5
Cycle Q Clear(g_c), s	0.0	36.2	36.5	0.0	59.5	30.4	20.5	26.7	26.7	17.8	26.5	26.5
Prop In Lane	0.00		0.23	0.00		1.00	1.00		0.03	1.00		0.03
Lane Grp Cap(c), veh/h	0	1688	891	0	1762	786	590	820	448	269	752	411
V/C Ratio(X)	0.00	0.76	0.76	0.00	1.07	0.67	1.04	0.94	0.94	0.99	1.01	1.01
Avail Cap(c_a), veh/h	0	1688	891	0	1762	786	590	820	448	269	752	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	24.4	24.4	0.0	30.3	22.9	49.8	44.7	44.7	50.8	46.8	46.8
Incr Delay (d2), s/veh	0.0	2.0	3.8	0.0	43.7	2.3	47.8	20.1	30.2	50.9	35.2	46.9
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	0.0	14.2	15.5	0.0	34.2	27.1	12.6	13.2	15.7	11.6	14.6	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.4	28.3	0.0	74.0	25.2	97.6	64.8	74.9	101.8	82.0	93.6
LnGrp LOS	A	C	C	A	F	C	F	E	E	F	F	F
Approach Vol, veh/h		1951			2419			1808			1439	
Approach Delay, s/veh		27.0			63.3			78.3			89.0	
Approach LOS		C			E			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	31.0		64.0	22.6	33.4		64.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	26.5		59.5	18.1	28.9		59.5				
Max Q Clear Time (g_c+I1), s	22.5	28.5		38.5	19.8	28.7		61.5				
Green Ext Time (p_c), s	0.0	0.0		13.8	0.0	0.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		62.4	
HCM 6th LOS		E	

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	87	407	125	462	362	6	98	1162	69	119	1170	342
Future Volume (veh/h)	87	407	125	462	362	6	98	1162	69	119	1170	342
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	95	442	136	502	393	0	107	1263	75	129	1272	372
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	697	858	383	628	1204		134	1685	100	144	1746	542
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.00	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	5106	1585	305	4929	293	409	5106	1585
Grp Volume(v), veh/h	95	442	136	502	393	0	107	872	466	129	1272	372
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1702	1585	305	1702	1818	409	1702	1585
Q Serve(g_s), s	2.2	8.0	5.3	15.5	4.8	0.0	9.2	16.9	16.9	8.6	16.3	15.1
Cycle Q Clear(g_c), s	2.2	8.0	5.3	15.5	4.8	0.0	25.5	16.9	16.9	25.5	16.3	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	697	858	383	628	1204		134	1164	621	144	1746	542
V/C Ratio(X)	0.14	0.52	0.36	0.80	0.33		0.80	0.75	0.75	0.90	0.73	0.69
Avail Cap(c_a), veh/h	697	858	383	638	1232		134	1164	621	144	1746	542
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	24.5	23.5	15.5	23.6	0.0	35.7	21.7	21.7	35.7	21.5	21.1
Incr Delay (d2), s/veh	0.4	2.2	2.6	7.0	0.2	0.0	27.7	2.7	5.0	46.3	1.6	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.5	2.2	6.8	1.9	0.0	2.9	6.7	7.6	4.1	6.3	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	26.7	26.1	22.5	23.8	0.0	63.3	24.5	26.8	82.0	23.1	24.7
LnGrp LOS	B	C	C	C	C		E	C	C	F	C	C
Approach Vol, veh/h		673			895	A		1445			1773	
Approach Delay, s/veh		24.4			23.1			28.1			27.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	22.5		30.0	22.5	22.1		30.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.0	18.0		25.5	18.0	18.0		25.5				
Max Q Clear Time (g_c+I1), s	17.5	10.0		27.5	4.2	6.8		27.5				
Green Ext Time (p_c), s	0.1	2.1		0.0	0.2	1.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		26.5	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

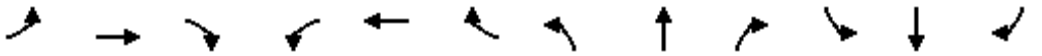
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	319	1305	363	396	1424	401	319	1181	474	553	1107	365
Future Volume (veh/h)	319	1305	363	396	1424	401	319	1181	474	553	1107	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	347	1418	395	430	1548	436	347	1284	515	601	1203	397
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	376	1607	454	430	1560	484	361	1314	408	581	1219	402
Arrive On Green	0.11	0.29	0.29	0.12	0.31	0.31	0.10	0.26	0.26	0.17	0.32	0.32
Sat Flow, veh/h	3563	5611	1585	3456	5106	1585	3456	5106	1585	3456	3797	1252
Grp Volume(v), veh/h	347	1418	395	430	1548	436	347	1284	515	601	1078	522
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1702	1585	1728	1702	1585	1728	1702	1645
Q Serve(g_s), s	10.6	26.5	26.1	13.7	33.2	29.0	11.0	27.4	28.3	18.5	34.6	34.7
Cycle Q Clear(g_c), s	10.6	26.5	26.1	13.7	33.2	29.0	11.0	27.4	28.3	18.5	34.6	34.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	376	1607	454	430	1560	484	361	1314	408	581	1092	528
V/C Ratio(X)	0.92	0.88	0.87	1.00	0.99	0.90	0.96	0.98	1.26	1.03	0.99	0.99
Avail Cap(c_a), veh/h	376	1607	454	430	1560	484	361	1314	408	581	1092	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	37.5	37.3	48.1	38.1	36.6	49.0	40.5	40.9	45.8	37.1	37.1
Incr Delay (d2), s/veh	28.1	6.1	16.5	43.1	20.9	19.7	36.9	20.0	136.7	46.4	24.3	36.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	12.3	11.6	8.2	15.9	13.1	6.5	13.5	25.9	11.4	17.4	18.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	43.6	53.8	91.3	59.0	56.3	85.9	60.5	177.5	92.2	61.4	73.5
LnGrp LOS	E	D	D	F	E	E	F	E	F	F	E	E
Approach Vol, veh/h		2160			2414			2146			2201	
Approach Delay, s/veh		50.8			64.3			92.7			72.7	
Approach LOS		D			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	39.8	18.2	36.0	23.0	32.8	16.1	38.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	35.3	13.7	31.5	18.5	28.3	11.6	33.6
Max Q Clear Time (g_c+I1), s	13.0	36.7	15.7	28.5	20.5	30.3	12.6	35.2
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.9
HCM 6th LOS	E

Notes

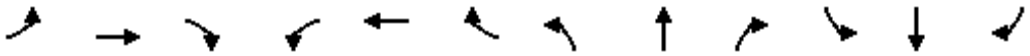
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1855	255	0	1019	298	0	0	533	1004	272	702
Future Volume (vph)	0	1855	255	0	1019	298	0	0	533	1004	272	702
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Lane Util. Factor		0.86			0.91	1.00			1.00	0.97	0.91	0.91
Frt		0.98			1.00	0.85			0.86	1.00	0.92	0.85
Flt Protected		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (prot)		6292			5085	1583			1611	3433	3104	1441
Flt Permitted		1.00			1.00	1.00			1.00	0.95	1.00	1.00
Satd. Flow (perm)		6292			5085	1583			1611	3433	3104	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2016	277	0	1108	324	0	0	579	1091	296	763
RTOR Reduction (vph)	0	16	0	0	0	210	0	0	30	0	3	4
Lane Group Flow (vph)	0	2277	0	0	1108	114	0	0	549	1091	675	377
Turn Type		NA			NA	Perm			Perm	Prot	NA	Perm
Protected Phases		4			8					1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)		47.5			47.5	47.5			46.5	42.5	93.5	93.5
Effective Green, g (s)		47.5			47.5	47.5			46.5	42.5	93.5	93.5
Actuated g/C Ratio		0.32			0.32	0.32			0.31	0.28	0.62	0.62
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1992			1610	501			499	972	1934	898
v/s Ratio Prot		c0.36			0.22					c0.32	0.22	
v/s Ratio Perm						0.07			c0.34			0.26
v/c Ratio		1.14			0.69	0.23			1.10	1.12	0.35	0.42
Uniform Delay, d1		51.2			44.8	37.7			51.8	53.8	13.6	14.4
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		70.9			1.2	0.2			70.2	68.7	0.5	1.4
Delay (s)		122.1			46.0	38.0			121.9	122.5	14.1	15.9
Level of Service		F			D	D			F	F	B	B
Approach Delay (s)		122.1			44.2			121.9			69.4	
Approach LOS		F			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	87.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2966	0	0	1179	767	518	0	480	0	0	0
Future Volume (vph)	0	2966	0	0	1179	767	518	0	480	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5		4.5			
Lane Util. Factor		0.86			0.95	1.00	0.97		0.88			
Frt		1.00			1.00	0.85	1.00		0.85			
Flt Protected		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)		6408			3539	1583	3433		2787			
Flt Permitted		1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)		6408			3539	1583	3433		2787			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	3224	0	0	1282	834	563	0	522	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	382	0	0	19	0	0	0
Lane Group Flow (vph)	0	3224	0	0	1282	452	563	0	503	0	0	0
Turn Type		NA			NA	Perm	Perm		Perm			
Protected Phases		4			8							
Permitted Phases						8	2		2			
Actuated Green, G (s)		32.5			32.5	32.5	18.5		18.5			
Effective Green, g (s)		32.5			32.5	32.5	18.5		18.5			
Actuated g/C Ratio		0.54			0.54	0.54	0.31		0.31			
Clearance Time (s)		4.5			4.5	4.5	4.5		4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)		3471			1916	857	1058		859			
v/s Ratio Prot		c0.50			0.36							
v/s Ratio Perm						0.29	0.16		c0.18			
v/c Ratio		0.93			0.67	0.53	0.53		0.59			
Uniform Delay, d1		12.7			9.9	8.8	17.2		17.5			
Progression Factor		1.00			1.00	1.00	1.00		1.00			
Incremental Delay, d2		5.1			0.9	0.6	1.9		2.9			
Delay (s)		17.8			10.8	9.4	19.1		20.4			
Level of Service		B			B	A	B		C			
Approach Delay (s)		17.8			10.2			19.7			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	226	28	1138	74	1022
v/c Ratio	0.18	0.43	0.09	0.51	0.29	0.45
Control Delay	9.9	13.3	4.9	5.7	8.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	13.3	4.9	5.7	8.2	5.4
Queue Length 50th (ft)	4	17	2	63	7	56
Queue Length 95th (ft)	24	40	11	120	30	106
Internal Link Dist (ft)	55	291		153		271
Turn Bay Length (ft)			40		100	
Base Capacity (vph)	640	1074	305	2244	259	2272
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.21	0.09	0.51	0.29	0.45

Intersection Summary

Distance to freeway off-ramp is is approx. 160 ft.

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	106	365	32	1645	99	944
v/c Ratio	0.35	0.74	0.08	0.65	0.67	0.37
Control Delay	17.0	35.6	4.7	7.7	35.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	35.6	4.7	7.7	35.3	5.1
Queue Length 50th (ft)	18	76	4	195	24	85
Queue Length 95th (ft)	62	125	14	295	#134	128
Internal Link Dist (ft)	55	291		153		271
Turn Bay Length (ft)			40		100	
Base Capacity (vph)	361	593	382	2527	147	2573
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.62	0.08	0.65	0.67	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Distance to freeway off-ramp is is approx. 160 ft.

Lane Group	EBL	EBT	EBR	WBL	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	178	108	1620	860	275	1621	602	1463
v/c Ratio	0.09	0.06	1.74	1.78	0.91	1.19	1.68	1.19dr
Control Delay	11.5	21.9	358.6	389.2	83.7	129.6	350.5	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	21.9	358.6	389.2	83.7	129.6	350.5	20.0
Queue Length 50th (ft)	28	17	~1620	~469	101	~397	~320	140
Queue Length 95th (ft)	45	30	#1888	#592	#179	#475	#432	206
Internal Link Dist (ft)		430				303		392
Turn Bay Length (ft)	175		300	150	175		140	
Base Capacity (vph)	1919	1918	931	483	302	1366	358	1727
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	1.74	1.78	0.91	1.19	1.68	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	387	203	1020	625	235	1503	314	2195
v/c Ratio	0.21	0.11	1.28	1.28	1.19	0.91	0.98	1.60dr
Control Delay	15.7	27.5	162.9	185.6	174.6	54.4	105.1	79.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	27.5	162.9	185.6	174.6	54.4	105.1	79.0
Queue Length 50th (ft)	83	41	~1026	~343	~122	352	138	~548
Queue Length 95th (ft)	112	60	#1286	#462	#209	401	#235	#643
Internal Link Dist (ft)		430				303		392
Turn Bay Length (ft)	175		300	150	175		140	
Base Capacity (vph)	1861	1857	798	488	198	1659	319	1991
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.11	1.28	1.28	1.19	0.91	0.98	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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