Appendix I

Transportation Assessment

One San Pedro

Transportation Assessment

Prepared for:
Housing Authority of City of Los Angeles (HACLA)

Project Location:

275 West 1st Street
San Pedro, CA 90731

Assessor Parcel Numbers:

7449-018-900 through -902
7449-017-900 through -902
7455-027-929 through -931
7455-017-900
7449-014-013 and -014

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FEHR PEERS

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1. Introduction

This Transportation Assessment (TA) documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers to evaluate the potential transportation impacts of the proposed One San Pedro Specific Plan project (the Project). The area proposed for the Project consists of the approximately 20-acre One San Pedro Specific Plan Site (OSP Specific Plan Site), located at 275 West 1st Street, Los Angeles, CA 90731, in addition to a 0.6-acre project site at 319-327 North Harbor Boulevard (327 Harbor Site), Los Angeles, CA, 90731, both owned by the Housing Authority of the City of Los Angeles (HACLA). The OSP Specific Plan Site and 327 Harbor Site are collectively referred to as the Project site.

This TA was conducted to support the analysis of transportation within an Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) being prepared for the Project, and to otherwise meet Los Angeles Department of Transportation (LADOT) requirements in accordance with LADOT's *Transportation Assessment Guidelines* (TAG).[1]

1.1 Project Description

The Project is a specific plan that would regulate the permitted land uses, circulation, open space, and development standards and would establish a mix of land uses to create a compact, walkable neighborhood that ties together the distinct surrounding neighborhoods. The proposed elements of the Project include the construction of up to 1,553 residential units, 45,000 square feet of Commercial Retail, and up to 85,000 square feet of Neighborhood Serving Uses on the OSP Specific Plan Site, in addition to the removal of 478 existing residential units. Commercial Retail uses would include retail, restaurant, supermarket, and other commercial uses exceeding 3,000 square feet in size. Neighborhood Serving Uses would consist of would consist of administrative offices and community facilities, including such as a health clinic, workforce development center, senior center, childcare center, business incubator, art and maker space, youth center, or wellness center. In addition, Neighborhood Serving Uses also include small-scale retail shops of 3,000 square feet or less that would provide goods and services to future residents to meet typical needs, such as dry cleaners, small convenience stores, and bakeries.[2] On the 327 Harbor Site, 46 affordable housing units and one market-rate manager's unit would be developed to serve as replacement housing for existing residential units on the OSP Specific Plan Site. Across the Project site, a total of 1,600 residential units would be developed.

Of the 1,600 total residential units developed across the Project site, 73 would be reserved for affordable housing for seniors, 1,014 units would be affordable multifamily housing, and 513 would be market-rate multifamily housing. The nonresidential uses developed on the OSP Specific Plan Site would include a

[1] LADOT, *Transportation Assessment Guidelines*, August 2022.

[2] The OSP Specific Plan classifies non-residential uses into two general categories: Neighborhood Serving Uses and Commercial Retail. For purposes of the OSP Transportation Assessment, uses must be classified in greater detail and in accordance with the 10th Edition of ITE's trip generation manual. Therefore, a conceptual selection of potential nonresidential land uses classified in the ITE trip generation manual is analyzed herein.

15,000 sf of supermarket, 43,000 sf of shopping plaza space, 12,000 sf of restaurant space, and 60,000 sf of other neighborhood uses (e.g., administrative offices, youth center, health clinic, etc.) A summary of the land uses can be found in **Table 2**.

The OSP Specific Plan Site encompasses approximately nine city blocks between West Santa Cruz Street, North Palos Verdes Street, North Beacon Street, North Harbor Boulevard, West 1st Street, West 2nd Street, West 3rd Street, North Mesa Street, and North Centre Street. The 327 Harbor Site encompasses the northern third of the block bounded by O'Farrell Street, Beacon Street, Santa Cruz Street, and Harbor Boulevard. **Figure 1** shows the context of the Project in the surrounding area.

The Project would be constructed in a phased approach, beginning with the 327 Harbor Site. For the purposes of the transportation assessment, the construction phasing of the Project is split into four overall phases in order of construction – the 327 Harbor Site, OSP Specific Plan Site Phase 1, OSP Specific Plan Site Phase 2, and OSP Specific Plan Site Phase 3. The amount of construction occurring in each of the OSP Specific Plan Site Phases would follow either one of two alternatives, "Scenario A" or "Scenario B." Specific details on project phasing and the land uses in each phase can be found in Chapter 4 Non-CEQA Transportation Assessment.

The proposed OSP Specific Plan Site would include up to two levels of secured, subterranean and structured parking beneath the apartment and mixed-use buildings containing 1,800 parking spaces. 1600 long-term bicycle parking spaces would be provided at the OSP Specific Plan Site, along with a minimum of 39 short-term bicycle parking racks at ground level to serve visitors. In addition, street parking would be maximized throughout the project site, with 292 total parallel or angled parking spots along Santa Cruz Street, 1st Street, 2nd Street, Beacon Street, Palos Verdes Street, Mesa Street, and parts of Centre Street and Harbor Boulevard. Diagonal parking would be provided along 3rd Street and parts of Centre Street. The 327 Harbor Site would include 42 long-term bicycle parking spaces and 6 short-term bicycle parking spaces. There would be 45 total vehicle parking spaces in a ground floor garage at the 327 Harbor Site, which includes 14 Electric Vehicle spaces and 4 accessible spaces.

The Project's site plan is presented in **Figure 2**. Vehicular access would be provided to the OSP Specific Plan Site via 14 driveways, along Santa Cruz Street, 1st Street, 2nd Street, 3rd Street, and Harbor Boulevard. The 327 Harbor Site would have vehicular access via a driveway off of O'Farrell Street. Since the Project is a specific plan, some of the design specifics on the OSP Specific Plan Site are subject to further refinement.

1.2 Transportation Assessment Scope

The scope of work for this TA was determined in consultation with the LADOT and is in accordance with the City's CEQA transportation thresholds of significance adopted in July 2019 and LADOT's TAG updated in August 2022. The base assumptions and technical methodologies were discussed with LADOT as part of the TA approach and agreed to in a transportation assessment memorandum of understanding (MOU) dated June 30, 2022. The MOU is included in **Appendix A** to this document.

The TAG establishes an updated set of guidelines, methods, and impact criteria for CEQA considerations that focus on vehicle miles traveled (VMT), geometric hazards, and policy conflicts. The TAG also establishes a framework for various non-CEQA analyses including a pedestrian, bicycle, and transit access assessment, a project access, safety, and circulation assessment, project construction, and residential street cut-through analysis. Each area of analysis is described in the TAG with a discussion of screening criteria, the methodology for analysis, impact criteria, and potential mitigation options. Based on the screening criteria set forth in the TAG, the following issue areas in **Table 1** – as described in the TAG – are evaluated in this TA (the screening analysis is available in **Appendix B**):

Table 1: TAG Screening Criteria Issue Areas

TAG Issue Area	Analysis Required?
CEQA Analyses:	
Conflicts with Plans, Programs, Ordinances, and Policies	Yes
Causing Substantial Additional Vehicle Miles Traveled	Yes
Substantially Inducing Additional Automobile Travel	N/A[3]
Geometric Design Features	Yes
Non-CEQA Analyses:	
Pedestrian, Bicycle, and Transit Access	Yes
Project Access, Safety, and Circulation	Yes
Project Construction	Yes
Residential Street Cut-Through	No[4]

[3] This TAG issue area is specific to transportation projects that increase vehicular capacity, and thus, is not applicable to this Project.

[4] While the Project is not required to analyze residential cut-through streets per the screening, this analysis was still conducted due to the location of the Project adjacent to a residential area and to address to community concerns that the routes to and from the Project may go through the residential area.

Figure 1: Project Site Map

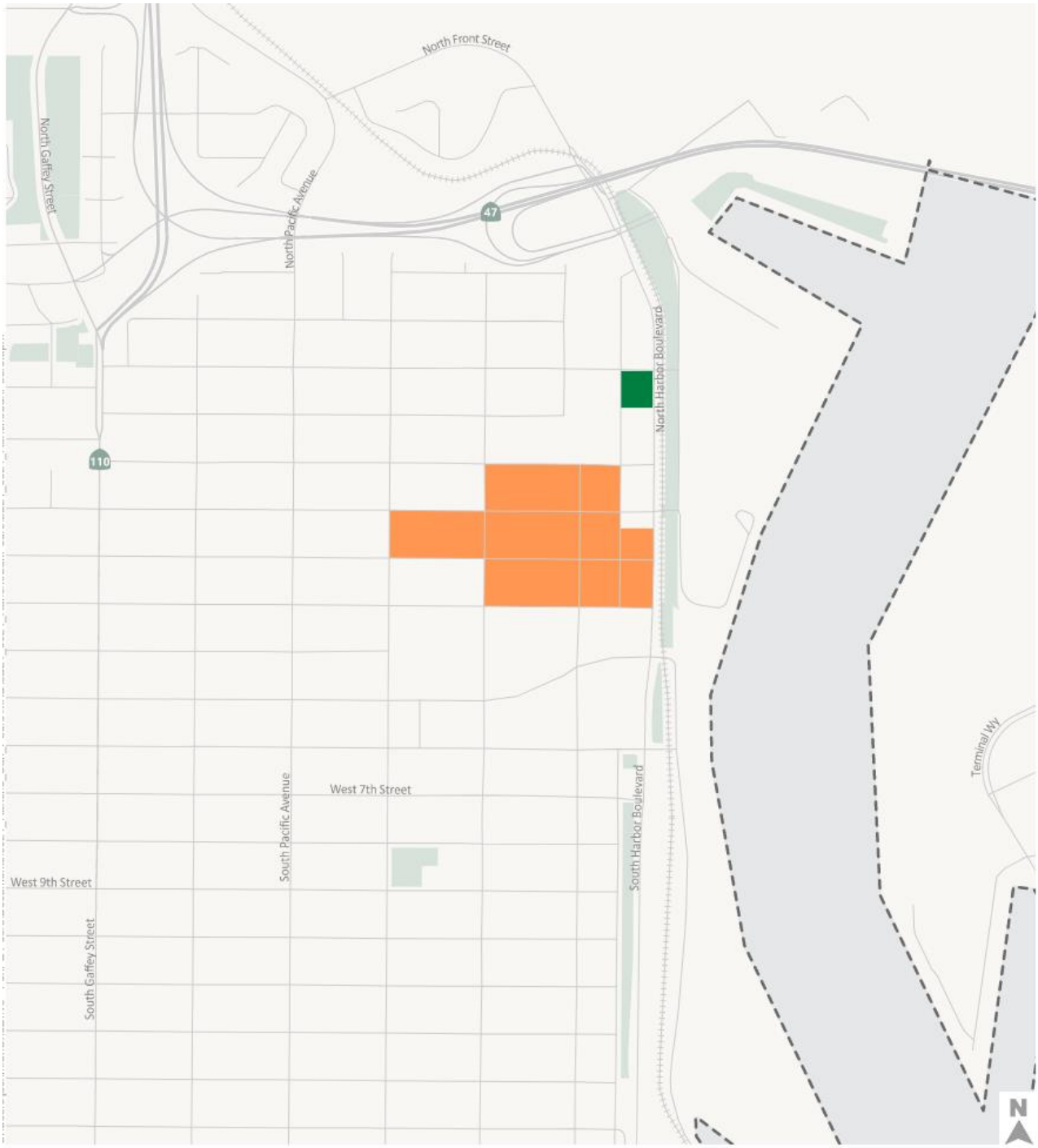


Table 2: Project Land Uses

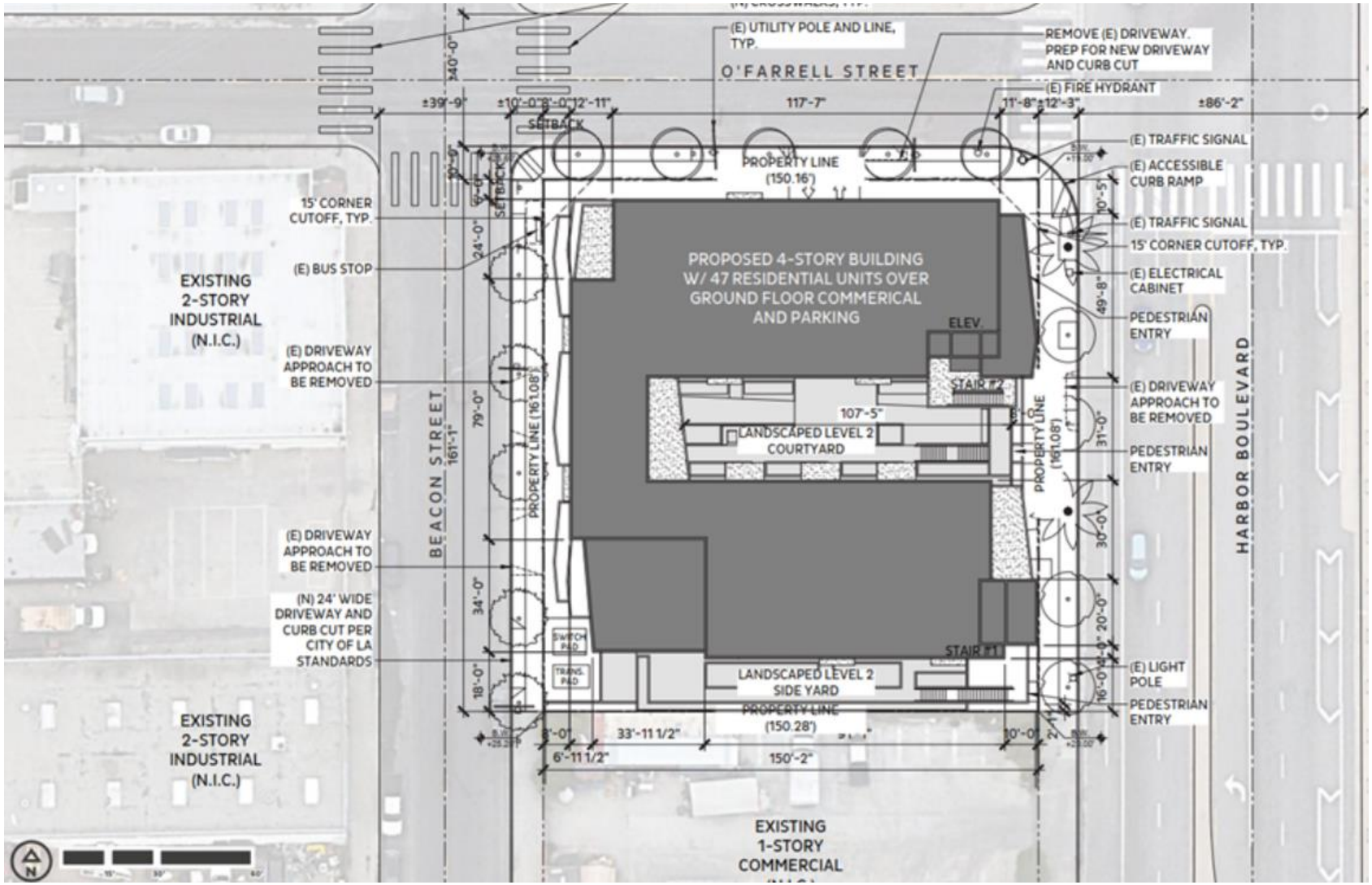
Land Use	Units	327 Harbor Site	OSP Specific Plan Site - Scenario A			OSP Specific Plan Site - Scenario B			Full Project Buildout
			Planning Area 1	Planning Area 2	Planning Area 3	Planning Area 1	Planning Area 2	Planning Area 3	
Affordable Multifamily Housing	Dwelling Units (DU)	46	350	380	238	420	409	139	**1,014**
Affordable Senior Housing	DU	-	-	-	73	-	-	73	**73**
Market-Rate Multifamily Housing (Mid-Rise)	DU	1	25	220	267	30	264	218	**513**
Supermarket	thousand square feet (ksf)	-	-	15	-	-	15	-	**15**
Shopping Plaza	ksf	-	5	13	25	6	16	21	**43**
High-Turnover (Sit-Down) Restaurant	ksf	-	3	3	6	4	4	4	**12**
Other Neighborhood Uses [a]	ksf	-	24	24	12	29	29	2	**60**
Existing Affordable Multifamily Housing to be Removed	DU	-	156	144	178	156	144	178	**478**

[a] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys + Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, and Incubator. All of these are intended for internal use.



Figure 2: Project Site Plan




O'FARRELL STREET
(E) UTILITY POLE AND LINE, TYP.
REMOVE (E) DRIVEWAY. PREP FOR NEW DRIVEWAY AND CURB CUT
(E) FIRE HYDRANT
(E) TRAFFIC SIGNAL
(E) ACCESSIBLE CURB RAMP
(E) TRAFFIC SIGNAL
15' CORNER CUTOFF, TYP.
(E) ELECTRICAL CABINET
PEDESTRIAN ENTRY
(E) DRIVEWAY APPROACH TO BE REMOVED
PEDESTRIAN ENTRY
(E) LIGHT POLE
PEDESTRIAN ENTRY
PROPERTY LINE (150.16')
PROPOSED 4-STORY BUILDING W/ 47 RESIDENTIAL UNITS OVER GROUND FLOOR COMMERICAL AND PARKING
ELEV.
STAIR #2
STAIR #1
LANDSCAPED LEVEL 2 COURTYARD
LANDSCAPED LEVEL 2 SIDE YARD
PROPERTY LINE (150.28')
PROPERTY LINE (161.08')
SETBACK
15' CORNER CUTOFF, TYP.
(E) BUS STOP
(E) DRIVEWAY APPROACH TO BE REMOVED
(E) DRIVEWAY APPROACH TO BE REMOVED
(N) 24' WIDE DRIVEWAY AND CURB CUT PER CITY OF LA STANDARDS
BEACON STREET
HARBOR BOULEVARD
EXISTING 2-STORY INDUSTRIAL (N.I.C.)
EXISTING 2-STORY INDUSTRIAL (N.I.C.)
EXISTING 1-STORY COMMERCIAL
SWITCH PAD
TRANS. PAD
117'-7"
107'-5"
150'-2"
33'-11 1/2"
6'-11 1/2"
±39'-9"
±10'-0"
8'-0"
12'-11"
11'-8"
±12'-3"
±86'-2"
340'-0"
24'-0"
79'-0"
34'-0"
18'-0"
161'-1"
49'-8"
31'-0"
30'-0"
20'-0"
16'-0"
10'-0"
10'-5"


SANTA CRUZ
FIRST
SECOND
THIRD
MESA
CENTRE
PALOS VERDES
HARBOR
Resident Access
Public Access
Alley Access
Alley
N

1.3 Organization of Transportation Assessment

This TA is divided into five chapters, including this introduction, Chapter 1. Chapter 2 describes the environmental setting and the existing and cumulative conditions of the transportation system in the study area, including an inventory of the streets, highways, bicycle and pedestrian networks, and transit service. The required CEQA analyses are summarized in Chapter 3, and includes a review of the City's plans, programs, ordinances, and policies, a VMT analysis, a geometric design hazards evaluation, and a freeway analysis. Chapter 4 includes the required non-CEQA transportation analyses, and contains a pedestrian, bicycle, and transit access assessment, a Project access, safety and circulation evaluation, Project construction analysis, and residential street cut-through analysis. Chapter 5 contains the TA summary and conclusions.

Appendices to this TA include details of the technical analysis, as follows:

A. Appendix A includes a copy of the Memorandum of Understanding approved by LADOT that confirms TA parameters and assumptions.
B. Appendix B includes responses to the TAG Project screening criteria and supporting analysis.
C. Appendix C provides a detailed review of the Project's consistency with relevant plans, programs, ordinances, and policies.
D. Appendix D provides additional detail regarding the geometric design hazards review.
E. Appendix E contains the report outputs from the City of LA VMT Calculator.
F. Appendix F contains the count sheets for the data that was collected for this project.
G. Appendix E contains the Synchro LOS and queuing reports.
H. Appendix H includes the existing and projected volumes at study intersections and driveways, in addition to lane configurations.

2. Environmental Setting

2.1 Existing Conditions

The approximately 20-acre OSP Specific Plan Site is currently occupied by Rancho San Pedro, a public housing development owned and managed by the Housing Authority of the City of Los Angeles. Existing on-site facilities include 478 residential units, with an administration building, social hall, youth field, barbeque plaza, community garden, and a Residential Advisory Committee Center, along with several playgrounds, courtyards, and sports courts. The residential buildings consist of 104 1-bedroom units, 255 2-bedroom units, 75 3-bedroom units, 34 4-bedroom units, and 10 5-bedroom units. The OSP Specific Plan Site also includes just over 250 surface parking spaces in lots and about 263 on-street spaces within and adjacent to the Site. Vehicular access to the existing parking areas on the OSP Specific Plan Site is provided via Harbor Boulevard, Beacon Street, Palos Verdes Street, Centre St, Mesa Street, Santa Cruz Street, and 1st, 2nd, and 3rd Streets. Pedestrian access to the OSP Specific Plan Site is currently provided through these same locations.

The 0.6-acre 327 Harbor Site is currently an undeveloped plot of land, bordered by Beacon Street on the west, O'Farrell Street on the north, Harbor Boulevard on the east, and commercial uses to the south, with no vehicular access provided to any of the streets.

Study Area

The Project is located in the San Pedro community within the San Pedro Community Plan area. Based on guidance from the TAG, the study area selected for analysis includes a ¼-mile radius around both the 327 Harbor Site and OSP Specific Plan Site and extends to the Port of Los Angeles Main Channel to the east, Amar Street to the north, Grand Avenue to the west, and 7th Street to the south. The study area around the 327 Harbor Site consists of commercial uses to the north and south, office uses to the north, industrial and upcoming multifamily projects to the west, and industrial development associated with the Ports of Los Angeles and Long Beach across Harbor Boulevard to the east. The study area around the OSP Specific Plan Site consists of single- and multi-family residential uses to the north, south, and west, commercial uses to the north and south, general industrial uses to the west, and industrial development associated with the Ports of Los Angeles and Long Beach across Harbor Boulevard to the east.

Existing Street System

Major streets serving the study area include 1st Street and 5th Street in the east-west direction and Gaffey Street, Pacific Avenue, and Harbor Boulevard in the north-south direction. Regional access to the Project Site is provided by I-110 (Harbor Freeway) and CA-47 (Seaside Freeway), with interchanges approximately 0.5 miles to the northeast (CA-47) and 0.8 miles to the northwest (I-110). Local access to the Project Site is

provided by several local streets and avenues, listed below. Per the City's Mobility Element, *Mobility Plan 2035*[5], the following are the designation of the study area streets:

- Gaffey Street (n/o 9th Street) – Boulevard II
- Harbor Boulevard – Avenue I
- Pacific Avenue (s/o O'Farrell Street) – Modified Avenue II, (n/o O'Farrell Street) – Avenue II
- Centre Street (s/o O'Farrell Street) – Collector, (n/o O'Farrell Street) – Local Street (Standard)
- Grand Avenue (s/o O'Farrell Street) – Collector, (n/o O'Farrell Street) – Local Street (Standard)
- Beacon Street – Local Street (Standard)
- Mesa Street – Local Street (Standard)
- Palos Verdes Street – Local Street (Standard)
- 1st Street – Avenue II
- 5th Street (e/o Gaffey Street) – Avenue II
- 3rd Street (e/o Gaffey Street) - Collector
- 2nd Street – Local Street (Standard)
- Santa Cruz Street – Local Street (Standard)
- O'Farrell Street – Collector

The *Mobility Plan 2035* (Los Angeles Department of Planning, General Plan Mobility Element), approved by the Los Angeles City Council in August 2015 and amended in September 2016, categorizes streets into typologies and sets general definitions for each designation. Each of the street designations are defined as the following:

- Freeways – High-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.
- Arterial Streets – Major streets that serve through traffic and provide access to major commercial activity centers. Arterials are divided into two categories:
    - Boulevards represent the widest streets that typically provide regional access to major destinations and include two categories:
        - Boulevard I provides up to four travel lanes in each direction with a target operating speed of 40 mph.
        - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph.
    - Avenues pass through both residential and commercial areas and include three categories:

[5] *City of Los Angeles, Mobility Plan 2035, An Element of the General Plan, adopted September 7, 2016.*

- Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph.
- Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph.
- Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph.

- Collector Streets – Generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. Collector Streets provide one travel lane in each direction with a target operating speed of 25 mph.
- Local Streets – Intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. Local Streets provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Local Streets can be:
    - Continuous local streets that connect to other streets at both ends
    - Non-Continuous local streets that lead to a dead-end

In addition, the *Mobility Plan 2035* identifies corridors proposed to prioritize bicycle, pedestrian, transit, and vehicle infrastructure improvements. Each of the networks are defined as the following:

- The Neighborhood-Enhanced Network (NEN) is a selection of streets that provide comfortable and safe routes for localized travel of slower-moving modes such as walking, bicycling, or other slow speed motorized means of travel.
- The Transit-Enhanced Network (TEN) is the network of arterial streets prioritized to improve existing and future bus service for transit riders.
- The Bicycle-Enhanced Network (BEN) is a network of streets to receive treatments that prioritize bicyclists. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation. Tier 2 Bicycle Lanes are those more likely to be built by *2035*.
- The Vehicle-Enhanced Network (VEN) identifies streets that prioritize vehicular movement and offer safe, consistent travel speeds and reliable travel times.
- The Pedestrian-Enhanced Districts (PEDs) identify where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities.

Described below are the primary freeway and roadways that provide regional and local access to the study area.

Freeways

- **I-110 (Harbor Freeway)** runs in the north-south direction located north of the Project. In the vicinity of the study area, I-110 provides four lanes in each direction. The southern terminus of I-110 is at the interchange with Gaffey Street, which provides access to the Project.



- **CA-47 (Seaside Freeway)** runs in the east-west direction located north of the Project. In the vicinity of the study area, CA-47 provides two lanes in each direction. The western terminus of CA-47 is at the interchange with I-110. The interchange at Harbor Boulevard provides access to the Project Site.

East – West Streets

- **1st Street** is designated as an Avenue II and runs through the OSP Specific Plan Site. 1st Street provides two lanes in each direction with parking permitted on both sides of the street. 1st Street is included as part of the Neighborhood Enhanced Network (NEN) (Tier 2) in the *Mobility Plan 2035*. West of Mesa Street, 1st Street is also part of the PED.
- **5th Street** is designated as an Avenue II and is located south of the OSP Specific Plan Site. 5th Street provides one lane in each direction with parking permitted on both sides of the street. 5th Street is also part of the PED in the *Mobility Plan 2035*.
- **3rd Street** is designated as a Collector and runs through the OSP Specific Plan Site. 3rd Street provides one lane in each direction with a center turn lane and parking permitted on both sides of the street.
- **2nd Street** is designated as a Local Street (Standard) and runs through the OSP Specific Plan Site. 2nd Street provides one lane in each direction with parking permitted on both sides of the street.
- **Santa Cruz Street** is designated as a Local Street (Standard) and is located adjacent to the OSP Specific Plan Site to the north. Santa Cruz Street provides one lane in each direction with parking permitted on both sides of the street.
- **O'Farrell Street** is designated as a Collector and runs north of the 327 Harbor Site. O'Farrell Street provides one lane in each direction with parking permitted on both sides of the street.

North – South Streets

- **Gaffey Street** is designated as a Boulevard II and is located west of the Project. Gaffey Street provides two to three lanes in each direction. Parking is provided in both directions on some blocks, though it is restricted during peak periods so that an additional travel lane may be provided, increasing the number of travel lanes from two to three. Gaffey Street is included in the High Injury Network (HIN) and the TEN and is a part of the PED in the *Mobility Plan 2035*.
- **Harbor Boulevard** is designated as an Avenue I and is located adjacent to both the OSP Specific Plan Site and the 327 Harbor Site to the east. Harbor Boulevard provides two lanes in each direction north of 3rd Street and one southbound lane and two northbound lanes south of 3rd Street. Parking and a bike lane are provided in the southbound direction, and a buffered bike lane is provided in the northbound direction.
- **Pacific Avenue** is designated as a Modified Avenue II south of O'Farrell Street and an Avenue II north of O'Farrell Street and is located west of the Project. Pacific Avenue provides one lane in each direction with a center turn lane and parking permitted on both sides of the street. Pacific Avenue is included in the BEN (existing Tier 2 Bicycle Lane). The portion between O'Farrell Street and 22nd Street is included in the HIN. The portion between Oliver Street and 23rd Street is part of the PED in the *Mobility Plan 2035*.



- **Centre Street** is designated as a Collector and runs through the OSP Specific Plan Site. Centre Street provides one lane in each direction with parking permitted on both sides of the street. The portion between 2nd Street and 7th Street is part of the PED in the *Mobility Plan 2035*.
- **Grand Avenue** is designated as a Collector and is located to the west of the Project. Grand Avenue provides one lane in each direction with parking permitted on both sides of the street. Grand Avenue is included in the BEN (existing Tier 2 Bicycle Lane) and the NEN (Tier 2). The portion South of O'Farrell Street is included in the HIN.
- **Beacon Street** is designated as a Local Street (Standard) and runs through the OSP Specific Plan Site and directly west of the 327 Harbor Site. Beacon Street provides one lane in each direction with parking permitted on both sides of the street.
- **Mesa Street** is designated as a Local Street (Standard) and is located adjacent to the OSP Specific Plan Site to the west. Mesa Street provides one lane in each direction with parking permitted on both sides of the street.
- **Palos Verdes Street** is designated as a Local Street (Standard) and runs through the OSP Specific Plan Site. Palos Verdes Street provides one lane in each direction with parking permitted on both sides of the street.

Transit Lines[6]

The Project Site is not located within a Transit Priority Area or Transit Oriented Communities (TOC) area; however, it is served by several local and regional bus lines. The Metro Local (Route 205) operates on 1st Street and Harbor Boulevard, running through and adjacent to the Project Site. The Metro BRT (910/950) (Silver/J Line) runs through the Project Site on 1st Street and adjacent to the Site on Beacon Street. LADOT DASH San Pedro line also traverses the OSP Specific Plan Site on 1st Street and Centre Street. The Metro Express (Route 550) and Local (246) bus lines also operate within half a mile of the Project Site, on Gaffey Street and Pacific Avenue, respectively. The LADOT Commuter Express 142 and Palos Verdes Peninsula Transit Authority (PVPTA) Line 225-226 operate on 7th Street south of the Project Site. See **Figure 3** for a map of the surrounding public transit lines. **Table 3** below provides a description of the public transit routes operating on the streets within the study area.

[6] This section describes transit services based on Metro's NextGen Bus Plan Phase 2

Table 3: Public Transit Service.

Line Number	Operator	Service from	Via	Weekday Headways	
				AM	PM
205	Metro	San Pedro to Willowbrook	Gaffey	30 min	30 min
246	Metro	San Pedro to Harbor Gateway Transit Center	Pacific	30 min	30 min
910/950 BRT (J Line - Silver)	Metro	San Pedro to El Monte	Pacific	35 min	35 min
San Pedro Line Dash	LADOT	Park Western Plaza to Western/25th	Gaffey	30 min	30 min
Commuter Express 142	LADOT	San Pedro to Long Beach	7th	30 min	30 min
225/226	PVPTA	Palos Verdes to San Pedro	7th	55-60 min	60+ min

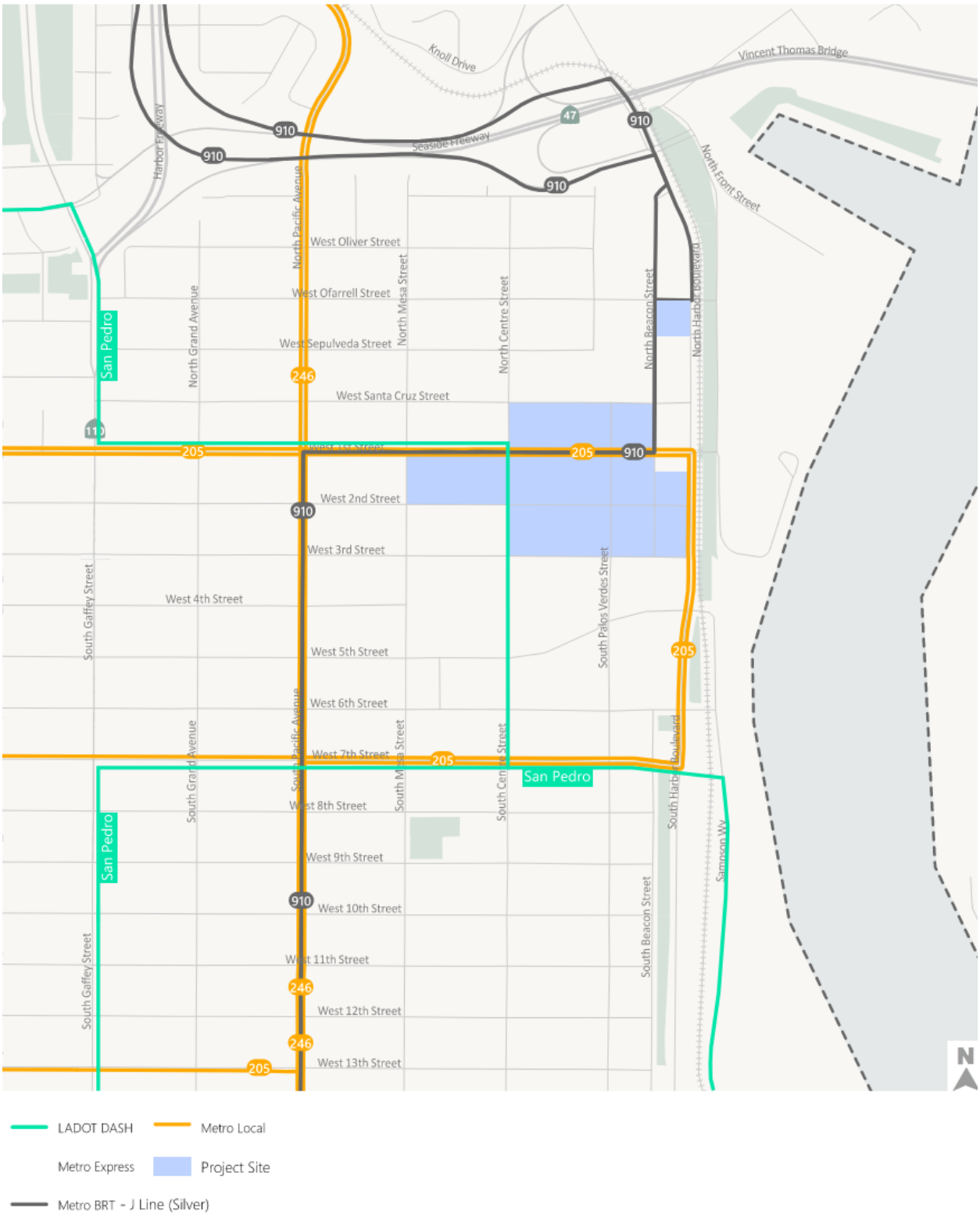
The transit lines in the vicinity of the Project Site include:

- Metro Line 205 – Line 205 provides local service between San Pedro and the Willowbrook community in Unincorporated Los Angeles County. This line runs through the OSP Specific Plan Site on 1st Street, east of the Site on Harbor Boulevard, and south of the Site on 7th Street. Line 205 has average headways of 30 minutes during the weekday AM and PM peak periods. Line 205 has one stop in the eastbound direction near the OSP Specific Plan Site at 1st Street at Pacific Avenue, one in the southbound direction at Harbor Boulevard and 1st Street, directly adjacent to the Project Site, and one in the westbound direction at 1st Street and Harbor Boulevard, within the Project Site. The southbound stop includes two bus benches, and the westbound stop has one bench.
- Metro Line 246 – Line 246 provides service between San Pedro and the Harbor Gateway Transit Center. This line runs west of the Project Site along Pacific Avenue. Line 246 has average headways of 30 minutes during the weekday AM and PM peak periods. Line 246 has two stops in the southbound direction near the Project Site at Pacific Avenue and 1st Street and Pacific Avenue and 3rd Street, and two in the northbound direction at the same two intersections. Both stops at 3rd Street include bus shelters, and both stops at 1st Street contain bus benches. All four stops include trash bins.
- Metro BRT 950 (J Line) – Metro Bus Rapid Transit 950 (J Line) provides BRT service between San Pedro and El Monte via Downtown Los Angeles. The line runs through the OSP Specific Plan Site and adjacent to the 327 Harbor Site along Beacon Street, as well as through First Street and Pacific Avenue. The J Line has average headways of 35 minutes through San Pedro during peak periods. It has one bus stop in each direction at the intersections of 1st Street and Beacon Street, Pacific Avenue and 1st Street, and Pacific Avenue and 3rd Street. There is also a northbound stop immediately adjacent to the 327 Harbor Site at O'Farrell Street and Beacon Street and a southbound stop on

Beacon Street approximately 300 feet north of the 327 Harbor Site. The stops at the intersection of First Street and Beacon Street do not contain any amenities. The stops at the intersection of Pacific Avenue and First Street contain benches. The stops at the intersection of Pacific Avenue and Third Street contain a shelter, bench, and trashcan. The southbound stop on Beacon Street near O'Farrell contains benches, a shelter, and trashcans. The northbound stop adjacent to the 327 Harbor Site does not contain any amenities.

- LADOT DASH San Pedro – The San Pedro DASH provides circulator service in the San Pedro neighborhood. There are several stops near or within the Project Site on 1st Street and Centre Street. The San Pedro DASH has headways of 30 minutes during the weekday AM and PM peak periods. The northbound/eastbound DASH has stops at Centre Street and 3rd Street, Centre Street and 1st Street, and 1st Street and Mesa Street. The westbound/southbound DASH has stops at the same three intersections. None of the stops contain any amenities.
- LADOT Commuter Express (CE) 142 – The CE 142 provides service between San Pedro and Long Beach. The closest stops to the Project Site are at 7th Street and Palos Verdes Street and at 7th Street and Mesa Street in both the eastbound and westbound directions. The CE 142 has headways of 30 minutes during the weekday AM and PM peak periods. The eastbound stop at Palos Verdes Street includes a shelter and the westbound stop contains no amenities. The stops in both directions at Mesa Street contain at least one bench and a trash bin.
- PVPTA Line 225/226 – The PVPTA Lines 225 and 226 provide service between San Pedro and the Palos Verdes Peninsula. There is one northbound and one southbound stop near the Project Site, both on 7th Street at Pacific Avenue. The 225/226 has headways of 55-60 minutes during the weekday AM and PM peak periods. The westbound stop contains a shelter, and the eastbound stop contains a bench. Both stops include trash bins.

Figure 3: Public Transit



Existing Bicycle and Pedestrian Facilities

Bicycle Facilities

Figure 4 shows the existing and planned citywide designated bicycle facilities in the Project area. Bike lanes are provided in both directions along Harbor Boulevard, Pacific Avenue, and Grand Avenue. The northbound bike lane on Harbor Boulevard is buffered.

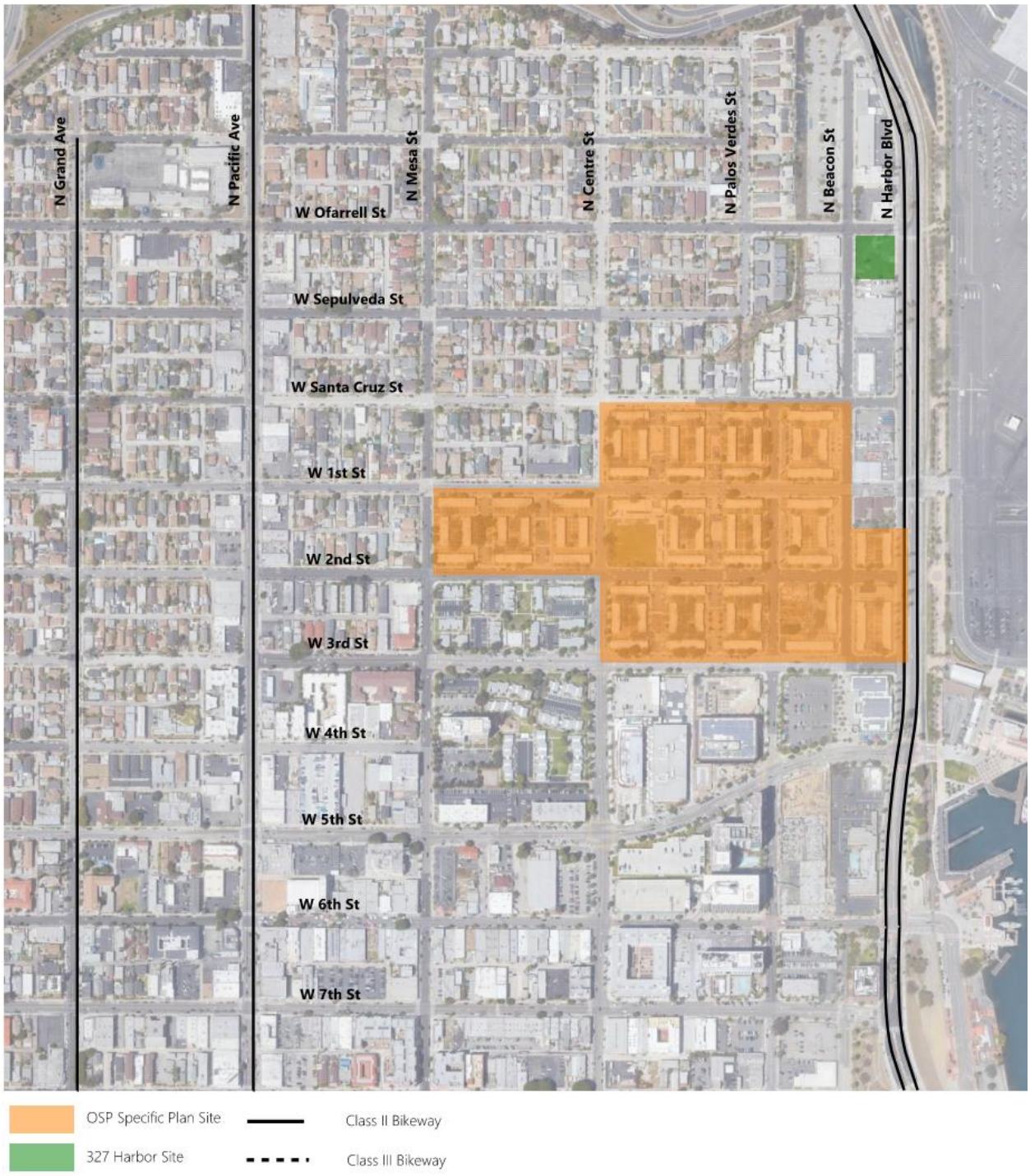
Pedestrian Facilities

Sidewalks are present along both sides of all streets within and adjacent to both the OSP Specific Plan Site and the 327 Harbor Site.

High-Injury Network

The City of Los Angeles' HIN spotlights streets with a high concentration of traffic collisions that result in severe injuries and deaths, with an emphasis on those involving people walking and bicycling. Neither the OSP Specific Plan Site nor the 327 Harbor Site contain or front any streets in the HIN, though Pacific Avenue, Grand Avenue, and Gaffey Street, which fall within the study area, are included in the HIN.

Figure 4: Existing and Proposed Bikeways



2.2 Cumulative Conditions

The Project is within a residential area in the San Pedro Community Plan (Community Plan) area. The area surrounding the Project is developed primarily with low-medium density residential uses to the north and commercial uses to the south and east.

A major transportation project planned in the study area is LADOT's Gaffey Street Improvements project, which proposes curb extensions, high intensity activated crosswalks (HAWK), and new traffic signals throughout the Gaffey Street corridor from O'Farrell Street to 14th Street. In terms of more general network recommendations from the *Mobility Plan 2035,* Gaffey Street is identified as a moderate transit enhanced street per the TEN, and 1st Street and Grand Avenue are identified as parts of the NEN.

Planned Bicycle Facilities

The *Mobility Plan 2035* identifies corridors proposed to receive improved bicycle, pedestrian, and vehicle infrastructure improvements. Bicycle Paths are bicycle facilities outside of the roadway, such as the Los Angeles River bicycle path. Tier 1 Protected Bicycle Lanes are bicycle facilities that are separated from vehicular traffic. Tier 2 and Tier 3 Bicycle Lanes are facilities on roadways with striped separation. Tier 2 Bicycle Lanes are those which are more likely to be built by 2035. There are no planned bicycle facilities in the study area per the *Mobility Plan 2035*.

Related Projects

Figure 5 is an area map showing the location of the Project and related land use development projects under the cumulative conditions. Based on information provided by LADOT on January 13, 2021, and January 5, 2022, and other sources, there are 15 projects, some including restaurant, retail, office, and residential land uses, one condominium project, two apartment projects, one bridge housing facility, one restaurant, and one hotel within half mile radius of the Project Site and a quarter mile beyond the outermost study intersections. Four of these projects are located north of the OSP Specific Plan Site and 10 are located south of the OSP Specific Plan Site. **Table 4** shows the list of related projects and their corresponding land uses. Note that the table and figure show numbers of projects going up to 16, because one of the project lines specifically accounts for the removal of the San Pedro Fish Market at its existing location.

Figure 5: Related Projects Map

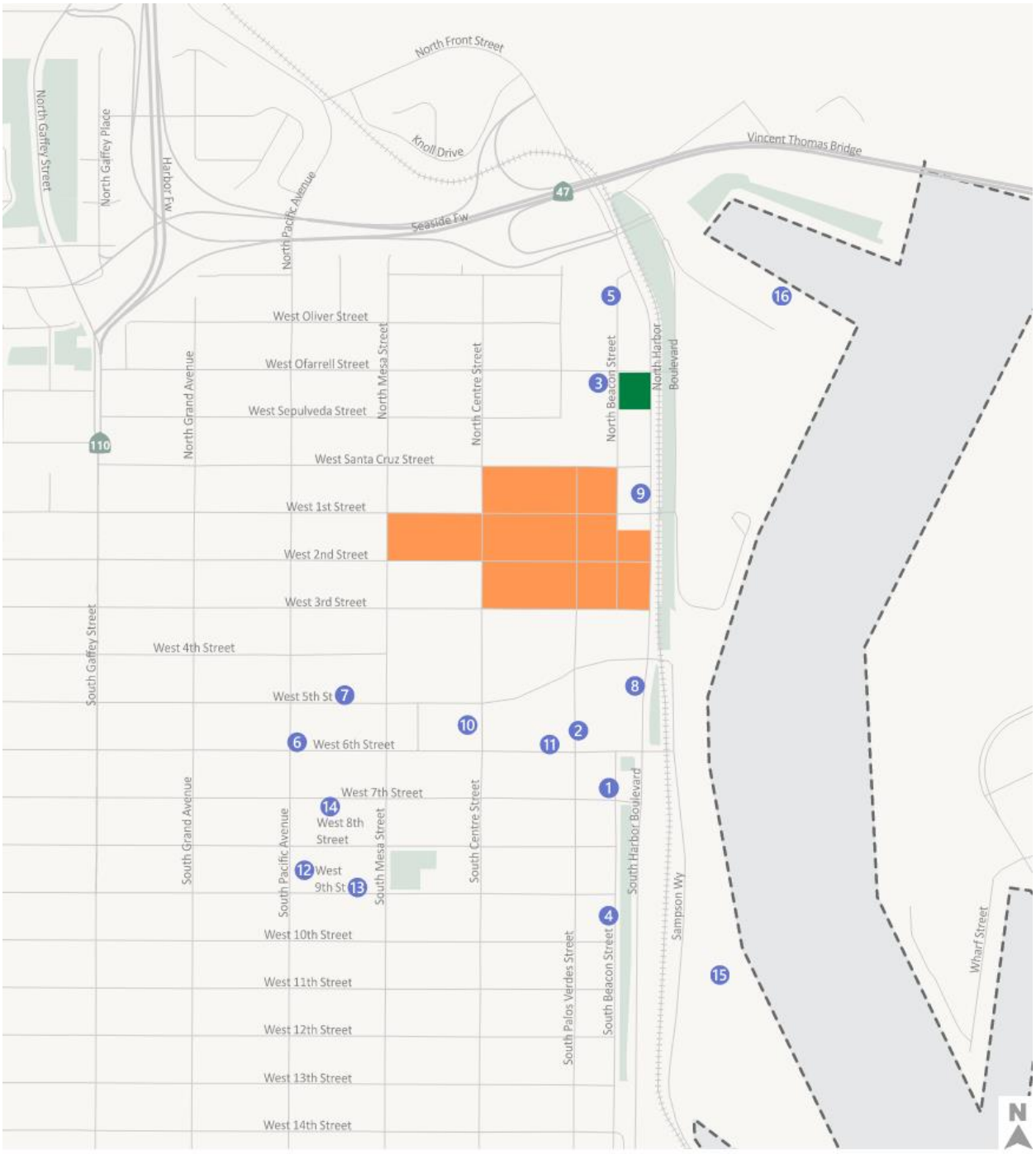


Table 4: Related Projects

ID	Project Title	Project Address	Land Use	Size		Trip Generation Estimates [a]					
						AM Peak Hour			PM Peak Hour		
1	-	625 S Beacon St [d]	Apartments	281	du	36	90	126	80	51	131
			Restaurant	2.316	ksf						
2	-	550 S Palos Verdes St [c]	Apartments	412	du	66	335	401	331	163	494
			Retail	3.8	ksf						
			Office	14.875	ksf						
3		319-345 Beacon & 117 O'Farrell [b]	Apartments	89	du	8	25	33	21	14	35
4	COU for Historic Assisted Living	921 S Beacon St	Mixed Use			43	55	98	64	32	96
5	Beacon St Bridge Home Housing Facility	515 N Beacon St [c]	Other	102	du	6	8	14	8	6	14
6	Hotel	544 S Pacific Ave	Hotel	80	du	21	14	35	31	26	57
7	-	444 W 5th St [b]	Apartments	106	du	11	30	41	35	23	58
			Retail	3	ksf						
8	-	511 S Harbor Blvd	Apartments	137	du	2	27	29	25	16	41
			Retail	0.394	ksf						
			Restaurant	2.129	ksf						
9	-	111 N Harbor Blvd	Apartments	120	du	16	38	54	42	32	74
			Retail	4.166	ksf						

Table 4 (continued)

ID	Project Title	Project Address	Land Use	Size		Trip Generation Estimates [a]					
						AM Peak Hour			PM Peak Hour		
10	-	505 S Centre St	Apartments	300	du	109	152	261	183	133	316
			Retail	13.038	ksf						
			Restaurant	12.441	ksf						
11	-	222 W 6th St	Office (to be removed)	262.679	ksf	-262	-43	-305	-48	-254	-302
			Apartments	228	du	41	79	120	104	84	188
			Retail	15	ksf						
12		456-462 W 9th St & 457-473 W 8th St [b]	Apartments	91	du	8	26	34	22	13	35
13	-	420 W 9th St [d]	Apartments	56	du	5	16	21	13	9	22
14	-	457 W 7th St [d]	Restaurant	3.812	ksf	20	16	36	21	13	34
15	-	San Pedro Fish Market Removal	Restaurant			-	-	-	[e]	[e]	[e]
16	-	San Pedro Fish Market	Restaurant			-	-	-	[e]	[e]	[e]

du = dwelling units

ksf = one thousand square feet

[a] Related projects list is based on information provided by LADOT on January 13, 2021 and January 5, 2022, and input from LA City Planning on April 11, 2022.

[b] Inbound/outbound trip distribution for this project not provided by LADOT, so it was estimated with the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition, 2021*.

[c] Project was completed in 2020.

[d] Project information provided by LA city planning or external research. Trip generation estimated using the ITE *Trip Generation Manual, 11th Edition, 2021*.

[e] Project intersection volumes for the San Pedro Fish Market Removal and Relocation were obtained directly from that project team and incorporated into the Future Year intersection volumes for this project. Trip generation totals were not obtained, and both the removal and relocation were expected to only generate substantial trips in the PM peak hour.



3. CEQA Transportation Assessment

3.1 Plans, Programs, Ordinances and Policies Review

The purpose of this section is to determine whether the Project conflicts with a transportation-related City plan, program, ordinance, or policy that was adopted to protect the environment. A project would not be shown to result in an impact merely based on whether a project would not implement an adopted plan, program, ordinance, or policy. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted plans, programs, ordinances, or policies.[7] Furthermore, under CEQA, a project is considered consistent with an applicable plan if it is consistent with the overall intent of the plan and would not preclude the attainment of its primary goals. A project does not need to be in perfect conformity with each and every policy. Finally, any inconsistency with an applicable policy, plan, or regulation is only a significant impact under CEQA if the policy, plan, or regulation were adopted for the purpose of avoiding or mitigating an environmental effect and if the inconsistency itself would result in a direct physical impact on the environment.

This evaluation was conducted by reviewing City documents such as the Los Angeles *Mobility Plan 2035*, *San Pedro Community Plan*, Vision Zero Los Angeles, the LADOT Manual of Policies and Procedures (MPP), and Citywide Design Guidelines.

- **City of Los Angeles Mobility Plan 2035**[8] is the City's document to guide the operations and design of streets and other public rights of way. It lays out a vision for designing safer, more vibrant streets, that are accessible to people – no matter how they travel. The Project's proposed land use and operations design features were reviewed and compared to existing and future conditions resulting from the Project, including site access, high injury network identification, pedestrian, bicycle and transit accessibility and loading. The Project is consistent with the reviewed policies of the *Mobility Plan 2035*. See **Appendix C**, adapted from Table 2.1-2 of the TAG, for a detailed review of consistency with relevant policies in *Mobility Plan 2035*.
- **San Pedro Community Plan**[9] is one of 35 Community Plans in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. The San Pedro Community Plan (Community Plan) highlights Rancho San Pedro as an Opportunity Area, with the goal of revitalizing transitioning, distressed, or under-utilized residential development, which coincides with the Project. The Project is consistent with the transportation components of the Community Plan. See **Appendix C** for a detailed review of consistency with relevant policies in the Community Plan.

[7] City of Los Angeles Department of Transportation, *Transportation Assessment Guidelines*, August 2022, page 2-2.
[8] City of Los Angeles, *Mobility Plan 2035, An Element of the General Plan,* adopted September 7, 2016.
[9] City of Los Angeles Department of City Planning, *San Pedro Community Plan*, adopted October 2017.

- **Vision Zero Los Angeles**[10] is a plan that strives to eliminate traffic-related deaths in Los Angeles by 2025 through multiple strategies, such as modifying streets to better serve vulnerable road users. The Project is not located along any Vision Zero HIN priority corridors. See **Appendix C** for further determination support.
- **LADOT Manual of Policies and Procedures (MPP)**[11] contains the design standards to ensure the safe and efficient use of City streets. MPP 321 provides the basic criteria for review of driveway designs.
- The **Citywide Design Guidelines**[12] includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access, and comfort as they access to and from the building and the immediate public right of way. See **Appendix C** for more information.

The Project features, location, and design generally support multimodal transportation options and would be consistent with policies, plans, and programs that support alternative non-single occupancy vehicle transportation, including the *Mobility Plan 2035* and the *San Pedro Community Plan*. The Project features are intended to enhance the user experience by integrating multimodal transportation options. The Project would encourage bicycle use to and from the Project Site by providing a bike hub with secure bike parking, showers and lockers, retail, rental, and repair. The Project also supports bicycle use with low-stress ride components, such as surplus roadway width and bike lanes. The Project contains a portion of the PED on Centre Street and is adjacent to the PED on 1st Street. Additionally, pedestrian accessibility would be enhanced through proposed pedestrian plazas on portions of Beacon Street and 2nd Street, made possible by closures to vehicular traffic, and walking trails along 1st and 2nd Street as well as Palos Verdes Park. In addition to the bicycle and pedestrian improvements, the Project would support multi-modal travel by providing improved bus shelters to enhance transit accessibility. This includes a full transit hub for transferring routes with shade, landscaping, seating, and public art, proposed along 1st Street between Palos Verdes Street and Beacon Street. The Project design and features would not substantially increase hazards, conflicts, or preclude City action to fulfill or implement projects associated with these networks and would contribute to overall walkability through enhancements to the Project Site and streetscape.

The nearest related project is a mixed-use project with 120 residential units, across Beacon Street and 1st Street from the OSP Specific Plan Site at 111 N Harbor Boulevard. There are currently no driveways fronting this property from the OSP Specific Plan Site, and neither of the proposed street closures would be adjacent to the proposed 111 N Harbor Boulevard project. The two projects in combination with each other are expected to have a less-than-significant impact. Additionally, there is an 88-unit residential development at 117 O'Farrell Street, which is directly to the west of the 327 Harbor Site across Beacon Street. The 327

[10] *Vision Zero Los Angeles 2015-2025 Action Plan,* Effective January 2017.
[11] City of Los Angeles Department of Transportation, *Manual of Policies and Procedures Section 321*, February 2003.
[12] City of Los Angeles Department of City Planning, *Citywide Design Guidelines*, October 24, 2019.

Harbor Site also does not have any proposed driveways along this shared frontage, and the two projects in combination are expected to have a less-than-significant impact. Other related projects would not share frontages with the Project.

Appendix C provides additional detail regarding the Project's plans, programs, ordinances, and policies conflict review conducted per the City's TAG.

3.2 Vehicle Miles Traveled Analysis

As part of new CEQA guidelines, proposed land use projects need to assess whether they cause a substantial vehicle miles traveled impact. The following section summarizes an assessment of VMT generated by the proposed Project.

LADOT developed a VMT Calculator tool to be used to assess the VMT impacts of proposed development projects within the City. The VMT Calculator also assesses the effectiveness of selected transportation demand management (TDM) measures proposed for a project based on available research. Analysis was conducted for the Project using the City's VMT analysis procedures and VMT Calculator. This analysis considered the Project's proposed land uses.

Impact Criteria

The City's VMT impact criteria for development projects is specified in the TAG. Per the criteria, a development project would have a potential significant impact if the project meets one or more of the following:

- For residential projects, a development project may have a potential significant impact if it generates household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which the project is located (see **Table 5** below). This criterion was used for the residential component of the Project.
- For office projects, a development project may have a potential significant impact if it generates work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located (see **Table 5** below). This Project does not have an office component.
- Local-serving retail development tends to shorten trips and reduce VMT, whereas regional-serving retail development can lead to substitution of longer trips for shorter ones and could increase VMT. Local-serving is defined as retail uses less than 50,000 square feet, or if most of the vehicles are expected to be originating from the project area. All of the retail uses in the Project are expected to be local-serving, either for residents of the Project or the surrounding neighborhood, so most of the vehicles would originate from the project area. They would be filled by smaller restaurants, grocery stores, pharmacies, convenience stores, or other similar uses. These are land uses where customers generally visit the locations closest to them, so they are considered to be local serving and not a regional draw by this criteria, and would not have a significant VMT impact.
- For mixed-use projects, a development project may have a potential significant impact if it exceeds the impact criteria for any one of the project's land uses, after taking credit for internal capture. This Project is mixed use and has both residential and retail components, but the retail was determined to be primarily local serving, so the residential component was checked for a VMT impact.



Please see **Table 5** below for the City's VMT impact criteria. The Project Site is located in the Harbor APC area, which has a daily household VMT per capita threshold of 9.2, and a daily work VMT per employee of 12.3.

Table 5: City of Los Angeles VMT Impact Criteria (15% Below APC Average)

Area Planning Commission	Daily Household VMT per Capita	Daily Work VMT per Employee
Central	6.0	7.6
East Los Angeles	7.2	12.7
Harbor	**9.2**	**12.3**
North Valley	9.2	15.0
South Los Angeles	6.0	11.6
South Valley	9.4	11.6
West Los Angeles	7.4	11.1

Source: LADOT TAG, 2022.

Per the TAG, a project could have a significant cumulative impact on VMT if the project has both a significant project-level impact as determined above and is not consistent with the Southern California Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy (SCAG RTP/SCS) in terms of development location, density, and intensity. Per the TAG, projects that are consistent with the City's efficiency-based VMT thresholds are considered to align with the SCAG RTP/SCS.

Impact Analysis

Per the City's procedures, household VMT per capita were estimated using the City's VMT Calculator tool for the proposed Project land use. The VMT Calculator starts with Institute of Transportation Engineers (ITE, 9th Edition) trip generation rates[13], implements the MXD (mixed-use) methodology from the U.S. EPA, and utilizes socioeconomic, transit, and trip length data from the Los Angeles citywide travel demand model (calibrated to Los Angeles conditions) to adjust the trips for internalization, transit, and walkability. The VMT Calculator was calibrated based on local count data collected in the City. The VMT Calculator allows for the selection of a wide variety of potential land uses.

Daily vehicles trips, daily VMT, and daily household VMT per capita for the Project were estimated using the City's VMT Calculator tool. Daily trips is an estimate of the total number of vehicle trips traveling to or from the Project each day, the daily VMT is an estimate of the total number of miles traveled by those vehicle

[13] The LA VMT Calculator was under development prior to release of the 10th Edition of ITE's trip generation manual in late 2017. The VMT Calculator was validated to LA conditions based on the empirical counts conducted at market rate residential, affordable housing, office, and mixed-use sites in the City, regardless of the source of the rates used as a starting point.



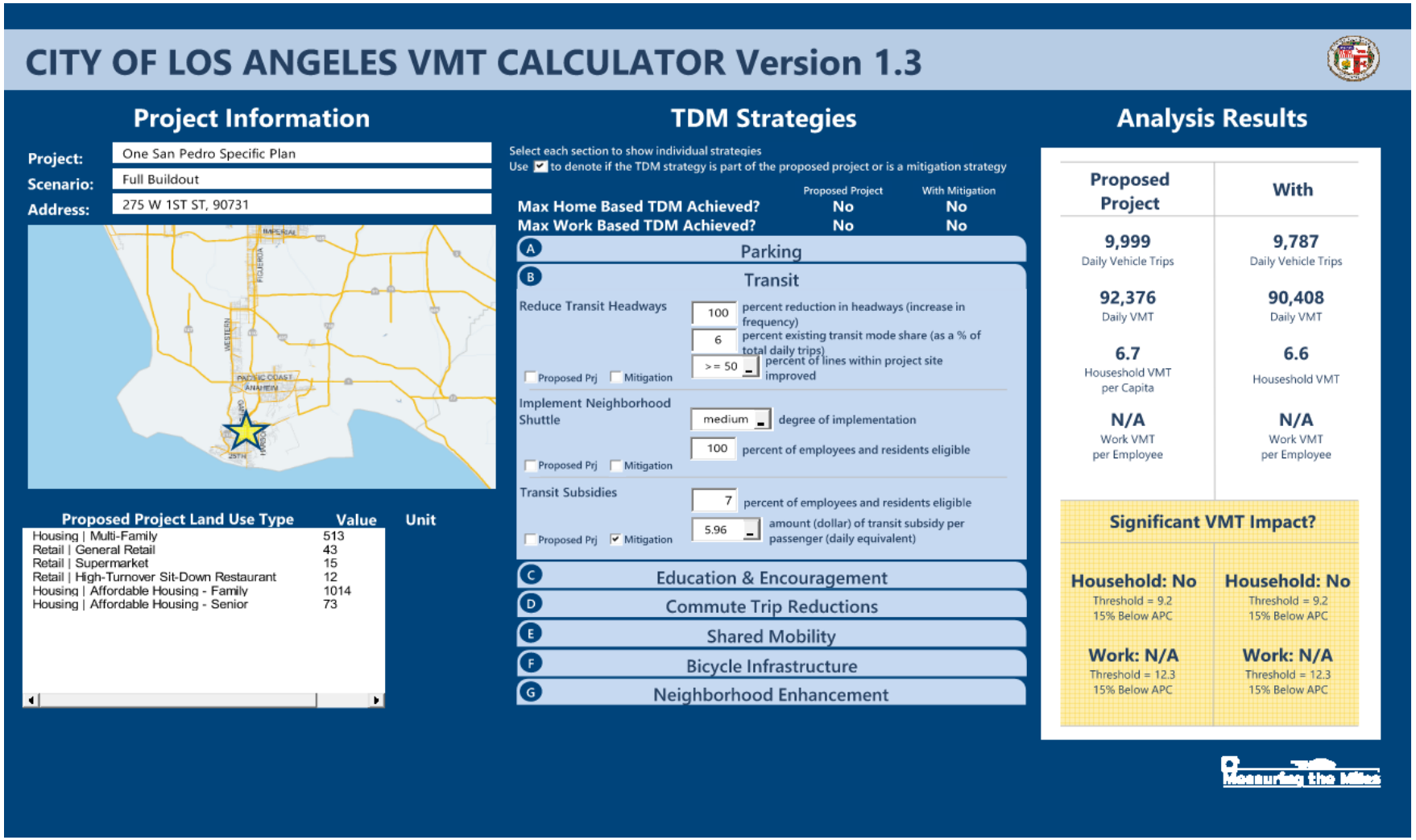
trips each day, and the VMT per capita is a metric of the total vehicle miles traveled divided by the estimated number of residents. For mixed-use projects, according to the TAG, the Project VMT impact should be considered significant if any one (or all) of the Project land uses exceed the impact criteria for that particular land use, taking credit for internal capture. In such cases, mitigation options that reduce the VMT generated by any one or all of the land uses could be considered. As discussed previously, the retail uses are local serving and would not have an VMT impact, so the residential uses were checked for this Project.

Residential VMT

Appendix H presents the City's VMT Calculator dashboard and calculations as analyzed for the Project. The Project is estimated by the Calculator to produce a total of 9,999 daily vehicle trips and a total daily VMT of 92,376. The daily household VMT per capita is estimated at 6.7, below the threshold of 9.2 for the Harbor APC. Thus, the Project is not projected to have a significant impact on household VMT per capita as estimated by the VMT Calculator.



Figure 6: VMT Calculator Results



Cumulative VMT

As noted above, the Project is not projected to have a significant impact on household VMT. Furthermore, given its location in the port community of San Pedro, the mixed-use nature of the Project, and its provision of features to encourage walking, bicycling, and transit by increasing bicycle amenities and improving transit amenities, the Project would be consistent with the applicable goals and objectives of the SCAG 2016-2040 RTP/SCS (SCAG, September 2020) to locate jobs and housing in infill locations facilitating active transportation and TDM. Also, per the TAG, projects that are consistent with the City's efficiency-based VMT thresholds are considered to align with the SCAG RTP/SCS. Therefore, the Project's cumulative impact on VMT would not be significant.

Transportation Demand Management Plan

A TDM program consists of strategies that are aimed at discouraging single-occupancy vehicle trips and encouraging alternative modes of transportation, such as carpooling, taking transit, walking, and biking. Strategies included in a typical TDM program address a wide range of transportation factors, including parking, transit, commute trips, shared mobility, bicycle infrastructure, site design, education and encouragement, and management. Given that the Project is not projected to have a significant impact on VMT, a TDM plan is not proposed as a mitigation measure. However, the Project's location and provision of bicycle parking, improved transit stops, and establishing its own vehicle parking requirements lower than the City of LA requirements contribute to encouraging alternative modes of transportation. The Project proposes to construct a transit hub at 1st Street, which would further improve access to the local transit connections. Additionally, the Project would implement TDM strategies to help reduce Project VMT, including encouraging the use of alternatives to single-occupant vehicles such as transit, cycling, walking, regarding alternative modes of travel on the Project site for employees and visitors. With the proposed TDM measures, the Project's daily vehicle trips would be reduced to 9,787 trips, with a daily VMT of 90,408 and Household VMT per Capita of 6.6.

Summary

The analysis conducted demonstrates that under the current City VMT methodology, the Project would result in less than significant impacts on VMT. This conclusion is based on the ample research and substantial evidence that mixed use infill developments with the provision of improved transit headways and bicycle amenities tend to generate fewer overall vehicle trips and those vehicle trips tend to be shorter than if the Project was built in a less dense area with less access to multi-modal travel options. See **Appendix E** for additional information about the inputs and supporting documentation for the VMT analysis.

3.3 Geometric Design Feature Review

This section discusses impacts regarding the potential for an increase of hazards due to a geometric design feature that generally relates to the design of access points to and from the Project Site and may include safety, operational, or capacity impacts.

Pedestrian access to the OSP Specific Plan Site would be prioritized via 1st Street, 2nd Street, Palos Verdes Street, Mesa Street, and Beacon Street. The Project plan would integrate with the existing street grid; therefore, there would be no primary pedestrian access points. Enhanced walking trails would stretch from the Harbor Boulevard Promenade along 1st and 2nd Street. Beacon Street would be closed to vehicular traffic between 1st and 3rd Streets, and 2nd Street would be closed to vehicular traffic between Palos Verdes Street and Harbor Boulevard. Coordination with local agencies and partners is recommended to implement off-site investments that enhance pedestrian connections, such as a new public stair/garden to connect Palos Verdes Street to Barton Hill. The Project would install new traffic signals at the intersections of 2nd Street and Pacific Avenue and at 3rd Street and Harbor Boulevard, which would provide new signalized pedestrian crossings at these locations. The 327 Harbor Site would have its primary pedestrian access along Harbor Boulevard.

Visitors and employees arriving to the Project by bicycle would have the same access opportunities as pedestrians and would be able to utilize on-site bicycle parking facilities. The Project's access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. Bicycle-focused streets would include 2nd Street, Harbor Boulevard, and Centre Street. According to the specific plan, bike lanes would be added to 2nd Street between Pacific Avenue and Palos Verdes Street, with off-street bicycle facilities stretching to the Harbor Boulevard Promenade. The Project's proposed new traffic signal at Pacific Avenue and 2nd Street would improve east-west bicycle connectivity along the proposed 2nd Street bicycle facilities.

Residents and visitors would be able to access the OSP Specific Plan Site by car through any of the fourteen driveways. There would be a shared parking garage accessible for visitors, patrons, and workers of the commercial uses. Parallel and diagonal street parking would also be distributed throughout the project area to serve residents and visitors. 3rd and Centre Streets would be designed to support local vehicle traffic and an abundance of accessible on-street diagonal parking. Harbor Boulevard is proposed to be a multi-modal boulevard with a two-way protected bikeway, retaining a southbound buffered bike lane, possible right travel lanes for busses and HOVS. Truck service to the area would be limited to 1st and 3rd Street, and Centre Street and consolidated to eliminate conflicts with pedestrians and bicyclists in the area. Vehicular access to the 327 Harbor Site would be through a driveway onto O'Farrell Street.

Pedestrians and bicycles would have separate entrances to the Project Site from vehicular driveways. The Project driveways would not be located along a street that is part of the designated HIN. As a result, the Project would not substantially increase hazards, conflicts, and would contribute to overall walkability and



bike-ability through enhancements to the Project Site. **Appendix D** contains more detailed responses to the TAG evaluation questions that support this conclusion.

3.4 Freeway Safety Analysis

In the August 2022 update to their Transportation Assessment Guidelines, LADOT provided guidance on freeway safety analysis for land use proposals that are required to prepare a TA[14]. The freeway safety analysis evaluates a proposed project's effects to cause or lengthen a forecasted off-ramp queue onto the freeway mainline and create speed differentials between vehicles exiting the freeway off-ramps and vehicles operating on the freeway mainline that could constitute a potential safety impact under CEQA.

The guidance on freeway safety analysis requires analysis of freeway off-ramps where a proposed project adds 25 or more trips in either the morning or afternoon peak hour to be studied for potential queuing impacts. If the proposed project is not projected to add 25 or more peak hour trips at any freeway off-ramps, then a freeway ramp analysis is not required. The Project is projected to add 25 or more trips to the following freeway off-ramps:

- I-110 Southbound Off-Ramp & N Gaffey Street (AM and PM peak hours)
- SR-47 Westbound Off-Ramp & N Front Street (AM and PM peak hours)
- SR-47 Eastbound Off-Ramp & N Harbor Blvd (AM and PM peak hours)

Methodology

If a freeway ramp analysis is required, the guidance provides the following steps to determine if the proposed project may constitute a potential safety impact under CEQA.

- For the identified freeway off-ramps, prepare a queuing study for the "Future with Project" conditions for the proposed project build-out year. Evaluate the adequacy of the existing and future storage lengths with the 95th percentile queue and 100% of the storage length on each lane of the ramp from the stop line to the gore point. When an auxiliary lane is present, add 50% of the length of the auxiliary lane to the ramp storage area.
- If the proposed project traffic is expected to cause or add to a queue extending onto the freeway mainline by less than two car lengths, the proposed project would cause a less-than-significant safety impact. If the queue is already extending or projected to extend onto the freeway mainline, and the addition of traffic generated by the proposed project would increase the overflow onto the mainline lanes by less than two car lengths, the project would cause a less-than-significant safety impact.
- If a proposed project adds two or more car lengths to the ramp backup that extends to the freeway mainline, then the location must be tested for safety issues which include a test for speed differential between the off-ramp queue and the mainline of the freeway during the particular peak hour. If the speed differential between the mainline lane speeds and the ramp traffic is below 30 mph, the project would be considered to cause a less-than-significant safety impact. If the speed differential is 30 mph or more, then there is a potential safety issue. The Caltrans Performance

[14] Los Angeles Department of Transportation, *LADOT Transportation Assessments – Interim Guidance for Freeway Safety Analysis* (May 2020).



Measurement System (PeMS) data should be used to identify freeway operating speed(s) during the peak hour being analyzed. If reliable PeMS data are not available at the subject location, other sources of speed data including location-based services data from available sources could be used.

- If the speed differential is 30 mph or more, which may result in a potential safety issue, the guidance suggests a proposed project should consider the following preferred corrective measures to offset a potential safety issue:
    - Transportation demand management program(s) to reduce the project's trip generation,
    - Investments to active transportation infrastructure, or transit system amenities (or expansion) to reduce the project's trip generation, and/or
    - Potential operational change(s) to the ramp terminal operations including, but not limited to, lane reassignment, traffic signalization, signal phasing or timing modifications, etc. This option requires coordination with Caltrans and LADOT to assess feasibility and for approval of the proposed measure(s).

A physical change to the ramp itself (addition of auxiliary lane, ramp widening, etc.) may be considered. However, this change would have to demonstrate substantial safety benefits, not be a VMT-inducing improvement, and not result in other environmental issues. If the cost of the physical change to the ramp is substantial, then a fair-share contribution to the improvement may be required if necessary requirements are met, including, but not limited to, Caltrans defining the improvement cost, and opening a Project File/Project Account to accept a financial contribution for the improvement.

Analysis

As noted, the Project is projected to add 25 or more trips to the I-110 Southbound Off-Ramp at Gaffey Street, and both the SR-47 Eastbound and Westbound Off-Ramps at Front Street/N Harbor Boulevard. A queuing study for the "Future with Project" conditions was conducted for all 5 Future with Project conditions using trip generation and future traffic volumes detailed in Chapter 4. Per the guidance, the adequacy of the existing and future storage lengths was evaluated with the 95th percentile queue where 100% of the storage length on each lane of the ramp from the stop line to the gore point was used. **Table 6** shows the queue lengths and analysis results for the freeway off-ramp in the Future Base and Future plus Project conditions.

Project traffic volumes and future background traffic volumes at the analyzed off-ramps were estimated using the methodologies described in Chapter 4 of this report.

I-110 Southbound Off-Ramp & N Gaffey Street

Analysis of the I-110 Southbound off-ramp to N Gaffey Street was conducted using the Synchro software and HCM 2016.

The queue length on the I-110 Southbound off-ramp to N Gaffey Street is not projected to exceed ramp capacity in any of the Future conditions during either peak hour. The Project is projected to add a maximum of one car length in any of the Future conditions, on top of a maximum queue length of 525 feet. The nearest gore point is over 2,000 feet away from the study intersection, since this is the end of the freeway,



so the Project is not projected to have a significant safety impact for the I-110 Southbound off-ramp to Gaffey Street.

SR-47 Westbound Off-Ramp & N Front Street

Analysis of the SR-47 Westbound off-ramp to N Front Street was conducted using the Synchro software and HCM 2016.

The queue length on the SR-47 Westbound off-ramp to N Front Street is not projected to exceed ramp capacity in any of the Future conditions during either peak hour. The Project is projected to add a maximum of two car lengths in any of the Future conditions, on top of a maximum queue length of 400 feet. This does not extend back to the nearest gore point on the freeway, so the Project is not projected to have a significant safety impact for the SR-47 Westbound off-ramp to Front Street.

SR-47 Eastbound Off-Ramp & N Harbor Boulevard

Analysis of the SR-47 Eastbound off-ramp to N Harbor Boulevard was conducted using the Synchro software and HCM 2016.

The queue length on the SR-47 Eastbound off-ramp to N Harbor Boulevard is not projected to exceed ramp capacity in any of the Future conditions during either peak hour. The Project is projected to add a maximum of two car lengths in any of the Future conditions, on top of a maximum queue length of 250 feet. This does not extend back to the nearest gore point on the freeway, so the Project is not projected to have a significant safety impact for the SR-47 Eastbound off-ramp to Harbor Boulevard.

Detailed queue calculations are provided in **Appendix G**.



Table 6: Freeway Off-Ramp Queueing Analysis

Table 6A: Scenario A

#	Study Intersection	Movement[1]	Storage Length	Peak Hour 95th Percentile Queue								Max Queue Length Increase (Car Lengths)[2]	Potential Safety Issue?[3]
				Future Year (2030) Base		Future Year (2030) Plus Project, OSP Specific Plan Site Phase 1 & 327 Harbor Site		Future Year (2035) Base		Future Year (2035) Plus Project, OSP Specific Plan Site Phases 1 & 2 & 327 Harbor Site			
1	N Gaffey St & I-110/SR-47 Ramps	WBL	900	325	475	325	500	325	525	325	525	25	No
4	N Front St & SR-47 WB Ramps / Knoll Dr	EBL	325	100	100	100	100	100	100	100	100	0	No
		EBT	1,000	375	225	375	225	400	250	400	250	0	No
		EBR	775	125	250	125	250	125	250	150	250	25	No
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	EBL	1,000	225	250	225	250	225	250	225	250	0	No
		EBT	1,200	100	250	100	250	100	250	100	250	0	No
		EBR	1,000	25	75	25	75	25	75	50	75	25	No

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left. All movements are at the approaches from the freeway off-ramps.

2. Assumes an average storage length per car of 25 feet.

3. Unacceptable queuing as Project traffic causing a queue to extend beyond the storage length onto the freeway mainline by two car lengths or more.

Table 6B: Freeway Off-Ramp Queueing Analysis – Scenario B

#	Study Intersection	Movement[1]	Storage Length	Peak Hour 95th Percentile Queue								Max Queue Length Increase (Car Lengths)[2]	Potential Safety Issue?[3]
				Future Year (2030) Base		Future Year (2030) Plus Project, OSP Specific Plan Site Phase 1 & 327 Harbor Site		Future Year (2035) Base		Future Year (2035) Plus Project, OSP Specific Plan Site Phases 1 & 2 & 327 Harbor Site			
1	N Gaffey St & I-110/SR-47 Ramps	WBL	900	325	475	325	500	325	525	325	550	25	No
4	N Front St & SR-47 WB Ramps / Knoll Dr	EBL	325	100	100	100	100	100	100	100	100	0	No
		EBT	1,000	375	225	375	225	400	250	400	250	0	No
		EBR	775	125	250	150	275	125	250	150	275	25	No
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	EBL	1,000	225	250	225	250	225	250	225	250	0	No
		EBT	1,200	100	250	100	250	100	250	100	250	0	No
		EBR	1,000	25	75	25	75	25	75	50	100	25	No

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left. All movements are at the approaches from the freeway off-ramps.

2. Assumes an average storage length per car of 25 feet.

3. Unacceptable queuing as Project traffic causing a queue to extend beyond the storage length onto the freeway mainline by two car lengths or more.

Table 6C: Freeway Off-Ramp Queueing Analysis – Full Project Buildout, Both Scenarios

#	Study Intersection	Movement[1]	Storage Length	Peak Hour 95th Percentile Queue				Max Queue Length Increase (Car Lengths)[2]	Potential Safety Issue?[3]
				Future Year (2037) Base		Future Year (2037) Plus Project			
1	N Gaffey St & I-110/SR-47 Ramps	WBL	900	325	525	350	550	25	No
4	N Front St & SR-47 WB Ramps / Knoll Dr	EBL	325	125	100	125	100	0	No
		EBT	1,000	400	250	400	275	25	No
		EBR	775	125	250	150	300	50	No
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	EBL	1,000	225	250	225	250	0	No
		EBT	1,200	100	250	100	250	0	No
		EBR	1,000	25	75	50	100	25	No

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left. All movements are at the approaches from the freeway off-ramps.

2. Assumes an average storage length per car of 25 feet.

3. Unacceptable queuing as Project traffic causing a queue to extend beyond the storage length onto the freeway mainline by two car lengths or more.



4. Non-CEQA Transportation Assessment

The purpose of the non-CEQA transportation assessment required in LADOT's TAG is to promote orderly development, evaluate and address transportation-system deficiencies, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, and traffic circulation.

4.1 Pedestrian, Bicycle, and Transit Access

The pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effects on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project based on an evaluation of physical or demand-based considerations that would affect the experience of people utilizing the multimodal transportation network.

The pedestrian, bicycle, and transit facilities surrounding the Project site were assessed to determine potential Project effects on pedestrian, bicycle, and transit facilities in the vicinity of the Project. **Figure 7** provides a map of pedestrian destinations and **Figure 8** provides an inventory of the pedestrian facilities (i.e., crosswalks and curb ramps), both within 1,320 feet of the edge of the Project Site. The OSP Specific Plan Site itself would provide community amenities such as retail, restaurant, and supermarket, which are expected to be local serving. Pedestrian destinations for residents include commercial facilities, schools, restaurants, and places of worship along Pacific Avenue. There are also schools and government offices along 3rd Street and 5th Street. Adjacent to the OSP Specific Plan Site to the east, there are recreational facilities on Harbor Boulevard. The Project proposes to improve many of the streets in the surrounding area with widened sidewalks and parkways, as discussed in **Appendix D**.

As shown in **Figure 8**, curb ramps, with tactile warnings, and/or marked crosswalks are not provided at many of the nearby intersections. Most of the nearby intersections have curb ramps without tactile warnings, and the ramps are also not directional. Some crosswalk legs at signalized intersections do not have push buttons, but this is appropriate as these intersections are pretimed to provide walk phases for every signal cycle.

The following checklist from the TAG was reviewed to evaluate whether direct or indirect Project effects would lead to removal, modification, or degradation of pedestrian, bicycle, or transit facilities:

- **Removal or degradation of existing sidewalks, crosswalks, pedestrian refuge islands, and/or curb extensions/bulbouts**

- No, the Project would not remove or degrade existing pedestrian facilities in the pedestrian environment because the Project would retain or increase the existing sidewalk widths adjacent and within to the Project Site.

- **Removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)**

    - The Project would not remove or degrade the existing bikeways and/or supporting facilities, including the existing Class II Bike Lane along Harbor Boulevard. The Project would add new bike lanes on Centre Street, Mesa Street, Palos Verdes Street, 2nd Street, and Santa Cruz Street. Additionally, the Project would provide a minimum of 39 short-term bike parking spaces and 1600 long-term bike parking spaces on the OSP Specific Plan Site and 6 short-term and 42 long-term bicycle spaces on the 327 Harbor Site to promote bicycle connectivity between both Project Sites and the surrounding neighborhoods. The Project proposes new bike lanes along the Project frontages at Centre Street, Mesa Street, Palos Verdes Street, 2nd Street, and Santa Cruz Street.

- **Removal or degradation of existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities**

    - No, the Project would not degrade existing transit and/or local circulator facilities. The OSP Specific Plan Site has five adjacent bus stops, at the intersections of Centre Street & 1st Street, Centre Street & 3rd Street, and Beacon Street & 1st Street. The 327 Harbor Site is adjacent to a stop at O'Farrell Street and Beacon Street. These stops are served by the LADOT Dash San Pedro San Pedro bus route, Metro bus routes 205 and 246, and the Metro J Line (Silver). The Project proposed minor realignment of these routes and improved bus stops and shelters along 1st Street, in addition to a transit hub along 1st Street with shade, landscaping, seating, and public art. This may involve minor relocations of the transit stops, but no removals.

- **Removal of other existing transportation system elements supporting sustainable mobility**

    - No, the Project does not propose to remove sustainable transportation elements – the only existing sustainable transportation elements, such as sidewalks, bike lanes, and transit stops, would remain or be improved by the Project.

- **Increase street crossing distance for pedestrians; increase in number of travel/turning lanes; increase in turning radius or turning speeds**

    - No, the Project does not propose any changes to the public right-of-way that would increase street crossing distance for pedestrians, increase the number of travel lanes, or increase turning speeds.

- **Removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way**



- No, the Project does not propose to remove, degrade, or narrow sidewalks or limit pedestrian access paths. The Project would retain or increase the existing sidewalk width within and adjacent to the Project Site.

- **Removal or narrowing of existing sidewalk-street buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)**
    - No, the Project does not propose the removal or narrowing of existing sidewalk-street buffering elements.

- **Increase in pedestrian or vehicle volume, and thereby increase the need or attraction to cross a street at unmarked pedestrian crossings or unsignalized or uncontrolled intersections where a crossing is not available without significant rerouting.**
    - The Project is anticipated to increase pedestrian and vehicle volumes at both the OSP Specific Plan Site and the 327 Harbor Site due to the increase in residents. The major arterial closest to the Project, Harbor Boulevard, already has signalized crossings at 1st Street and 5th Street, and the Project is proposing to install a new signal with pedestrian crossings at 3rd street. The Project also proposed a new signal with pedestrian crossings at the intersection of Pacific Avenue and 2nd Street, which would accommodate increased east-west connectivity for all modes. Additional pedestrian volumes are expected at unmarked crossings across minor non-arterial streets such as 3rd Street and Centre Street, so it is recommended that the Project install marked crosswalks at minor intersections where appropriate, in addition to the traffic calming measures such as mini traffic circles and curb extensions that are already proposed.

- **Result in new pedestrian demand between project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.).**
    - There are no missing pedestrian sidewalks between either of the Project Sites and major destinations such as Downtown San Pedro to the south or stops along the Metro J Line (Silver). There are some unmarked crossings at minor streets that would be used by pedestrians from the Project. Within and bordering the Project, there are no marked crosswalks at the following intersections, as shown in **Figure 8**. It is recommended that the Project consider marked crossings at these intersections where appropriate.
        - Ofarrell Street and Beacon Street
        - Santa Cruz Street and Centre Street (marked on east leg), Palos Verdes Street, and Beacon Street
        - 1st Street and Mesa Street, Centre Street, Palos Verdes Street, and Beacon Street

- 2nd Street and Mesa Street, Centre Street, Palos Verdes Street, Beacon Street, and Harbor Boulevard (unmarked at west leg, there's a median blocking the other crossings)
- 3rd Street and Centre Street (unmarked only on west leg), Palos Verdes Street, Beacon Street (marked on west leg), and Harbor Boulevard

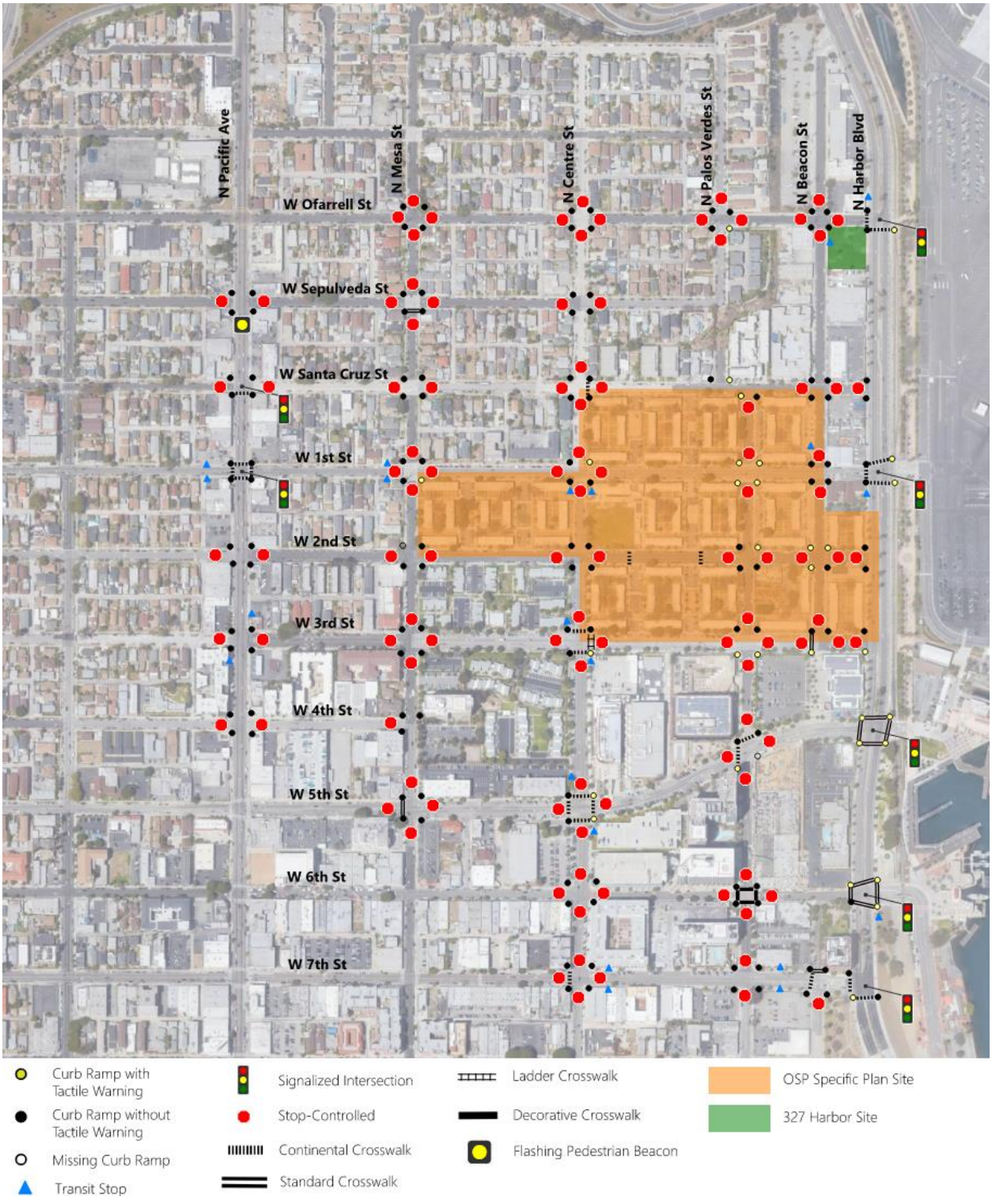
- **Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas.**
    - All bus stops along the project frontages are proposed to be improved by the Project, and there is already sidewalk access to these nearby stops.

The responses provided above reflect conditions upon Project completion. During construction there may be temporary closures that result in temporary impacts. The Project frontages are not along streets that are part of the High-Injury Network (HIN).

Figure 7. Pedestrian Destinations Inventory.



Figure 8. Pedestrian Infrastructure Inventory.



4.2 Project Access, Safety, and Circulation Evaluation

This section documents the peak hour intersection analysis conducted based on the screening criteria and trip threshold for intersection analyses provided in the TAG.

Study Analysis Locations

Seven signalized intersections and one unsignalized intersection were selected for analysis in consultation with LADOT. One of the seven signalized intersections is unsignalized in the existing condition but signalized in all future analysis conditions. The study locations were selected for analysis based on guidance from LADOT's TAG, which indicates that intersections immediately adjacent to the site and in proximity to the site through which 100 or more project-generated trips would travel should be analyzed. The study intersections are illustrated in **Figure 9** and listed in **Table 7**.

Level of Service Methodology

Intersection Level of Service – Highway Capacity Manual

Per the direction of LADOT, this analysis uses the *Highway Capacity Manual, 6th Edition* (HCM) (Transportation Research Board, 2016) methodology to evaluate the operation of Project driveways and nearby intersections. This was performed using the Synchro 10.0 software program. Synchro calculates vehicle delay and level of service (LOS) based on procedures outlined in the HCM. This methodology was used to determine the intersection delay in seconds and corresponding level of service (LOS) at the signalized and unsignalized intersections. The calculation of delay represents the amount of delay experienced by vehicles passing through the intersection. The unsignalized intersection was analyzed using the 2-way stop method from the HCM 6th Edition. Delay was calculated based on the worst-case approach (for the 2-way stop-controlled intersection), and used to assign the corresponding LOS, as presented in **Table 8**. Access is considered constrained if the addition of Project related trips contributes to unacceptable queueing at a Project driveway or nearby signalized intersections. The network was built to match the existing roadway lane configurations, including storage bay and taper lengths.

Figure 9: Study Intersections

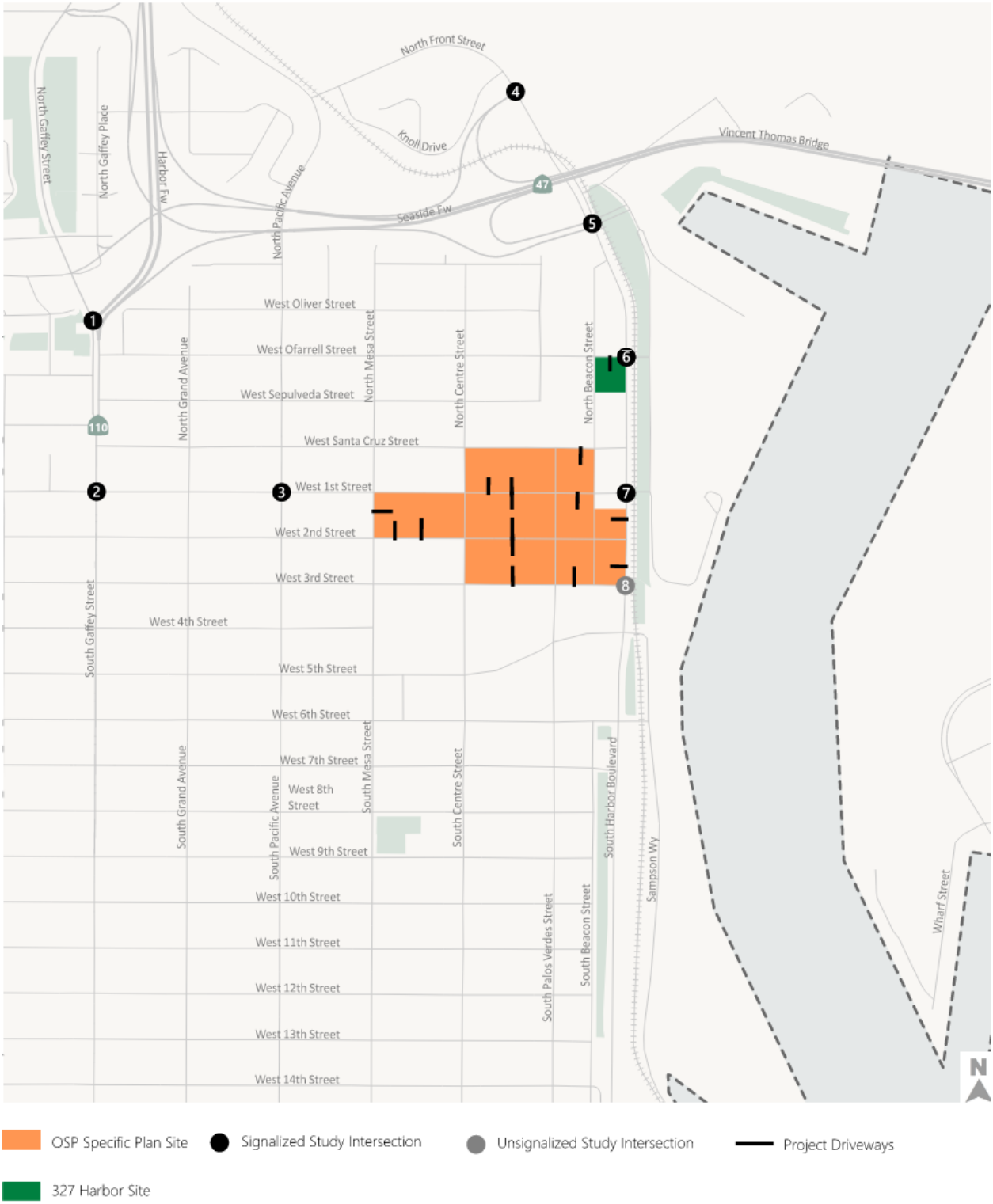


Table 7: Study Intersections

#	N/S Street Name	E/W Street Name
1	N Gaffey St	I-110/SR-47 Ramps
2	N/S Gaffey St	W 1st St
3	N Pacific Avenue	W 1st St
4	N Front St[1]	SR-47 WB On Ramp (existing) SR-47 WB Ramps / Knoll Dr (future)
5	N Harbor Blvd	SR-47 EB Ramps & WB Off Ramp / Swinford St (existing) SR-47 EB Ramps / Swinford St (future)
6	N Harbor Blvd	W Ofarrell St
7	N/S Harbor Blvd	W 1st St
8	S Harbor Blvd[1]	W 3rd St

1. Study Intersection #8 is an unsignalized intersection in the Baseline Year (2021) scenario and the Future No Project scenarios, and Study Intersection #4 is unsignalized only in the Baseline Year (2021) conditions.

2. Study Intersections #4 and #5 would be reconfigured by the time of the future scenarios.



Table 8: LOS Thresholds for Signalized and Unsignalized Intersections

Level of Service (LOS)	Signalized Intersection Average Control Delay (sec/veh)	Unsignalized Intersection Average Control Delay (sec/veh)
A	≤ 10.0	≤ 10.0
B	> 10.1 to 20.0	> 10.1 to 15.0
C	> 20.1 to 35.0	> 15.1 to 25.0
D	> 35.1 to 55.0	> 25.1 to 35.0
E	> 55.1 to 80.0	> 35.1 to 50.0
F	> 80.0	> 50.0

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

Analysis Conditions

The following nine conditions were analyzed:

- Baseline Year (2021) Conditions – Intersection turning movement counts were obtained for the study area and LOS was calculated to determine baseline conditions.
- Future Year No Project Conditions – Based on the City of Los Angeles travel demand model and at the direction of LADOT, it was established that an ambient growth rate of 0.3% per year should be applied to adjust the baseline year traffic volumes to reflect the effects of regional growth and development. This adjustment was applied to the baseline year (2021) traffic volume data to reflect the effect of ambient growth by the years of the following three conditions. Additionally, Future Year traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the Project Site prior to the buildout date of the Project.
    - Future Year (2030) No Project
    - Future Year (2035) No Project
    - Future Year (2037) No Project
- Scenario A – the following two conditions follow the Scenario A alternative.
    - Future Year (2030) Plus Project, Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site. The Project trip estimates for the 327 Harbor Site and for OSP Specific Plan Site Phase 1 were added to the Future Year (2030) No Project forecasts. OSP Specific Plan Site Phase 1 is made up of land uses from the first portions of construction at the OSP Specific Plan Site, and the 327 Harbor Site construction is planned to be completed before OSP Specific Plan Site Phase 1.
    - Future Year (2035) Plus Project, Scenario A, OSP Specific Plan Site Phases 1 & 2 & 327 Harbor Site. Similarly, the Project trip estimates for the 327 Harbor Site and for OSP Specific Plan Site Phases 1 & 2 were added to the Future Year (2035) No Project forecasts. OSP Specific Plan Site Phase 2 is made up of the next portions of construction at the OSP Specific Plan Site, and the 327 Harbor Site and OSP Specific Plan Site Phase 1 construction is planned to be completed before OSP Specific Plan Site Phase 2.
- Scenario B – the following two conditions follow the Scenario B alternative, which front-loads the construction by putting more of the land use totals in OSP Specific Plan Site Phases 1 and 2 (See Table 2).
    - Future Year (2030) Plus Project, Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site. The Project trip estimates for the 327 Harbor Site and for OSP Specific Plan Site Phase 1 were added to the Future Year (2030) No Project forecasts. OSP Specific Plan Site Phase 1 is made up of land uses from the first portions of construction at the OSP Specific Plan Site, and the 327 Harbor Site construction is planned to be completed before OSP Specific Plan Site Phase 1. As mentioned, the "OSP Specific Plan Site Phase 1" here consists of a greater land use total than it does in Scenario A.



- Future Year (2035) Plus Project, Scenario B, OSP Specific Plan Site Phases 1 & 2 & 327 Harbor Site. Similarly, the Project trip estimates for the 327 Harbor Site and for OSP Specific Plan Site Phases 1 & 2 were added to the Future Year (2035) No Project forecasts. OSP Specific Plan Site Phase 2 is made up of the next portions of construction at the OSP Specific Plan Site, and the 327 Harbor Site and OSP Specific Plan Site Phase 1 construction is planned to be completed before OSP Specific Plan Site Phase 2. As mentioned, the "OSP Specific Plan Site Phase 2" here consists of a greater land use total than it does in Scenario A.

- Future Year (2037) Plus Project, Both Scenarios, Full Project Buildout – this condition adds the Project trip estimates from the full buildout of the project, which includes both the 327 Harbor Site and the entire OSP Specific Plan Site, onto the Future Year (2037) No Project forecasts. The full buildout would have the same land use totals for both Scenario A and Scenario B.

Year 2021 Baseline Traffic Volumes

Intersection turning movement counts were obtained for the study area and LOS was calculated to determine Year 2021 baseline conditions. Weekday AM and PM peak period turning movement counts were collected in May 2019 at all of the study intersections except intersection 6, Harbor Boulevard & O'Farrell Street. Due to the COVID-19 pandemic and the shelter-in-place orders from the Governor and County, along with a memo released by LADOT in April 2020, turning movements counts could not be collected at these intersections in 2021 since they would not reflect typical conditions. The counts collected in 2019 were used as the Baseline Year (2021) volumes, and were not increased with a growth rate, as sample counts collected in 2021 showed a decrease in traffic volumes compared to 2019.

For the intersection of Harbor Boulevard & O'Farrell Street, counts collected in May 2021 were used, as there were none available from 2019. Counts were also collected at Pacific Avenue & 1st Street and at Harbor Boulevard & 1st Street in May 2021, and these were compared to the corresponding 2019 counts. Based on this comparison, the May 2021 Harbor Boulevard & O'Farrell Street counts were multiplied by 1.7 to obtain an estimate of turning movements at that intersection in 2019.

The Year 2021 baseline weekday AM and PM peak hour volumes at the study intersections are provided in **Appendix H**, as well as the lane configurations of the study intersections. Count sheets for these intersections are contained in **Appendix F**.

Baseline Level of Service

The Year 2021 baseline traffic volumes in **Appendix H** were analyzed using the intersection capacity analysis methodology described above to determine the baseline operating conditions at the study intersections.

Table 9 summarizes the baseline weekday AM and PM peak hour LOS for the study intersections. As indicated, six of the eight study intersections operate at LOS D or better during both peak hours under baseline conditions, The intersection of Gaffey Street & 1st Street operates at LOS F in the AM peak hour



and LOS E in the PM peak hour, and the intersection of Harbor Boulevard & 3rd Street operates at LOS F in both the AM and PM peak hours. Analysis sheets are provided in **Appendix G**.

Table 9: Baseline Year (2021) Intersection Levels of Service

#	Intersection	Peak Hour	Baseline Year (2021)	
			Delay (sec/veh)	LOS
1	N Gaffey St & I-110/SR-47 Ramps	AM	20.4	C
		PM	22.7	C
2	N/S Gaffey St & W 1st St	AM	113.7	F
		PM	59.3	E
3	N Pacific Avenue & W 1st St	AM	33.1	C
		PM	15.6	B
4	N Front St & SR-47 WB On Ramp[1]	AM	11.0	C
		PM	5.9	B
5	N Harbor Blvd & SR-47 EB Ramps / WB Off Ramp / Swinford St	AM	28.3	C
		PM	22.9	C
6	N Harbor Blvd & W Ofarrell St	AM	8.2	A
		PM	5.5	A
7	N/S Harbor Blvd & W 1st St	AM	36.9	D
		PM	22.5	C
8	S Harbor Blvd & W 3rd St[1]	AM	65.2	F
		PM	56.0	F

1. Study Intersection #8 is an unsignalized intersection in all existing and future base scenarios, and Study Intersection #4 is unsignalized only in the Baseline Year (2021) conditions.

Project Traffic

The development of peak hour vehicular traffic estimates for the Project involves the use of a three-step process: trip generation, trip distribution, and traffic assignment.

Trip Generation

As discussed in Chapter 1, the Project consists of a large residential development, along with Neighborhood Serving Uses and retail uses, replacing an existing 478-unit residential development. The Project consists of up to 1,553 residential units, of which 73 would be reserved for affordable housing for seniors, 1,014 units would be reserved for affordable multifamily units, and 513 would be market-rate multifamily units. 46 of the affordable multifamily units and one market-rate manager's unit would be located at the 327 Harbor Site, 2 blocks north of the OSP Specific Plan Site. The Neighborhood Serving Uses would consist of administrative offices and community facilities, including a health clinic, workforce development center, senior center, childcare center, business incubator, art and maker space, youth center, and wellness center, as well as neighborhood-serving retail of 3,000 sf of less. The retail uses (including neighborhood-serving retail) would include a 15,000 sf of supermarket, 43,000 sf of shopping plaza space, and 12,000 sf of restaurant space. All of these additional uses would be spread throughout the OSP Specific Plan Site, and the 327 Harbor Site would solely consist of the 47 units of housing.

The Project would be split into four overall phases in order of construction – the 327 Harbor Site, OSP Specific Plan Site Phase 1, OSP Specific Plan Site Phase 2, and OSP Specific Plan Site Phase 3. The amount of construction occurring in each of the OSP Specific Plan Site Phases would follow either one of two options, Scenario A or Scenario B. As previously mentioned in Chapter 1, the specific land uses included in each of the OSP Specific Plan Site Phases for each of the two options, in addition to the 327 Harbor Site, can be found in **Table 2**.

The original trip generation rates were calculated using the Institute of Transportation Engineers Trip Generation Manual, 11th Edition, except the land uses for which LADOT's TAG had applicable rates(affordable multifamily and senior housing). A series of adjustments were then made to the trip totals obtained from the original rates in accordance with LADOT's TAG.

Reductions to account for internal capture, a Transportation Demand Management (TDM) program, and transit/walking trips were applied as directed by LADOT.

Adjustments were also made to account for trips generated by transportation network companies. Given the relatively recent introduction of shared mobility transportation network companies (TNCs) such as Lyft and Uber in the urban transportation network, minimal industry research has been conducted to measure the mode split of TNC vehicles. Anecdotal evidence suggests, however, that usage has been steadily growing in recent years. To account for TNC usage, it was assumed that TNCs would add 5% more trips for every land use category.

An existing use credit was also applied to account for the existing 478 residential units, as they are removed to make way for the new units.



As shown in **Tables 10A** through **10F**, the project is projected to generate a net increase of the following vehicle trips.

- 327 Harbor Boulevard (Future Year 2030, **Table 10A**)
    - 23 trips (9 inbound/14 outbound) during the AM peak hour
    - 17 trips (8 inbound/9 outbound) during the PM peak hour
- Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site (Future Year 2030, **Table 10B**)
    - 160 trips (71 inbound/89 outbound) during the AM peak hour
    - 134 trips (69 inbound/65 outbound) during the PM peak hour
- Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site (Future Year 2035, **Table 10C**)
    - 396 trips (171 inbound/225 outbound) during the AM peak hour
    - 382 trips (203 inbound/179 outbound) during the PM peak hour
- Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site (Future Year 2030, **Table 10D**)
    - 201 trips (91 inbound/110 outbound) during the AM peak hour
    - 166 trips (89 inbound/77 outbound) during the PM peak hour
- Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site (Future Year 2035, **Table 10E**)
    - 483 trips (205 inbound/278 outbound) during the AM peak hour
    - 451 trips (238 inbound/213 outbound) during the PM peak hour
- Both Scenarios, Full Project Buildout including 327 Harbor Site (Future Year 2037, **Table 10F**)
    - 576 trips (243 inbound/333 outbound) during the AM peak hour
    - 533 trips (284 inbound/249 outbound) during the PM peak hour

Trip Distribution

The geographic distribution of trips generated by the Project is dependent on characteristics of the street system serving the Project Site; the level of accessibility of routes to and from the Project Site, locations of employment, commercial centers, and residential areas from which the visitors to the Project would be drawn and residents of the Project would travel to. A select zone analysis was conducted for the proposed uses within the City's travel demand model to inform the general distribution pattern for this study. The estimated distribution of Project trips is illustrated in **Figure 10**.

Traffic Assignment

The traffic to be generated by the Project was assigned to the street network using the distribution patterns described in **Figure 10**. **Appendix H** provides the assignment of the Project-generated peak hour traffic volumes at the analyzed intersections during the peak hours. The assignment of traffic volumes took into



consideration the locations of the Project driveways, in addition to the proposed closures of segments of 2nd Street and Beacon Street as mentioned in Chapter 3.

TABLE 10A
ONE SAN PEDRO PROJECT, BOTH ALTERNATIVES
327 HARBOR SITE
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	49 DU	11	16	27	12	9	21
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program [d]		*5%*			*5%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		5%			5%				*1*	*1*	*2*	*0*	*1*	*1*
Net External Affordable Multifamily									10	14	24	9	9	18
NET INCREMENTAL EXTERNAL TRIPS									10	14	24	9	9	18

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition*, 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. To keep the trip generation consistent for the 327 Harbor Site during all phases of the Project, the internal capture was conservatively kept at 0%.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

TABLE 10B
ONE SAN PEDRO PROJECT, SCENARIO A
OSP SPECIFIC PLAN SITE PHASE 1
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	350 DU [g]	77	116	193	83	68	151
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*(1)*	*(5)*	*(6)*	*(7)*	*(2)*	*(9)*
Less: TDM Program [d]		*5%*			*5%*				*(4)*	*(5)*	*(9)*	*(4)*	*(3)*	*(7)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(11)*	*(16)*	*(27)*	*(11)*	*(9)*	*(20)*
Added: TNC Adjustment [f]		5%			5%				*7*	*4*	*11*	*4*	*5*	*9*
Net External Affordable Multifamily									68	94	162	65	59	124
Market-Rate Multifamily Housing (Mid-Rise)	221	0.37	23%	77%	0.39	61%	39%	25 DU	2	7	9	6	4	10
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Added: TNC Adjustment [f]		5%			5%				*0*	*1*	*1*	*1*	*0*	*1*
Net External Market-Rate Multifamily (Mid-Rise)									2	7	9	5	4	9
Strip Retail Plaza (<40k)	*822*	*2.36*	*60%*	*40%*	*6.59*	*50%*	*50%*	5 ksf	7	5	12	17	16	33
Less: Internal capture [c]			*25%*	*22%*		*38%*	*56%*		*(2)*	*(1)*	*(3)*	*(6)*	*(9)*	*(15)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(1)*	*0*	*(1)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*0*	*1*	*1*	*0*	*1*
Total Driveway Trips									5	4	9	9	6	15
Less: Pass-by from net trips		50%			50%				*(2)*	*(2)*	*(4)*	*(4)*	*(3)*	*(7)*
Net External Strip Retail Plaza (<40k)									3	2	5	5	3	8
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	3 ksf	16	13	29	16	11	27
Less: Internal capture [c]			*22%*	*9%*		*41%*	*58%*		*(4)*	*(1)*	*(5)*	*(7)*	*(6)*	*(13)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(2)*	*(1)*	*(3)*	*(1)*	*(1)*	*(2)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*1*	*0*	*1*
Total Driveway Trips									10	12	22	8	4	12
Less: Pass-by from net trips [h]		20%			20%				*(1)*	*(2)*	*(3)*	*(1)*	*0*	*(1)*
Net External High-Turnover Sit-Down									9	10	19	7	4	11
Other Neighborhood Uses [i]	495	1.91	66%	34%	2.5	47%	53%	24 ksf	30	16	46	28	32	60
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(15)*	*(8)*	*(23)*	*(14)*	*(16)*	*(30)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*(1)*	*(2)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Added: TNC Adjustment [f]		5%			5%				*0*	*1*	*1*	*1*	*1*	*2*
Total Driveway Trips									12	8	20	12	14	26
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									12	8	20	12	14	26
TOTAL DRIVEWAY TRIPS									97	125	222	99	87	186
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									94	121	215	94	84	178

TABLE 10B CONTINUED ON NEXT PAGE

TABLE 10B (CONTINUED)

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	156 DU	34	52	86	37	30	67
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program									*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(8)*	*(13)*	*(6)*	*(4)*	*(10)*
Added: TNC Adjustment [k]		5%			5%				*3*	*2*	*5*	*2*	*2*	*4*
Net External Affordable Multifamily									32	46	78	33	28	61
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE ONLY									62	75	137	61	56	117
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE AND 327 HARBOR SITE [j]									71	89	160	69	65	134

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition*, 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[j] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporated on any other rows of this table.

TABLE 10C
ONE SAN PEDRO PROJECT, SCENARIO A
OSP SPECIFIC PLAN SITE PHASES 1 & 2
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	730 DU [g]	161	241	402	173	141	314
Less: Internal capture [c]			*3%*	*3%*		*21%*	*11%*		*(4)*	*(8)*	*(12)*	*(37)*	*(16)*	*(53)*
Less: TDM Program [d]		*5%*			*5%*				*(8)*	*(12)*	*(20)*	*(7)*	*(6)*	*(13)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(22)*	*(34)*	*(56)*	*(20)*	*(17)*	*(37)*
Added: TNC Adjustment [f]		*5%*			*5%*				*14*	*10*	*24*	*7*	*9*	*16*
Net External Affordable Multifamily									141	197	338	116	111	227
Market-Rate Multifamily Housing (Mid-Rise)	221	[i]	23%	77%	[i]	61%	39%	245 DU	22	74	96	59	37	96
Less: Internal capture [c]			*3%*	*3%*		*19%*	*10%*		*(1)*	*(2)*	*(3)*	*(11)*	*(4)*	*(15)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(4)*	*(5)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(10)*	*(13)*	*(7)*	*(5)*	*(12)*
Added: TNC Adjustment [f]		*5%*			*5%*				*5*	*1*	*6*	*2*	*3*	*5*
Net External Market-Rate Multifamily (Mid-Rise)									22	59	81	41	29	70
Supermarket	850	2.86	59%	41%	[j]	50%	50%	15 ksf	25	18	43	83	83	166
Less: Internal capture [c]			*12%*	*22%*		*15%*	*33%*		*(3)*	*(4)*	*(7)*	*(12)*	*(27)*	*(39)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(3)*	*(6)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(9)*	*(9)*	*(18)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*4*	*4*	*8*
Total Driveway Trips									19	12	31	63	48	111
Less: Pass-by from net trips [h]		40%			40%				*(7)*	*(4)*	*(11)*	*(23)*	*(17)*	*(40)*
Net External Supermarket									12	8	20	40	31	71
Strip Retail Plaza (<40k)	822	2.36	60%	40%	6.59	50%	50%	18 ksf	25	17	42	60	59	119
Less: Internal capture [c]			*12%*	*22%*		*15%*	*33%*		*(3)*	*(4)*	*(7)*	*(9)*	*(19)*	*(28)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(2)*	*(5)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(7)*	*(6)*	*(13)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*3*	*2*	*5*
Total Driveway Trips									19	11	30	44	34	78
Less: Pass-by from net trips [h]		50%			50%				*(9)*	*(5)*	*(14)*	*(20)*	*(16)*	*(36)*
Net External Strip Retail Plaza									10	6	16	24	18	42
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	6 ksf	31	26	57	33	21	54
Less: Internal capture [c]			*34%*	*18%*		*41%*	*58%*		*(11)*	*(5)*	*(16)*	*(14)*	*(12)*	*(26)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(3)*	*(6)*	*(2)*	*(2)*	*(4)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*1*	*1*	*2*
Total Driveway Trips									17	18	35	17	8	25
Less: Pass-by from net trips [h]		20%			20%				*(3)*	*(3)*	*(6)*	*(3)*	*(1)*	*(4)*
Net External High-Turnover Sit-Down									14	15	29	14	7	21

TABLE 10C CONTINUED ON NEXT PAGE

TABLE 10C (CONTINUED)

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
Other Neighborhood Uses [k]	495	1.91	66%	34%	2.5	47%	53%	48 ksf	61	31	92	56	64	120
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(31)*	*(16)*	*(47)*	*(28)*	*(32)*	*(60)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(1)*	*(2)*	*(3)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(2)*	*(6)*	*(4)*	*(5)*	*(9)*
Added: TNC Adjustment [f]		5%			5%				*1*	*2*	*3*	*2*	*2*	*4*
Total Driveway Trips									26	14	40	25	27	52
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									26	14	40	25	27	52
TOTAL DRIVEWAY TRIPS									244	311	555	306	257	563
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									225	299	524	260	223	483
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	300 ksf	66	99	165	71	58	129
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program		*0%*			*0%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(10)*	*(15)*	*(25)*	*(10)*	*(9)*	*(19)*
Added: TNC Adjustment [k]		*5%*			*5%*				*7*	*4*	*11*	*4*	*4*	*8*
Net External Affordable Multifamily									63	88	151	65	53	118
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE ONLY									162	211	373	195	170	365
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE AND 327 HARBOR SITE [l]									171	225	396	203	179	382

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Market-Rate Multi-Family (Mid Rise) were used. For the AM Peak hour, the equation is T = 0.44(x) - 11.61, and for the PM Peak hour, the equation is T = 0.39(x) + 0.34.

[j] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Supermarket were used for the PM Peak Hour. The equation is Ln(T) = 0.81 Ln(x) + 2.92.

[k] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[l] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporate on any other rows of this table.

TABLE 10D
ONE SAN PEDRO PROJECT, SCENARIO B
OSP SPECIFIC PLAN SITE PHASE 1
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	420 DU [g]	92	139	231	100	81	181
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*(1)*	*(6)*	*(7)*	*(9)*	*(3)*	*(12)*
Less: TDM Program [d]		*5%*			*5%*				*(4)*	*(7)*	*(11)*	*(4)*	*(4)*	*(8)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(13)*	*(19)*	*(32)*	*(13)*	*(11)*	*(24)*
Added: TNC Adjustment [f]		5%			5%				*8*	*6*	*14*	*5*	*5*	*10*
Net External Affordable Multifamily									82	113	195	79	68	147
Market-Rate Multifamily Housing (Mid-Rise)	221	0.37	23%	77%	0.39	61%	39%	30 DU	3	8	11	7	5	12
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*0*	*(2)*	*(2)*	*(1)*	*(1)*	*(2)*
Added: TNC Adjustment [f]		5%			5%				*0*	*1*	*1*	*1*	*0*	*1*
Net External Market-Rate Multifamily (Mid-Rise)									3	6	9	5	4	9
Strip Retail Plaza (<40k)	*822*	*2.36*	*60%*	*40%*	*6.59*	*50%*	*50%*	6 ksf	8	6	14	20	20	40
Less: Internal capture [c]			*21%*	*20%*		*38%*	*56%*		*(2)*	*(1)*	*(3)*	*(8)*	*(11)*	*(19)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(1)*	*(1)*	*(2)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*0*	*1*	*1*	*0*	*1*
Total Driveway Trips									5	4	9	10	8	18
Less: Pass-by from net trips [h]		50%			50%				*(2)*	*(2)*	*(4)*	*(4)*	*(4)*	*(8)*
Net External Strip Retail Plaza (<40k)									3	2	5	6	4	10
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	4 ksf	21	17	38	22	14	36
Less: Internal capture [c]			*22%*	*7%*		*41%*	*58%*		*(5)*	*(1)*	*(6)*	*(9)*	*(8)*	*(17)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*1*	*0*	*1*
Total Driveway Trips									13	14	27	11	5	16
Less: Pass-by from net trips [h]		20%			20%				*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Net External High-Turnover Sit-Down									11	12	23	9	4	13
Other Neighborhood Uses [i]	495	1.91	66%	34%	2.5	47%	53%	29 ksf	36	19	55	34	39	73
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(18)*	*(10)*	*(28)*	*(17)*	*(20)*	*(37)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*(1)*	*(2)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(1)*	*(4)*	*(2)*	*(3)*	*(5)*
Added: TNC Adjustment [f]		5%			5%				*1*	*1*	*2*	*1*	*1*	*2*
Total Driveway Trips									15	9	24	15	16	31
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									15	9	24	15	16	31
TOTAL DRIVEWAY TRIPS									118	146	264	120	101	221
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									114	142	256	114	96	210

TABLE 10D CONTINUED ON NEXT PAGE

TABLE 10D (CONTINUED)

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	156 DU	34	52	86	37	30	67
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program									*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(8)*	*(13)*	*(6)*	*(4)*	*(10)*
Added: TNC Adjustment [k]		5%			5%				*3*	*2*	*5*	*2*	*2*	*4*
Net External Affordable Multifamily									32	46	78	33	28	61
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE ONLY									82	96	178	81	68	149
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE AND 327 HARBOR SITE [j]									91	110	201	89	77	166

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition*, 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[j] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporated on any other rows of this table.

TABLE 10E
ONE SAN PEDRO PROJECT, SCENARIO B
OSP SPECIFIC PLAN SITE PHASES 1 & 2
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	829 DU [g]	182	274	456	196	160	356
Less: Internal capture [c]			*3%*	*4%*		*21%*	*11%*		*(5)*	*(10)*	*(15)*	*(41)*	*(18)*	*(59)*
Less: TDM Program [d]		*5%*			*5%*				*(9)*	*(13)*	*(22)*	*(8)*	*(7)*	*(15)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(25)*	*(38)*	*(63)*	*(23)*	*(19)*	*(42)*
Added: TNC Adjustment [f]		*5%*			*5%*				*16*	*11*	*27*	*8*	*10*	*18*
Net External Affordable Multifamily									159	224	383	132	126	258
Market-Rate Multifamily Housing (Mid-Rise)	221	[i]	23%	77%	[i]	61%	39%	294 DU	27	91	118	70	45	115
Less: Internal capture [c]			*3%*	*3%*		*19%*	*10%*		*(1)*	*(3)*	*(4)*	*(13)*	*(5)*	*(18)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(5)*	*(6)*	*(3)*	*(2)*	*(5)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(12)*	*(16)*	*(9)*	*(5)*	*(14)*
Added: TNC Adjustment [f]		*5%*			*5%*				*5*	*2*	*7*	*2*	*4*	*6*
Net External Market-Rate Multifamily (Mid-Rise)									26	73	99	47	37	84
Supermarket	850	2.86	59%	41%	[j]	50%	50%	15 ksf	25	18	43	83	83	166
Less: Internal capture [c]			*14%*	*23%*		*16%*	*34%*		*(3)*	*(4)*	*(7)*	*(13)*	*(29)*	*(42)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(3)*	*(6)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(9)*	*(9)*	*(18)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*4*	*4*	*8*
Total Driveway Trips									19	12	31	62	46	108
Less: Pass-by from net trips [h]		40%			40%				*(7)*	*(4)*	*(11)*	*(23)*	*(16)*	*(39)*
Net External Supermarket									12	8	20	39	30	69
Strip Retail Plaza (<40k)	822	2.36	60%	40%	6.59	50%	50%	22 ksf	31	21	52	73	72	145
Less: Internal capture [c]			*14%*	*23%*		*16%*	*34%*		*(4)*	*(5)*	*(9)*	*(12)*	*(25)*	*(37)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(2)*	*(5)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(2)*	*(6)*	*(8)*	*(7)*	*(15)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*2*	*3*	*4*	*3*	*7*
Total Driveway Trips									23	15	38	54	41	95
Less: Pass-by from net trips [h]		50%			50%				*(11)*	*(6)*	*(17)*	*(25)*	*(19)*	*(44)*
Net External Strip Retail Plaza									12	9	21	29	22	51
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	8 ksf	42	35	77	44	28	72
Less: Internal capture [c]			*34%*	*18%*		*41%*	*58%*		*(14)*	*(6)*	*(20)*	*(18)*	*(16)*	*(34)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(1)*	*(1)*	*(2)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(4)*	*(8)*	*(3)*	*(2)*	*(5)*
Added: TNC Adjustment [f]		*5%*			*5%*				*2*	*1*	*3*	*1*	*1*	*2*
Total Driveway Trips									24	25	49	23	10	33
Less: Pass-by from net trips [h]		20%			20%				*(4)*	*(4)*	*(8)*	*(4)*	*(1)*	*(5)*
Net External High-Turnover Sit-Down									20	21	41	19	9	28

TABLE 10E CONTINUED ON NEXT PAGE

TABLE 10E (CONTINUED)

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
Other Neighborhood Uses [k]	495	1.91	66%	34%	2.5	47%	53%	58 ksf	73	38	111	68	77	145
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(37)*	*(19)*	*(56)*	*(34)*	*(39)*	*(73)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(3)*	*(8)*	*(5)*	*(5)*	*(10)*
Added: TNC Adjustment [f]		5%			5%				*1*	*2*	*3*	*2*	*2*	*4*
Total Driveway Trips									30	17	47	29	33	62
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									30	17	47	29	33	62
TOTAL DRIVEWAY TRIPS									281	366	647	347	293	640
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									259	352	611	295	257	552
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	300 ksf	66	99	165	71	58	129
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program		*0%*			*0%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(10)*	*(15)*	*(25)*	*(10)*	*(9)*	*(19)*
Added: TNC Adjustment [k]		*5%*			*5%*				*7*	*4*	*11*	*4*	*4*	*8*
Net External Affordable Multifamily									63	88	151	65	53	118
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE ONLY									196	264	460	230	204	434
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE AND 327 HARBOR SITE [l]									205	278	483	238	213	451

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Market-Rate Multi-Family (Mid Rise) were used. For the AM Peak hour, the equation is T = 0.44(x) - 11.61, and for the PM Peak hour, the equation is T = 0.39(x) + 0.34.

[j] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Supermarket were used for the PM Peak Hour. The equation is Ln(T) = 0.81 Ln(x) + 2.92.

[k] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[l] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporate on any other rows of this table.

TABLE 10F
ONE SAN PEDRO PROJECT, BOTH SCENARIOS
FULL BUILDOUT
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	968 DU [g]	213	319	532	229	187	416
Less: Internal capture [c]			*3%*	*4%*		*20%*	*11%*		*(6)*	*(13)*	*(19)*	*(46)*	*(21)*	*(67)*
Less: TDM Program [d]		*5%*			*5%*				*(10)*	*(16)*	*(26)*	*(9)*	*(8)*	*(17)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(29)*	*(44)*	*(73)*	*(28)*	*(22)*	*(50)*
Added: TNC Adjustment [f]		*5%*			*5%*				*19*	*12*	*31*	*9*	*12*	*21*
Net External Affordable Multifamily									187	258	445	155	148	303
Affordable Senior Housing	[b]	0.11	38%	62%	0.17	55%	45%	73 DU	3	5	8	7	5	12
Less: Internal capture [c]			*3%*	*4%*		*20%*	*11%*		*0*	*0*	*0*	*(1)*	*(1)*	*(2)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*0*	*1*	*0*	*1*	*1*
Net External Affordable Senior Housing									4	4	8	4	5	9
Market-Rate Multifamily Housing (Mid-Rise)	221	[i]	23%	77%	[i]	61%	39%	512 DU	49	165	214	122	78	200
Less: Internal capture [c]			*3%*	*4%*		*20%*	*11%*		*(1)*	*(7)*	*(8)*	*(24)*	*(9)*	*(33)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(8)*	*(10)*	*(5)*	*(3)*	*(8)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(7)*	*(22)*	*(29)*	*(15)*	*(9)*	*(24)*
Added: TNC Adjustment [f]		*5%*			*5%*				*10*	*3*	*13*	*4*	*6*	*10*
Net External Market-Rate Multifamily (Mid-Rise)									49	131	180	82	63	145
Supermarket	850	2.86	59%	41%	[j]	50%	50%	15 ksf	25	18	43	83	83	166
Less: Internal capture [c]			*14%*	*22%*		*18%*	*36%*		*(4)*	*(4)*	*(8)*	*(15)*	*(30)*	*(45)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(3)*	*(6)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(9)*	*(8)*	*(17)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*4*	*3*	*7*
Total Driveway Trips									18	12	30	60	45	105
Less: Pass-by from net trips [h]		40%			40%				*(6)*	*(4)*	*(10)*	*(22)*	*(16)*	*(38)*
Net External Supermarket									12	8	20	38	29	67
Shopping Plaza (40-150k)	821	1.73	62%	38%	5.19	49%	51%	43 ksf	46	28	74	109	114	223
Less: Internal capture [c]			*14%*	*22%*		*18%*	*36%*		*(6)*	*(6)*	*(12)*	*(20)*	*(40)*	*(60)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(4)*	*(4)*	*(8)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(6)*	*(3)*	*(9)*	*(11)*	*(12)*	*(23)*
Added: TNC Adjustment [f]		*5%*			*5%*				*2*	*2*	*4*	*5*	*5*	*10*
Total Driveway Trips									34	20	54	79	63	142
Less: Pass-by from net trips [h]		50%			50%				*(16)*	*(9)*	*(25)*	*(37)*	*(29)*	*(66)*
Net External Shopping Plaza (40-150k)									18	11	29	42	34	76
High-Turnover (Sit-Down) Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	12 ksf	63	52	115	66	43	109
Less: Internal capture [c]			*29%*	*16%*		*41%*	*59%*		*(18)*	*(8)*	*(26)*	*(27)*	*(25)*	*(52)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(7)*	*(6)*	*(13)*	*(5)*	*(3)*	*(8)*
Added: TNC Adjustment [f]		*5%*			*5%*				*2*	*3*	*5*	*1*	*2*	*3*
Total Driveway Trips									38	39	77	33	16	49
Less: Pass-by from net trips [h]		20%			20%				*(7)*	*(7)*	*(14)*	*(6)*	*(2)*	*(8)*
Net External High-Turnover Sit-Down									31	32	63	27	14	41

TABLE 10f CONTINUED ON NEXT PAGE

TABLE 10F (CONTINUED)

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
Other Neighborhood Uses [k]	495	1.91	66%	34%	2.5	47%	53%	60 ksf	76	39	115	71	79	150
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(38)*	*(20)*	*(58)*	*(36)*	*(40)*	*(76)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(3)*	*(8)*	*(5)*	*(6)*	*(11)*
Added: TNC Adjustment [f]		5%			5%				*1*	*2*	*3*	*2*	*2*	*4*
Total Driveway Trips									32	17	49	30	33	63
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									32	17	49	30	33	63
TOTAL DRIVEWAY TRIPS									362	481	843	443	373	816
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									333	461	794	378	326	704
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	478 DU	105	158	263	113	93	206
Less: Internal capture [c]			0%	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program		*0%*			*0%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(16)*	*(23)*	*(39)*	*(17)*	*(14)*	*(31)*
Added: TNC Adjustment [k]		*5%*			*5%*				*10*	*7*	*17*	*6*	*7*	*13*
Net External Affordable Multifamily									99	142	241	102	86	188
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE ONLY									234	319	553	276	240	516
NET INCREMENTAL EXTERNAL TRIPS - OSP SPECIFIC PLAN SITE AND 327 HARBOR SITE [i]									243	333	576	284	249	533

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

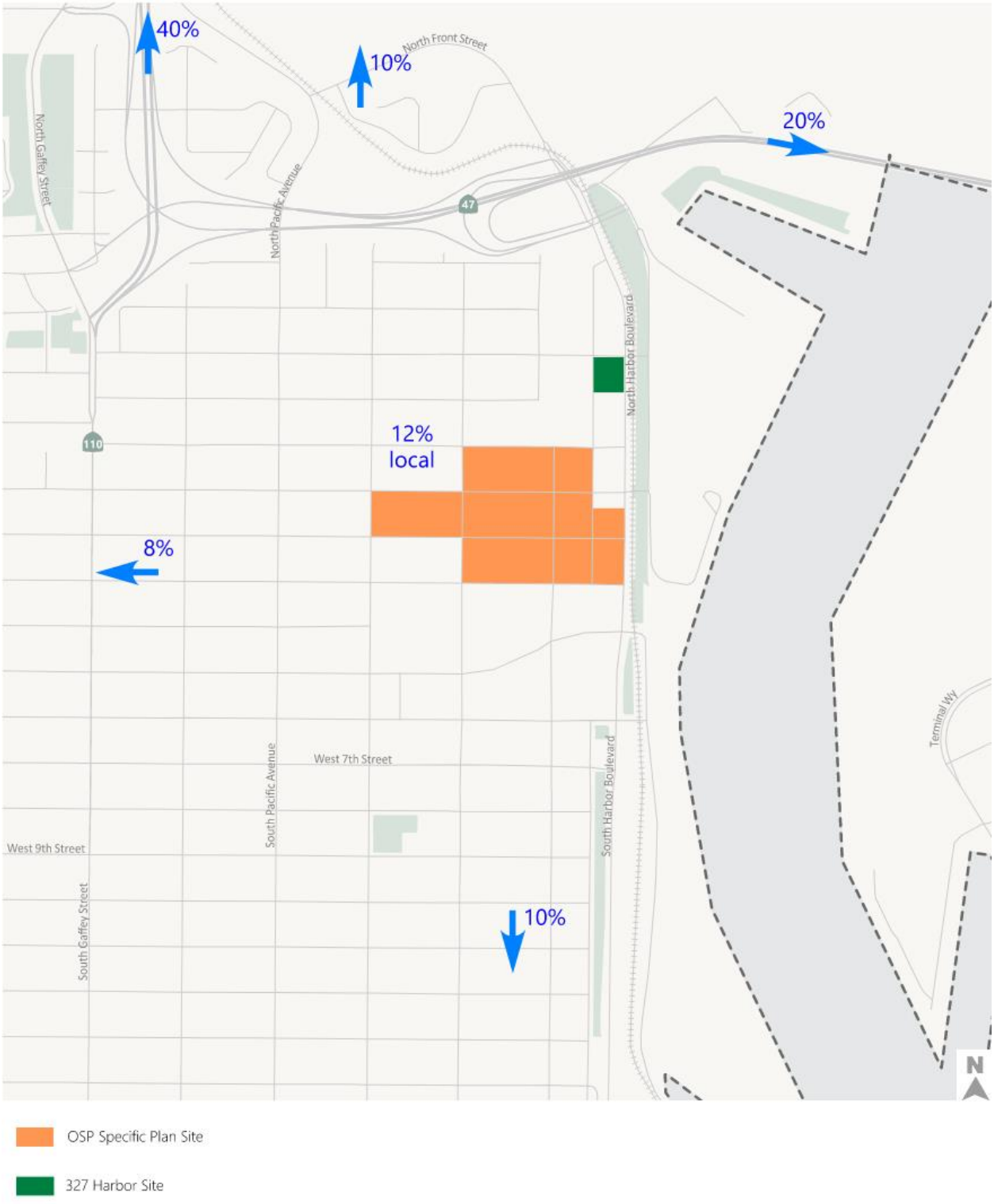
[i] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Market-Rate Multi-Family (Mid Rise) were used. For the AM Peak hour, the equation is T = 0.44(x) - 11.61, and for the PM Peak hour, the equation is T = 0.39(x) + 0.34.

[j] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Supermarket were used for the PM Peak Hour. The equation is Ln(T) = 0.81 Ln(x) + 2.92.

[k] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[l] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporate on any other rows of this table.

Figure 10. Trip Distribution Maps.



Future Years (2030, 2035, and 2037) Traffic Volumes

To evaluate the potential impacts of the Project on Future Year (2030), Future Year (2035), and Future Year (2037) conditions, it was necessary to develop estimates of future traffic conditions in the area both without and with Project traffic. First, estimates of traffic growth were developed for the study area to forecast future conditions without the Project. These forecasts included traffic increases as a result of both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the Project (related projects).

These projected traffic volumes, identified herein as the Future Year (2030) No Project conditions, Future Year (2035) No Project conditions, and Future Year (2037) No Project conditions, represent the future conditions without the Project. The traffic generated by the various Project conditions was then estimated and assigned to the surrounding street system. Project traffic was added to their corresponding No Project conditions to form Future Year Plus Project traffic conditions, which were analyzed to determine the incremental traffic impacts attributable to the Project itself. The following five Future Year Plus Project conditions were studied.

- Future Year (2030) with Project, Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site
- Future Year (2035) with Project, Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site
- Future Year (2030) with Project, Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site
- Future Year (2035) with Project, Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site
- Future Year (2037) with Project, Both Scenarios, Full Project Buildout

The assumptions and analysis methodology used to develop each of the future year conditions discussed above are described in more detail in the following sections.

Background or Ambient Growth

Based on the City of Los Angeles travel demand model and at the direction of LADOT, it was established that an ambient growth factor of 0.3% per year should be applied to adjust the baseline year traffic volumes to reflect the effects of regional growth and development. This adjustment was applied to the baseline year (2021) traffic volume data to reflect the effect of ambient growth by the years 2030, 2035, and 2037.

Related Project Traffic Generation and Assignment

Opening Year traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the Project Site prior to the buildout date of the Project. The list of related projects was prepared based on data from LADOT and verified by City Planning. A total of 16 related projects were identified in the study area; these projects were listed in **Table 4** and their locations were illustrated in **Figure 5** in Chapter 2.

Trip Generation

For related projects provided by LADOT, the trip generation was used as provided. For related projects provided by other sources, trip generation was estimated using the ITE Trip Generation Manual, 11th Edition,



or by the related project sources. **Table 4** presents the resulting trip generation estimates for these related projects. These projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.). Mitigation measures associated with the related projects are also not in every case accounted for in the analysis.

Trip Distribution

The geographic distribution of the traffic generated by the related projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments may be drawn, the locations of employment and commercial centers to which residents of residential projects may be drawn, and the location of the projects in relation to the surrounding street system.

Traffic Assignment

Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

Transportation Infrastructure Projects

In addition to the ambient growth and related development projects in the area, programmed improvements to local streets were considered for this analysis. Based on an Environmental Impact Report (EIR) published in 2018, Caltrans is planning the State Route 47/Vincent Thomas Bridge & Front Street/Harbor Boulevard Interchange Reconfiguration to reconfigure the SR-47 off-ramps north of the Project site along Harbor Boulevard, which affects the geometries for two of the study intersections. Figure 11 shows the proposed geometry for the reconfigured ramps, which would move the existing westbound on-ramp (Study Intersection 4) north so that it aligns with Knoll Drive, and would relocate the existing westbound off-ramp from its current alignment with the eastbound ramps (Study Intersection 5) to align with the new westbound on-ramp. The EIR detailed how volumes would be adjusted between the two intersections, and this analysis was used to adjust the volumes for the Project as well. At the time of publication of the report, this was projected to be completed in 2023, seven years before the first future analysis year of the Project.

Future Years (2030, 2035, and 2037) No Project Traffic Volumes

Future Years (2030, 2035, and 2037) No Project weekday peak hour traffic volumes and lane geometries for the analyzed intersections are provided in **Appendix H**. The Future Year (2030, 2035, and 2037) No Project traffic conditions represent an estimate of future conditions without any of the proposed Project alternatives and building phases, inclusive of the ambient background growth and related projects traffic.

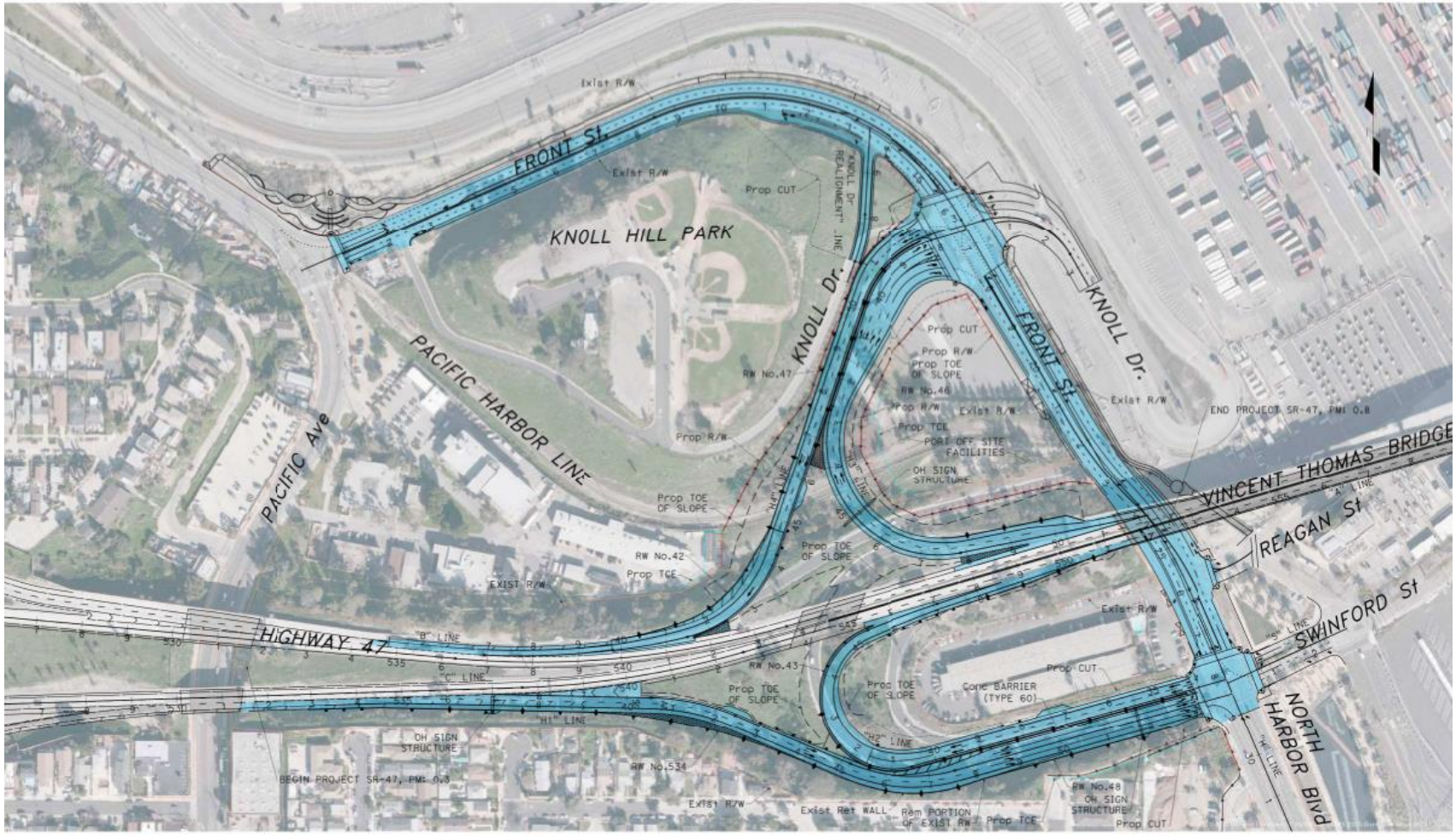
Future Years Plus Project Traffic Projections

The Project traffic volumes were added to the Future Year traffic projections, resulting in Future Year Plus Project peak hour traffic volumes for the five Plus Project conditions previously described. As provided in **Appendix H**, the Future Year Plus Project conditions represents future traffic conditions with the completion



of the corresponding phases of the Project. The Project is proposing to construct a new traffic signal at the intersection of Harbor Boulevard and 3rd Street (Intersection 8), which is incorporated in the future analysis for all Plus Project conditions.

Figure 11. Reconfigured SR-47 Ramps Geometry



Source: Caltrans, 2022

Future Year (2030) Plus Project, Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site Operational Analysis

The Future Year (2030) No Project and Plus Project peak hour traffic volumes were analyzed to determine the projected LOS and maximum queue lengths for the turn pockets and through movements for each of the analyzed intersections. Project access is considered constrained if the project's traffic would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan 2035) at project driveway(s) or would cause or substantially extend queuing at nearby signalized intersections.

The project would be considered to contribute to unacceptable or extended queuing in the turn pocket capacity if any of the following conditions are met:

1. Additional queue along through lanes and either of the following conditions are expected:
    a. The projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or
    b. The projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.
2. The queue spills over from turn pockets into through lanes.
3. Cross streets or alleys are blocked by the queue.
4. Drive-through queues spill over into streets.
5. The queue contributes to gridlock congestion.

Source: Transportation Assessment Guidelines, Los Angeles Department of Transportation, August 2022.

Table 11 summarizes the Future Year (2030) No Project and Plus Project (Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site) LOS for the study intersections, along with the 95th percentile queue lengths and approach LOS for the vehicular movements at study intersections.

Five of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2030) No Project. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2030) No Project conditions (intersection numbers below correlate with the intersection numbers in **Table 11**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

8. Harbor Boulevard & 3rd Street
    a. LOS F in the AM peak hour
    b. LOS F in the PM peak hour

Four of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2030) Plus Project (Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site) conditions. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2030) Plus Project (Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site) conditions (intersection numbers below correlate with the intersection numbers in **Table 11**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

7. Harbor Boulevard & 1st Street
    a. LOS E in the AM peak hour

As shown in **Table 11**, per the City's criteria, the Project is projected to substantially contribute to unacceptable queueing during one or both peak hours at the following study intersections during this Project condition. At all locations listed, this is due to a spill over from a turn pocket into a through lane that is already occurring in the future base conditions, but the project traffic increases the length of this queue spill over by one or more car lengths (intersection numbers below correlate with the intersection numbers in **Table 11**).

2. Gaffey Street & 1st Street (AM peak hour, westbound right turn pocket)
5. Harbor Boulevard & SR-47 EB Ramps/Swinford Street (AM peak hour, northbound left turn pocket)
7. Harbor Boulevard & 1st Street (AM and PM peak hours, eastbound left turn pocket)

Detailed intersection LOS worksheets for the study intersections are presented in **Appendix G**.

Table 11: Future Year (2030) Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site LOS and Queue Lengths

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement [1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
1	N Gaffey St & I-110/SR-47 Ramps	C/C	WBL	C	C	C/C	C	C	WBL	900	325	475	325	500	-	-
			WBLR	A	A		A	A	WBLR	0	0	0	0	0	-	-
			NBT	B	B		B	B	NBT	175	150	150	150	150	-	-
			NBR	-	-		-	-	NBR	175	575	25	575	25	-	-
			SBL	A	A		A	A	SBL	0	0	0	0	0	-	-
			SBT	C	C		C	C	SBT	300	200	250	200	250	-	-
2	N/S Gaffey St & W 1st St	F/E	EBL	F	F	F/E	F	F	EBL	575	1,175	825	1,175	825	-	-
			EBT	A	A		A	A	EBT	575	1,200	825	1,200	825	-	-
			EBR	D	D		D	D	EBR	125	25	25	25	25	-	-
			WBL	E	E		E	E	WBL	125	100	100	100	100	-	-
			WBT	E	E		E	E	WBT	575	200	250	200	250	-	-
			WBR	E	E		E	E	WBR	150	150	75	175	75	Yes	-
			NBL	D	F		D	F	NBL	100	25	100	25	100	-	-
			NBT	D	D		D	D	NBT	250	850	525	850	550	-	-
			NBR	D	D		D	D	NBR	0	0	0	0	0	-	-
			SBL	F	F		F	F	SBL	375	200	275	200	275	-	-
			SBT	C	D		C	D	SBT	925	725	975	750	1,000	-	-
			SBR	D	D		D	D	SBR	0	0	0	0	0	-	-

Table 11 ***(Continued 2 of 4)***

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
3	N Pacific Avenue & W 1st St	D/B	EBL	C	B	E/B	C	B	EBL	0	0	0	0	0	-	-
			EBT	A	A		A	A	EBT	600	100	125	125	150	-	-
			EBR	B	B		B	B	EBR	125	25	50	25	50	-	-
			WBL	F	B		F	B	WBL	0	0	0	0	0	-	-
			WBT	A	A		A	A	WBT	600	125	100	175	125	-	-
			WBR	B	B		B	B	WBR	75	25	25	50	25	-	-
			NBL	C	C		C	C	NBL	75	50	100	50	100	-	-
			NBT	F	B		F	B	NBT	275	550	250	550	275	-	-
			NBR	A	A		A	A	NBR	100	50	25	50	25	-	-
			SBL	C	B		D	B	SBL	75	25	25	25	25	-	-
			SBT	B	C		B	C	SBT	275	250	475	250	475	-	-
			SBR	A	A		A	A	SBR	100	25	25	25	25	-	-
4	N Front St & SR-47 WB Ramps / Knoll Dr	E/C	EBL	D	D	E/D	D	D	EBL	325	125	100	125	100	-	-
			EBT	F	E		F	E	EBT	1,000	400	250	400	275	-	-
			EBR	B	B		B	B	EBR	775	125	250	150	300	-	-
			WBL	D	D		D	D	WBL	550	50	125	50	125	-	-
			WBT	A	A		A	A	WBT	550	200	375	200	400	-	-
			WBR	D	C		D	D	WBR	0	0	0	0	0	-	-
			NBL	D	D		D	D	NBL	575	425	325	475	375	-	-
			NBT	C	C		C	C	NBT	1,100	225	225	225	225	-	-
			NBR	C	C		C	C	NBR	0	0	0	0	0	-	-
			SBL	E	D		E	D	SBL	250	25	75	25	75	-	-
			SBT	E	D		E	D	SBT	1,600	175	200	175	200	-	-
			SBR	E	D		E	D	SBR	0	0	0	0	0	-	-

Table 11 ***(Continued 3 of 4)***

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	C/D	EBL	E	F	C/D	E	F	EBL	1,000	225	250	225	250	-	-
			EBT	D	F		D	F	EBT	1,200	100	250	100	250	-	-
			EBR	B	B		C	B	EBR	1,000	25	75	50	100	-	-
			WBL	E	E		E	E	WBL	975	50	50	50	50	-	-
			WBT	E	E		E	E	WBT	225	25	100	25	100	-	-
			WBR	A	D		A	D	WBR	975	25	50	25	50	-	-
			NBL	D	D		D	D	NBL	350	425	275	475	300	Yes	-
			NBT	C	B		C	B	NBT	975	550	350	625	375	-	-
			NBR	C	B		C	B	NBR	0	0	0	0	0	-	-
			SBL	E	E		E	E	SBL	275	75	100	75	100	-	-
			SBT	D	C		D	D	SBT	1,100	375	400	400	425	-	-
			SBR	B	B		B	B	SBR	300	25	25	25	25	-	-
6	N Harbor Blvd & W Ofarrell St	A/A	EBL	D	D	B/A	D	D	EBL	140	175	125	175	125	-	-
			EBR	A	A		A	A	EBR	140	0	0	0	0	-	-
			NBL	A	B		A	B	NBL	200	25	25	25	25	-	-
			NBT	A	A		B	A	NBT	600	600	325	775	350	-	-
			SBT	A	A		A	A	SBT	975	250	625	300	775	-	-
			SBR	A	A		A	A	SBR	0	0	0	0	0	-	-

Table 11 ***(Continued 4 of 4)***

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
7	N/S Harbor Blvd & W 1st St	D/D	EBL	F	D	F/D	F	E	EBL	75	550	250	725	400	Yes	Yes
			EBT	A	A		A	A	EBT	150	25	75	25	75	-	-
			EBR	C	C		C	C	EBR	0	0	0	0	0	-	-
			WBL	D	C		D	C	WBL	125	25	50	25	50	-	-
			WBT	A	A		A	A	WBT	125	25	50	25	50	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	C	D		C	F	NBL	150	25	75	75	150	-	-
			NBT	C	D		D	D	NBT	100	750	675	750	675	-	-
			NBR	C	D		C	D	NBR	0	0	0	0	0	-	-
			SBL	D	E		D	E	SBL	375	50	25	50	25	-	-
			SBT	B	C		B	D	SBT	250	575	675	625	725	-	-
			SBR	A	B		B	B	SBR	50	25	25	50	50	-	-
8	S Harbor Blvd & W 3rd St	F/F	EBL	F	F	A/A	D	D	EBL	250	75	125	75	100	-	-
			EBR	B	C		D	D	EBR	250	25	25	25	25	-	-
			NBL	B	B		A	A	NBL	275	0	0	25	50	-	-
			NBT	-	-		A	A	NBT	250	-	-	275	225	-	-
			SBT	-	-		A	A	SBT	250	-	-	275	300	-	-
			SBR	-	-		A	A	SBR	0	-	-	0	0	-	-

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing as defined in the report text, per the *August 2022 Los Angeles Department of Transportation Transportation Assessment Guidelines*.

3. Study intersection #8 is an unsignalized intersection in the No Project conditions, so queues and directional levels of service were not reported for the NBT, SBT, and SBR No Project movements.

Future Year (2035) Plus Project, Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site Operational Analysis

The Future Year (2035) No Project and Plus Project peak hour traffic volumes were analyzed to determine the projected LOS and maximum queue lengths for the turn pockets and through movements for each of the analyzed intersections.

Table 12 summarizes the Future Year (2035) No Project and Plus Project (Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site) LOS for the study intersections, along with the 95th percentile queue lengths and approach LOS for the vehicular movements at study intersections.

Five of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2035) No Project. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2035) No Project conditions (intersection numbers below correlate with the intersection numbers in **Table 12**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

8. Harbor Boulevard & 3rd Street
    a. LOS F in the AM peak hour
    b. LOS F in the PM peak hour

Four of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2035) Plus Project (Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site) conditions. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2035) Plus Project (Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site) conditions (intersection numbers below correlate with the intersection numbers in **Table 12**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

7. Harbor Boulevard & 1st Street
    a. LOS E in the AM peak hour

As shown in **Table 12**, per the City's criteria, the Project is projected to substantially contribute to unacceptable queueing during one or both peak hours at the following study intersections during this Project condition. At all locations listed, this is due to a spill over from a turn pocket into a through lane



that is already occurring in the future base conditions, but the project traffic increases the length of this queue spill over by one or more car lengths (intersection numbers below correlate with the intersection numbers in **Table 12**).

5. Harbor Boulevard & SR-47 EB Ramps/Swinford Street (AM peak hour, northbound left turn pocket)
7. Harbor Boulevard & 1st Street (AM peak hour, eastbound left turn pocket)

Detailed intersection LOS worksheets for the study intersections are presented in **Appendix G**.

Table 12: Future Year (2035) Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site LOS and Queue Lengths

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base	Future Year (2035) Plus Project				
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
1	N Gaffey St & I-110/SR-47 Ramps	C/C	WBL	C	C	C/C	C	C	WBL	900	325	525	325	525	-	-
			WBLR	A	A		A	A	WBLR	0	0	0	0	0	-	-
			NBT	B	B		C	B	NBT	175	150	150	175	150	-	-
			NBR	-	-		-	-	NBR	175	600	25	625	25	-	-
			SBL	A	A		A	A	SBL	0	0	0	0	0	-	-
			SBT	C	C		C	C	SBT	300	200	250	200	250	-	-
2	N/S Gaffey St & W 1st St	F/E	EBL	F	F	F/E	F	F	EBL	575	1,200	825	1,200	825	-	-
			EBT	A	A		A	A	EBT	575	1,225	825	1,225	825	-	-
			EBR	D	D		D	D	EBR	125	25	25	25	25	-	-
			WBL	E	E		E	E	WBL	125	100	100	100	100	-	-
			WBT	E	E		E	E	WBT	575	200	250	200	250	-	-
			WBR	E	E		E	E	WBR	150	175	75	175	75	-	-
			NBL	D	F		E	F	NBL	100	25	100	25	100	-	-
			NBT	D	D		D	D	NBT	250	850	550	900	550	-	-
			NBR	D	D		D	D	NBR	0	0	0	0	0	-	-
			SBL	F	F		F	F	SBL	375	200	275	225	275	-	-
			SBT	C	D		C	D	SBT	925	750	1,000	775	1,000	-	-
			SBR	D	D		D	E	SBR	0	0	0	0	0	-	-

Table 12 *(Continued 2 of 4)*

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
3	N Pacific Avenue & W 1st St	D/B	EBL	B	B	D/B	C	B	EBL	0	0	0	0	0	-	-
			EBT	A	A		A	A	EBT	600	100	125	100	125	-	-
			EBR	B	B		B	B	EBR	125	25	50	25	50	-	-
			WBL	F	B		F	B	WBL	0	0	0	0	0	-	-
			WBT	A	A		A	A	WBT	600	125	100	150	100	-	-
			WBR	B	B		B	B	WBR	75	25	25	25	25	-	-
			NBL	C	C		C	C	NBL	75	50	100	50	100	-	-
			NBT	D	B		F	B	NBT	275	550	250	550	250	-	-
			NBR	A	A		A	A	NBR	100	50	25	50	25	-	-
			SBL	C	B		C	B	SBL	75	25	25	25	25	-	-
			SBT	B	C		B	C	SBT	275	250	475	250	475	-	-
			SBR	A	A		A	A	SBR	100	25	25	25	25	-	-
4	N Front St & SR-47 WB Ramps / Knoll Dr	E/C	EBL	D	D	E/D	D	D	EBL	325	100	100	100	100	-	-
			EBT	F	E		F	E	EBT	1,000	400	250	400	250	-	-
			EBR	B	B		B	B	EBR	775	125	250	150	250	-	-
			WBL	D	D		D	D	WBL	550	50	125	50	125	-	-
			WBT	A	A		A	A	WBT	550	200	375	200	375	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	D	D		D	D	NBL	575	425	325	450	325	-	-
			NBT	C	C		C	C	NBT	1,100	225	225	225	225	-	-
			NBR	C	C		C	C	NBR	0	0	0	0	0	-	-
			SBL	E	D		E	D	SBL	250	25	75	25	75	-	-
			SBT	E	D		E	D	SBT	1,600	175	200	175	200	-	-
			SBR	E	D		E	D	SBR	0	0	0	0	0	-	-

Table 12 *(Continued 3 of 4)*

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	C/D	EBL	E	F	C/D	E	F	EBL	1,000	225	250	225	250	-	-
			EBT	D	F		D	F	EBT	1,200	100	250	100	250	-	-
			EBR	B	B		C	B	EBR	1,000	25	75	50	75	-	-
			WBL	E	E		E	E	WBL	975	50	50	50	50	-	-
			WBT	E	E		E	E	WBT	225	25	100	25	100	-	-
			WBR	A	D		A	D	WBR	975	25	50	25	50	-	-
			NBL	D	D		D	D	NBL	350	400	275	450	275	Yes	-
			NBT	C	B		C	B	NBT	975	550	325	600	325	-	-
			NBR	C	B		C	B	NBR	0	0	0	0	0	-	-
			SBL	E	E		E	E	SBL	275	75	100	75	100	-	-
			SBT	D	C		D	D	SBT	1,100	350	400	400	400	-	-
			SBR	B	B		B	B	SBR	300	25	25	25	25	-	-
6	N Harbor Blvd & W Ofarrell St	A/A	EBL	D	D	B/A	D	D	EBL	140	175	100	175	100	-	-
			EBR	A	A		A	A	EBR	140	0	0	0	0	-	-
			NBL	A	B		A	B	NBL	200	25	25	25	25	-	-
			NBT	A	A		A	A	NBT	600	575	300	750	300	-	-
			SBT	A	A		A	A	SBT	975	250	600	275	600	-	-
			SBR	A	A		A	A	SBR	0	0	0	0	0	-	-

Table 12 ***(Continued 4 of 4)***

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
7	N/S Harbor Blvd & W 1st St	D/D	EBL	F	D	E/D	F	D	EBL	75	550	250	650	250	Yes	-
			EBT	A	A		A	A	EBT	150	25	75	25	75	-	-
			EBR	C	C		C	C	EBR	0	0	0	0	0	-	-
			WBL	D	C		D	C	WBL	125	25	50	25	50	-	-
			WBT	A	A		A	A	WBT	125	25	50	25	50	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	C	D		C	E	NBL	150	25	75	75	75	-	-
			NBT	C	D		D	D	NBT	100	750	675	750	675	-	-
			NBR	C	D		C	D	NBR	0	0	0	0	0	-	-
			SBL	D	E		D	E	SBL	375	50	25	50	25	-	-
			SBT	B	C		B	D	SBT	250	575	675	600	675	-	-
			SBR	A	B		A	B	SBR	50	25	25	50	25	-	-
8	S Harbor Blvd & W 3rd St	F/F	EBL	F	F	A/A	D	D	EBL	250	75	125	75	100	-	-
			EBR	B	C		D	D	EBR	250	25	25	25	25	-	-
			NBL	B	B		A	A	NBL	275	0	0	25	25	-	-
			NBT	-	-		A	A	NBT	250	-	-	250	225	-	-
			SBT	-	-		A	A	SBT	250	-	-	275	300	-	-
			SBR	-	-		A	A	SBR	0	-	-	0	0	-	-

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing as defined in the report text, per the *August 2022 Los Angeles Department of Transportation Transportation Assessment Guidelines*.

3. Study intersection #8 is an unsignalized intersection in the No Project conditions, so queues and directional levels of service were not reported for the NBT, SBT, and SBR No Project movements.

Future Year (2030) Plus Project, Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site Operational Analysis

The Future Year (2030) No Project and Plus Project peak hour traffic volumes were analyzed to determine the projected LOS and maximum queue lengths for the turn pockets and through movements for each of the analyzed intersections.

Table 13 summarizes the Future Year (2030) No Project and Plus Project (Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site) LOS for the study intersections, along with the 95th percentile queue lengths and approach LOS for the vehicular movements at study intersections. The Future Year (2030) No Project analysis in this section is the same as it was in the previous discussion of the Future Year (2030) with Project, Scenario A, OSP Specific Plan Site Phase 1 & 327 Harbor Site section and in **Table 11**, but it is restated here so it can be compared with the Scenario B Plus Project scenario.

Five of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2030) No Project. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2030) No Project conditions (intersection numbers below correlate with the intersection numbers in **Table 13**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

8. Harbor Boulevard & 3rd Street
    a. LOS F in the AM peak hour
    b. LOS F in the PM peak hour

Four of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2030) Plus Project (Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site) conditions. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2030) Plus Project (Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site) conditions (intersection numbers below correlate with the intersection numbers in **Table 13**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

7. Harbor Boulevard & 1st Street
    a. LOS E in the AM peak hour

As shown in **Table 13**, per the City's criteria, the Project is projected to substantially contribute to unacceptable queueing during one or both peak hours at the following study intersections during this Project condition. At all locations listed, this is due to a spill over from a turn pocket into a through lane that is already occurring in the future base conditions, but the project traffic increases the length of this queue spill over by one or more car lengths (intersection numbers below correlate with the intersection numbers in **Table 13**).

2. Gaffey Street & 1st Street (AM peak hour, westbound right turn pocket)
5. Harbor Boulevard & SR-47 EB Ramps/Swinford Street (AM peak hour, northbound left turn pocket)
7. Harbor Boulevard & 1st Street (AM and PM peak hours, eastbound left turn pocket)

Detailed intersection LOS worksheets for the study intersections are presented in **Appendix G**.

Table 13: Future Year (2030) Scenario B, OSP Specific Plan Site Phase 1 & 327 Harbor Site LOS and Queue Lengths

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
1	N Gaffey St & I-110/SR-47 Ramps	C/C	WBL	C	C	C/C	C	C	WBL	900	325	475	325	500	-	-
			WBLR	A	A		A	A	WBLR	0	0	0	0	0	-	-
			NBT	B	B		B	B	NBT	175	150	150	150	150	-	-
			NBR	-	-		-	-	NBR	175	575	25	575	25	-	-
			SBL	A	A		A	A	SBL	0	0	0	0	0	-	-
			SBT	C	C		C	C	SBT	300	200	250	200	250	-	-
2	N/S Gaffey St & W 1st St	F/E	EBL	F	F	F/E	F	F	EBL	575	1,175	825	1,175	825	-	-
			EBT	A	A		A	A	EBT	575	1,200	825	1,200	825	-	-
			EBR	D	D		D	D	EBR	125	25	25	25	25	-	-
			WBL	E	E		E	E	WBL	125	100	100	100	100	-	-
			WBT	E	E		E	E	WBT	575	200	250	200	250	-	-
			WBR	E	E		E	E	WBR	150	150	75	175	75	Yes	-
			NBL	D	F		D	F	NBL	100	25	100	25	100	-	-
			NBT	D	D		D	D	NBT	250	850	525	850	550	-	-
			NBR	D	D		D	D	NBR	0	0	0	0	0	-	-
			SBL	F	F		F	F	SBL	375	200	275	200	275	-	-
			SBT	C	D		C	D	SBT	925	725	975	750	1,000	-	-
			SBR	D	D		D	D	SBR	0	0	0	0	0	-	-

Table 13 ***(Continued 2 of 4)***

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
3	N Pacific Avenue & W 1st St	D/B	EBL	B	B	D/B	B	B	EBL	0	0	0	0	0	-	-
			EBT	A	A		A	A	EBT	600	100	125	100	125	-	-
			EBR	B	B		B	B	EBR	125	25	50	25	50	-	-
			WBL	F	B		F	B	WBL	0	0	0	0	0	-	-
			WBT	A	A		A	A	WBT	600	125	100	125	100	-	-
			WBR	B	B		B	B	WBR	75	25	25	25	25	-	-
			NBL	C	D		C	C	NBL	75	50	100	50	100	-	-
			NBT	D	B		D	B	NBT	275	525	250	525	250	-	-
			NBR	A	A		A	A	NBR	100	50	25	50	25	-	-
			SBL	C	B		C	B	SBL	75	25	25	25	25	-	-
			SBT	B	C		B	C	SBT	275	250	475	250	475	-	-
			SBR	A	A		A	A	SBR	100	25	25	25	25	-	-
4	N Front St & SR-47 WB Ramps / Knoll Dr	E/C	EBL	D	D	E/C	D	D	EBL	325	100	100	100	100	-	-
			EBT	F	E		F	E	EBT	1,000	375	225	375	225	-	-
			EBR	B	B		B	B	EBR	775	125	250	150	275	-	-
			WBL	D	D		D	D	WBL	550	50	125	50	125	-	-
			WBT	A	A		A	A	WBT	550	200	350	200	350	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	D	D		D	D	NBL	575	400	325	425	325	-	-
			NBT	C	C		C	C	NBT	1,100	225	225	225	225	-	-
			NBR	C	C		C	C	NBR	0	0	0	0	0	-	-
			SBL	E	D		E	D	SBL	250	25	75	25	75	-	-
			SBT	D	D		E	D	SBT	1,600	175	175	175	200	-	-
			SBR	D	D		E	D	SBR	0	0	0	0	0	-	-

Table 13 ***(Continued 3 of 4)***

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	C/D	EBL	E	F	C/D	E	F	EBL	1,000	225	250	225	250	-	-
			EBT	D	F		D	F	EBT	1,200	100	250	100	250	-	-
			EBR	B	B		B	B	EBR	1,000	25	75	25	75	-	-
			WBL	E	E		E	E	WBL	975	50	50	50	50	-	-
			WBT	E	E		E	E	WBT	225	25	100	25	100	-	-
			WBR	A	D		A	D	WBR	975	25	50	25	50	-	-
			NBL	D	D		D	D	NBL	350	400	275	425	275	Yes	-
			NBT	C	B		C	B	NBT	975	550	325	550	325	-	-
			NBR	C	B		C	B	NBR	0	0	0	0	0	-	-
			SBL	E	E		E	E	SBL	275	75	100	75	100	-	-
			SBT	D	C		D	C	SBT	1,100	350	375	375	400	-	-
			SBR	B	B		B	B	SBR	300	25	25	25	25	-	-
6	N Harbor Blvd & W Ofarrell St	A/A	EBL	D	D	A/A	D	D	EBL	140	175	100	175	125	-	-
			EBR	A	A		A	A	EBR	140	0	0	0	0	-	-
			NBL	A	A		A	B	NBL	200	25	25	25	25	-	-
			NBT	A	A		A	A	NBT	600	575	300	600	325	-	-
			SBT	A	A		A	A	SBT	975	250	575	275	625	-	-
			SBR	A	A		A	A	SBR	0	0	0	0	0	-	-

Table 13 ***(Continued 4 of 4)***

#	Study Intersection	Future Year (2030) No Project				Future Year (2030) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2030) Base		Future Year (2030) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
7	N/S Harbor Blvd & W 1st St	D/C	EBL	F	D	E/D	F	D	EBL	75	550	250	600	300	Yes	Yes
			EBT	A	A		A	A	EBT	150	25	75	25	75	-	-
			EBR	C	C		C	C	EBR	0	0	0	0	0	-	-
			WBL	D	C		D	C	WBL	125	25	50	25	50	-	-
			WBT	A	A		A	A	WBT	125	25	50	25	50	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	C	D		C	D	NBL	150	25	75	50	75	-	-
			NBT	C	D		C	D	NBT	100	725	675	725	675	-	-
			NBR	C	D		C	D	NBR	0	0	0	0	0	-	-
			SBL	D	E		D	E	SBL	375	50	25	50	25	-	-
			SBT	B	C		B	C	SBT	250	575	675	575	675	-	-
			SBR	A	B		A	B	SBR	50	25	25	50	50	-	-
8	S Harbor Blvd & W 3rd St	F/F	EBL	F	F	A/A	D	D	EBL	250	75	125	50	75	-	-
			EBR	B	C		D	D	EBR	250	25	25	25	25	-	-
			NBL	B	B		A	A	NBL	275	0	0	25	25	-	-
			NBT	-	-		A	A	NBT	250	-	-	250	225	-	-
			SBT	-	-		A	A	SBT	250	-	-	250	300	-	-
			SBR	-	-		A	A	SBR	0	-	-	0	0	-	-

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing as defined in the report text, per the *August 2022 Los Angeles Department of Transportation Transportation Assessment Guidelines*.

3. Study intersection #8 is an unsignalized intersection in the No Project conditions, so queues and directional levels of service were not reported for the NBT, SBT, and SBR No Project movements.

Future Year (2035) Plus Project, Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site Operational Analysis

The Future Year (2035) No Project and Plus Project peak hour traffic volumes were analyzed to determine the projected LOS and maximum queue lengths for the turn pockets and through movements for each of the analyzed intersections.

Table 14 summarizes the Future Year (2035) No Project and Plus Project (Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site) LOS for the study intersections, along with the 95th percentile queue lengths and approach LOS for the vehicular movements at study intersections. The Future Year (2035) No Project analysis in this section is the same as it was in the previous discussion of the Future Year (2035) with Project, Scenario A, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site section and in **Table 12**, but it is restated here so it can be compared with the Scenario B Plus Project condition.

Five of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2035) No Project. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2035) No Project conditions (intersection numbers below correlate with the intersection numbers in **Table 14**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

8. Harbor Boulevard & 3rd Street
    a. LOS F in the AM peak hour
    b. LOS F in the PM peak hour

Four of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2035) Plus Project (Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site) conditions. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2035) Plus Project (Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site) conditions (intersection numbers below correlate with the intersection numbers in **Table 14**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

7. Harbor Boulevard & 1st Street
    a. LOS E in the AM peak hour



As shown in **Table 14**, per the City's criteria, the Project is projected to substantially contribute to unacceptable queueing during one or both peak hours at the following study intersections during this Project condition. At all locations listed, this is due to a spill over from a turn pocket into a through lane that is already occurring in the future base conditions, but the project traffic increases the length of this queue spill over by one or more car lengths (intersection numbers below correlate with the intersection numbers in **Table 14**).

5. Harbor Boulevard & SR-47 EB Ramps/Swinford Street (AM peak hour, northbound left turn pocket)
7. Harbor Boulevard & 1st Street (AM and PM peak hours, eastbound left turn pocket)

Detailed intersection LOS worksheets for the study intersections are presented in **Appendix G**.

Table 14: Future Year (2035) Scenario B, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site LOS and Queue Lengths

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement [1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
1	N Gaffey St & I-110/SR-47 Ramps	C/C	WBL	C	C	C/C	C	C	WBL	900	325	525	325	550	-	-
			WBLR	A	A		A	A	WBLR	0	0	0	0	0	-	-
			NBT	B	B		C	B	NBT	175	150	150	175	150	-	-
			NBR	-	-		-	-	NBR	175	600	25	650	25	-	-
			SBL	A	A		A	A	SBL	0	0	0	0	0	-	-
			SBT	C	C		C	C	SBT	300	200	250	200	250	-	-
2	N/S Gaffey St & W 1st St	F/E	EBL	F	F	F/E	F	F	EBL	575	1,200	825	1,225	825	-	-
			EBT	A	A		A	A	EBT	575	1,225	825	1,200	850	-	-
			EBR	D	D		D	D	EBR	125	25	25	25	25	-	-
			WBL	E	E		E	E	WBL	125	100	100	100	100	-	-
			WBT	E	E		E	E	WBT	575	200	250	225	250	-	-
			WBR	E	E		E	E	WBR	150	175	75	175	75	-	-
			NBL	D	F		E	F	NBL	100	25	100	25	100	-	-
			NBT	D	D		D	D	NBT	250	850	550	900	575	-	-
			NBR	D	D		D	D	NBR	0	0	0	0	0	-	-
			SBL	F	F		F	F	SBL	375	200	275	225	300	-	-
			SBT	C	D		C	D	SBT	925	750	1,000	775	1,050	-	-
			SBR	D	D		D	E	SBR	0	0	0	0	0	-	-

Table 14 *(Continued 2 of 4)*

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
3	N Pacific Avenue & W 1st St	D/B	EBL	B	B	D/B	C	B	EBL	0	0	0	0	0	-	-
			EBT	A	A		A	A	EBT	600	100	125	100	125	-	-
			EBR	B	B		B	B	EBR	125	25	50	25	50	-	-
			WBL	F	B		F	B	WBL	0	0	0	0	0	-	-
			WBT	A	A		A	A	WBT	600	125	100	150	100	-	-
			WBR	B	B		B	B	WBR	75	25	25	25	25	-	-
			NBL	C	C		C	C	NBL	75	50	100	50	100	-	-
			NBT	D	B		F	B	NBT	275	550	250	550	250	-	-
			NBR	A	A		A	A	NBR	100	50	25	50	25	-	-
			SBL	C	B		C	B	SBL	75	25	25	25	25	-	-
			SBT	B	C		B	C	SBT	275	250	475	250	475	-	-
			SBR	A	A		A	A	SBR	100	25	25	25	25	-	-
4	N Front St & SR-47 WB Ramps / Knoll Dr	E/C	EBL	D	D	E/D	D	D	EBL	325	100	100	100	100	-	-
			EBT	F	E		F	E	EBT	1,000	400	250	400	250	-	-
			EBR	B	B		B	B	EBR	775	125	250	150	275	-	-
			WBL	D	D		D	D	WBL	550	50	125	50	125	-	-
			WBT	A	A		A	A	WBT	550	200	375	200	375	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	D	D		D	D	NBL	575	425	325	450	350	-	-
			NBT	C	C		C	C	NBT	1,100	225	225	225	225	-	-
			NBR	C	C		C	C	NBR	0	0	0	0	0	-	-
			SBL	E	D		E	D	SBL	250	25	75	25	75	-	-
			SBT	E	D		E	D	SBT	1,600	175	200	175	200	-	-
			SBR	E	D		E	D	SBR	0	0	0	0	0	-	-

Table 14 *(Continued 3 of 4)*

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	C/D	EBL	E	F	C/D	E	F	EBL	1,000	225	250	225	250	-	-
			EBT	D	F		D	F	EBT	1,200	100	250	100	250	-	-
			EBR	B	B		C	B	EBR	1,000	25	75	50	100	-	-
			WBL	E	E		E	E	WBL	975	50	50	50	50	-	-
			WBT	E	E		E	E	WBT	225	25	100	25	100	-	-
			WBR	A	D		A	D	WBR	975	25	50	25	50	-	-
			NBL	D	D		D	D	NBL	350	400	275	450	300	Yes	-
			NBT	C	B		C	B	NBT	975	550	325	600	350	-	-
			NBR	C	B		C	B	NBR	0	0	0	0	0	-	-
			SBL	E	E		E	E	SBL	275	75	100	75	100	-	-
			SBT	D	C		D	D	SBT	1,100	350	400	400	425	-	-
			SBR	B	B		B	B	SBR	300	25	25	25	25	-	-
6	N Harbor Blvd & W Ofarrell St	A/A	EBL	D	D	B/A	D	D	EBL	140	175	100	175	125	-	-
			EBR	A	A		A	A	EBR	140	0	0	0	0	-	-
			NBL	A	B		A	B	NBL	200	25	25	25	25	-	-
			NBT	A	A		A	A	NBT	600	575	300	750	350	-	-
			SBT	A	A		A	A	SBT	975	250	600	275	775	-	-
			SBR	A	A		A	A	SBR	0	0	0	0	0	-	-

Table 14 *(Continued 4 of 4)*

#	Study Intersection	Future Year (2035) No Project				Future Year (2035) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2035) Base		Future Year (2035) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
7	N/S Harbor Blvd & W 1st St	D/D	EBL	F	D	E/D	F	D	EBL	75	550	250	650	350	Yes	Yes
			EBT	A	A		A	A	EBT	150	25	75	25	75	-	-
			EBR	C	C		C	C	EBR	0	0	0	0	0	-	-
			WBL	D	C		D	C	WBL	125	25	50	25	50	-	-
			WBT	A	A		A	A	WBT	125	25	50	25	50	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	C	D		C	E	NBL	150	25	75	50	125	-	-
			NBT	C	D		D	D	NBT	100	750	675	775	675	-	-
			NBR	C	D		C	D	NBR	0	0	0	0	0	-	-
			SBL	D	E		D	E	SBL	375	50	25	50	25	-	-
			SBT	B	C		B	D	SBT	250	575	675	600	700	-	-
			SBR	A	B		A	B	SBR	50	25	25	50	50	-	-
8	S Harbor Blvd & W 3rd St	F/F	EBL	F	F	A/A	D	D	EBL	250	75	125	75	100	-	-
			EBR	B	C		D	D	EBR	250	25	25	25	25	-	-
			NBL	B	B		A	A	NBL	275	0	0	25	25	-	-
			NBT	-	-		A	A	NBT	250	-	-	250	225	-	-
			SBT	-	-		A	A	SBT	250	-	-	275	300	-	-
			SBR	-	-		A	A	SBR	0	-	-	0	0	-	-

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing as defined in the report text, per the *August 2022 Los Angeles Department of Transportation Transportation Assessment Guidelines*.

3. Study intersection #8 is an unsignalized intersection in the No Project conditions, so queues and directional levels of service were not reported for the NBT, SBT, and SBR No Project movements.

Future Year (2037) Plus Project, Both Scenarios, Full Project Buildout Operational Analysis

The Future Year (2037) No Project and Plus Project peak hour traffic volumes were analyzed to determine the projected LOS and maximum queue lengths for the turn pockets and through movements for each of the analyzed intersections.

Table 14 summarizes the Future Year (2037) No Project and Plus Project (Both Scenarios, Full Project Buildout) LOS for the study intersections, along with the 95th percentile queue lengths and approach LOS for the vehicular movements at study intersections.

Five of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2037) No Project. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2035) No Project conditions (intersection numbers below correlate with the intersection numbers in **Table 15**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

8. Harbor Boulevard & 3rd Street
    a. LOS F in the AM peak hour
    b. LOS F in the PM peak hour

Four of the eight study intersections are projected to operate at LOS D or better during the peak hours under Future Year (2035) Plus Project (Both Scenarios, Full Project Buildout) conditions. The following intersections are projected to operate at LOS E or F during the AM or PM peak hours under Future Year (2035) Plus Project (Both Scenarios, Full Project Buildout) conditions (intersection numbers below correlate with the intersection numbers in **Table 15**):

2. Gaffey Street & 1st Street
    a. LOS F in the AM peak hour
    b. LOS E in the PM peak hour

3. Pacific Avenue & 1st Street
    a. LOS E in the AM peak hour

4. Front Street & SR-47 WB Ramps / Knoll Drive
    a. LOS E in the AM peak hour

7. Harbor Boulevard & 1st Street
    a. LOS F in the AM peak hour

As shown in **Table 14**, per the City's criteria, the Project is projected to substantially contribute to unacceptable queueing during one or both peak hours at the following study intersections during this

Project condition. At all locations listed, this is due to a spill over from a turn pocket into a through lane that is already occurring in the future base conditions, but the project traffic increases the length of this queue spill over by one or more car lengths (intersection numbers below correlate with the intersection numbers in **Table 15**).

2. Gaffey Street & 1st Street (AM peak hour, westbound right turn pocket)
5. Harbor Boulevard & SR-47 EB Ramps/Swinford Street (AM peak hour, northbound left turn pocket)
7. Harbor Boulevard & 1st Street (AM and PM peak hours, eastbound left turn pocket)

Detailed intersection LOS worksheets for the study intersections are presented in **Appendix G**.

Table 15: Future Year (2037) Both Scenarios, Full Project Buildout LOS and Queue Lengths

#	Study Intersection	Future Year (2037) No Project				Future Year (2037) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement [1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2037) Base		Future Year (2037) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
1	N Gaffey St & I-110/SR-47 Ramps	C/C	WBL	C	C	C/C	C	C	WBL	900	325	525	350	550	-	-
			WBLR	A	A		A	A	WBLR	0	0	0	0	0	-	-
			NBT	B	B		C	B	NBT	175	150	150	175	150	-	-
			NBR	-	-		-	-	NBR	175	625	25	675	25	-	-
			SBL	A	A		A	A	SBL	0	0	0	0	0	-	-
			SBT	C	C		C	C	SBT	300	200	250	200	250	-	-
2	N/S Gaffey St & W 1st St	F/E	EBL	F	F	F/E	F	F	EBL	575	1,200	825	1,225	825	-	-
			EBT	A	A		A	A	EBT	575	1,225	825	1,225	850	-	-
			EBR	D	D		D	D	EBR	125	25	25	25	25	-	-
			WBL	E	E		E	E	WBL	125	100	100	100	100	-	-
			WBT	E	E		E	E	WBT	575	200	250	225	250	-	-
			WBR	E	E		E	E	WBR	150	175	75	225	100	Yes	-
			NBL	D	F		E	F	NBL	100	25	100	25	100	-	-
			NBT	D	D		D	D	NBT	250	875	550	900	575	-	-
			NBR	D	D		D	D	NBR	0	0	0	0	0	-	-
			SBL	F	F		F	F	SBL	375	200	275	275	350	-	-
			SBT	C	D		C	D	SBT	925	750	1,025	775	1,050	-	-
			SBR	D	D		D	E	SBR	0	0	0	0	0	-	-

Table 15 ***(Continued 2 of 4)***

#	Study Intersection	Future Year (2037) No Project				Future Year (2037) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2037) Base		Future Year (2037) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
3	N Pacific Avenue & W 1st St	D/B	EBL	B	B	D/B	C	B	EBL	0	0	0	0	0	-	-
			EBT	A	A		A	A	EBT	600	100	125	125	150	-	-
			EBR	B	B		B	B	EBR	125	25	50	25	50	-	-
			WBL	F	B		F	B	WBL	0	0	0	0	0	-	-
			WBT	A	A		A	A	WBT	600	125	100	175	125	-	-
			WBR	B	B		B	B	WBR	75	25	25	50	25	-	-
			NBL	C	C		C	C	NBL	75	50	100	50	100	-	-
			NBT	D	B		F	B	NBT	275	550	250	550	275	-	-
			NBR	A	A		A	A	NBR	100	50	25	50	25	-	-
			SBL	C	B		C	B	SBL	75	25	25	25	25	-	-
			SBT	B	C		B	C	SBT	275	250	475	250	475	-	-
			SBR	A	A		A	A	SBR	100	25	25	25	25	-	-
4	N Front St & SR-47 WB Ramps / Knoll Dr	E/C	EBL	D	D	E/D	D	D	EBL	325	125	100	125	100	-	-
			EBT	F	E		F	E	EBT	1,000	400	250	400	275	-	-
			EBR	B	B		B	B	EBR	775	125	250	150	300	-	-
			WBL	D	D		D	D	WBL	550	50	125	50	125	-	-
			WBT	A	A		A	A	WBT	550	200	375	200	400	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	D	D		D	D	NBL	575	425	325	475	375	-	-
			NBT	C	C		C	C	NBT	1,100	225	225	225	225	-	-
			NBR	C	C		C	C	NBR	0	0	0	0	0	-	-
			SBL	E	D		E	D	SBL	250	25	75	25	75	-	-
			SBT	E	D		E	D	SBT	1,600	175	200	175	200	-	-
			SBR	E	D		E	D	SBR	0	0	0	0	0	-	-

Table 15 ***(Continued 3 of 4)***

#	Study Intersection	Future Year (2037) No Project				Future Year (2037) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2037) Base		Future Year (2037) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
5	N Harbor Blvd & SR-47 EB Ramps / Swinford St	C/D	EBL	E	F	C/D	E	F	EBL	1,000	225	250	225	250	-	-
			EBT	D	F		D	F	EBT	1,200	100	250	100	250	-	-
			EBR	B	B		C	B	EBR	1,000	25	75	50	100	-	-
			WBL	E	E		E	E	WBL	975	50	50	50	50	-	-
			WBT	E	E		E	E	WBT	225	25	100	25	100	-	-
			WBR	A	D		A	D	WBR	975	25	50	25	50	-	-
			NBL	D	D		D	D	NBL	350	425	275	475	300	Yes	-
			NBT	C	B		C	B	NBT	975	550	350	625	375	-	-
			NBR	C	B		C	B	NBR	0	0	0	0	0	-	-
			SBL	E	E		E	E	SBL	275	75	100	75	100	-	-
			SBT	D	C		D	D	SBT	1,100	375	400	400	425	-	-
			SBR	B	B		B	B	SBR	300	25	25	25	25	-	-
6	N Harbor Blvd & W Ofarrell St	A/A	EBL	D	D	B/A	D	D	EBL	140	175	125	175	125	-	-
			EBR	A	A		A	A	EBR	140	0	0	0	0	-	-
			NBL	A	B		A	B	NBL	200	25	25	25	25	-	-
			NBT	A	A		A	A	NBT	600	600	325	775	350	-	-
			SBT	A	A		A	A	SBT	975	250	625	300	775	-	-
			SBR	A	A		A	A	SBR	0	0	0	0	0	-	-

Table 15 ***(Continued 4 of 4)***

#	Study Intersection	Future Year (2037) No Project				Future Year (2037) Plus Project			Movement[1]	Storage Length	Peak Hour 95th Percentile Queue[1]				Project Contributes to Unacceptable Queuing[2]	
		Intersection LOS (AM/PM Peak Hour)	Movement[1]	Peak Hour Directional LOS		Intersection LOS (AM/PM Peak Hour)	Peak Hour Directional LOS				Future Year (2037) Base		Future Year (2037) Plus Project			
				AM	PM		AM	PM			AM	PM	AM	PM	AM	PM
7	N/S Harbor Blvd & W 1st St	D/D	EBL	F	D	E/D	F	D	EBL	75	550	250	725	400	Yes	Yes
			EBT	A	A		A	A	EBT	150	25	75	25	75	-	-
			EBR	C	C		C	C	EBR	0	0	0	0	0	-	-
			WBL	D	C		D	C	WBL	125	25	50	25	50	-	-
			WBT	A	A		A	A	WBT	125	25	50	25	50	-	-
			WBR	D	C		D	C	WBR	0	0	0	0	0	-	-
			NBL	C	D		C	E	NBL	150	25	75	75	150	-	-
			NBT	C	D		D	D	NBT	100	750	675	750	675	-	-
			NBR	C	D		C	D	NBR	0	0	0	0	0	-	-
			SBL	D	E		D	E	SBL	375	50	25	50	25	-	-
			SBT	B	C		B	D	SBT	250	575	675	625	725	-	-
			SBR	A	B		A	B	SBR	50	25	25	50	50	-	-
8	S Harbor Blvd & W 3rd St	F/F	EBL	F	F	A/A	D	D	EBL	250	75	125	75	100	-	-
			EBR	B	C		D	D	EBR	250	25	25	25	25	-	-
			NBL	B	B		A	A	NBL	275	0	0	25	50	-	-
			NBT	-	-		A	A	NBT	250	-	-	275	225	-	-
			SBT	-	-		A	A	SBT	250	-	-	275	300	-	-
			SBR	-	-		A	A	SBR	0	-	-	0	0	-	-

1. EBL= Eastbound left, EBT = Eastbound through, EBR = Eastbound right, WBL = Westbound left, WBT = Westbound through, WBR = Westbound right, NBL = Northbound left, NBT = Northbound through, NBR = Northbound right, SBL = Southbound left, SBT = Southbound through, SBR = Southbound right.

2. Unacceptable queuing as defined in the report text, per the *August 2022 Los Angeles Department of Transportation Transportation Assessment Guidelines*.

3. Study intersection #8 is an unsignalized intersection in the No Project conditions, so queues and directional levels of service were not reported for the NBT, SBT, and SBR No Project movements.

Corrective Measures

Since the Project is projected to substantially contribute to unacceptable queuing at a few study intersections, corrective measures were explored to alleviate intersection queues.

At 1st Street & Gaffey Street, up to 75 feet of additional red curb could be striped to increase the turning space length that's currently available for the de-facto westbound right turn lane. At Harbor Boulevard & SR-47 EB Ramps/Swinford Street, the northbound left turn lane could be extended by up to about 100 feet into the existing median to accommodate a longer turning queue. At Harbor Boulevard & 1st Street, the eastbound left turn lane could be extended so it starts a couple blocks further to the west, which could be accomplished within the existing right of way with striping. These measures would increase the space available for queueing, so the queueing would occur within turn pockets, not spill over into through lanes, and therefore no longer be unacceptable queueing. Implementation of these measures, as applicable, would be approved by LADOT.

Conclusions

Although the Project is projected to substantially contribute to unacceptable queuing at a few turn pockets at study intersections, the Project proposes numerous TDM measures as Project Design Features to encourage the use of non-single occupancy automotive travel, which would reduce trips and traffic. Additionally, the Project would not be causing any spillover queues that don't already exist, despite increasing the length of a few of them in a way that can be alleviated with extended turn pockets.

4.3 Site Access Evaluation

This section evaluates the site access of the Project driveways, including projected levels of service (LOS) and queuing.

Project Driveways

Vehicular access would be provided to the OSP Specific Plan Site via 14 driveways, which have been assigned numbers for the purposes of this analysis.

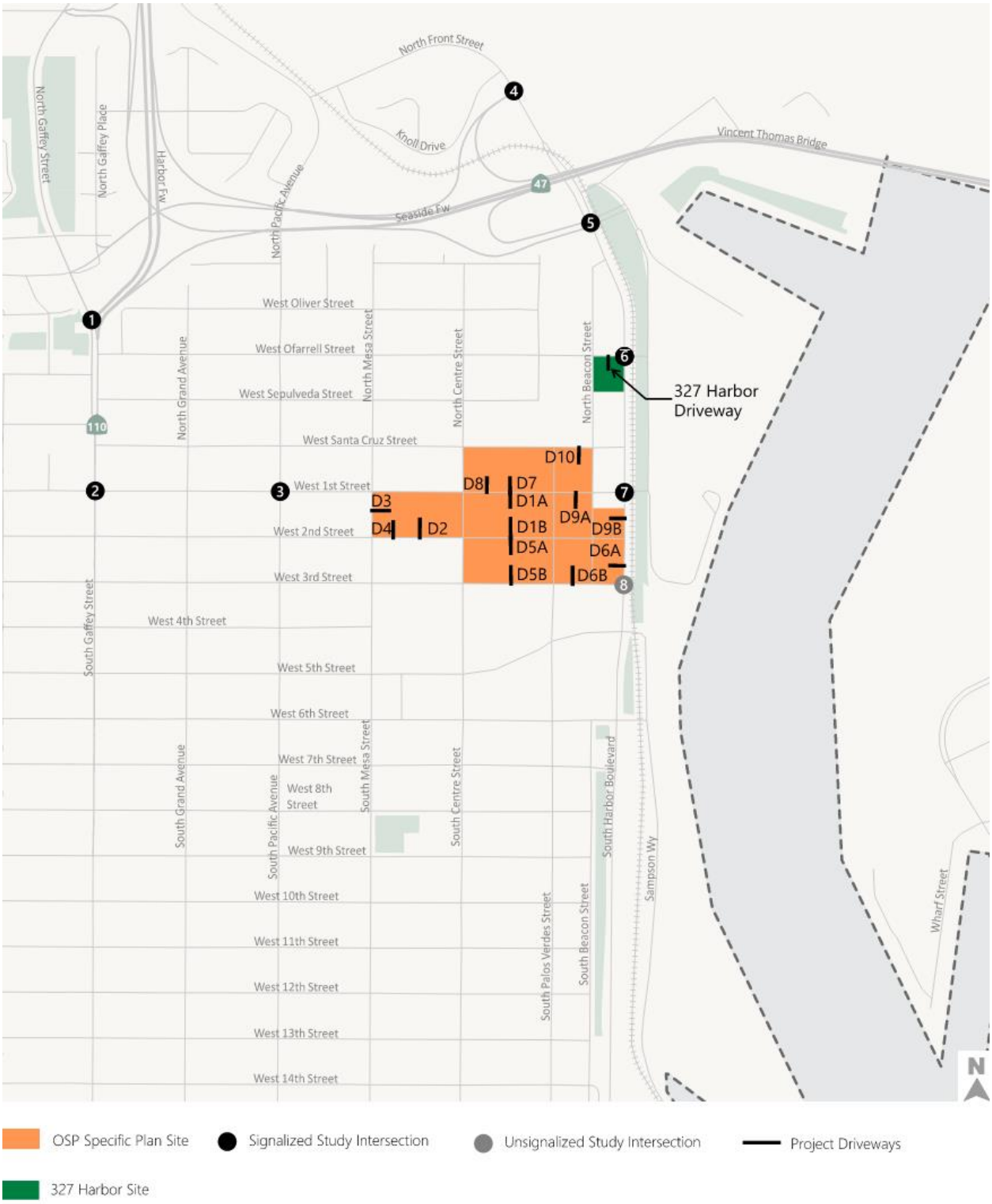
- Driveways constructed during OSP Specific Plan Site Phase 1:
    - Driveway 1A onto 1st Street between Centre Street and Palos Verdes Street
    - Driveway 1B onto 2nd Street between Centre Street and Palos Verdes Street
    - Driveway 2 onto 2nd Street between Mesa Street and Centre Street, east of Driveway 4
    - Driveway 3 onto Mesa Street between 1st Street and 2nd Street
    - Driveway 4 onto 2nd Street between Mesa Street and Centre Street, west of Driveway 2
- Driveways constructed during OSP Specific Plan Site Phase 2:
    - Driveway 5A onto 2nd Street between Centre Street and Palos Verdes Street
    - Driveway 5B onto 3rd Street between Centre Street and Palos Verdes Street
    - Driveway 6A onto Harbor Boulevard between 2nd Street and 3rd Street
    - Driveway 6B onto 3rd Street between Palos Verdes Street and Beacon Street
- Driveways constructed during OSP Specific Plan Site Phase 3:
    - Driveway 7 onto 1st Street between Centre Street and Palos Verdes Street, east of Driveway 8
    - Driveway 8 onto 1st Street between Centre Street and Palos Verdes Street, west of Driveway 7
    - Driveway 9A onto 1st Street between Palos Verdes Street and Beacon Street
    - Driveway 9B onto Harbor Boulevard between 1st Street and 2nd Street
    - Driveway 10 onto Santa Cruz Street between Palos Verdes Street and Beacon Street.

Additionally, there would be one driveway at the 327 Harbor Site, onto O'Farrell Street between Beacon Street and Harbor Boulevard, for a total of 15 driveways in the Project.

All driveways would allow access to and from any direction, except Driveways 6A and 9B onto Harbor Boulevard, which would be limited to right turns for both inbound and outbound traffic. Driveways would lead to subterranean or semi-subterranean and structured parking beneath the Project buildings, and their locations are shown in **Figure 12**.

A level of service analysis was conducted to evaluate the ability of each driveway access to accommodate the anticipated traffic levels at the driveway access points. The driveways would be unsignalized and stop-controlled and were analyzed as part of the Synchro using the Two-way Stop methodology from *HCM 6th Edition*. The HCM methodology determines the average vehicle delay for the stop-controlled approach to find the corresponding LOS based on the definitions presented earlier in **Table 8**. Driveway analysis LOS worksheets are included in **Appendix G**. **Tables 16**, **16B**, and **16C** show the results of the LOS analysis for the Project driveways.

Figure 12. Project Driveway Locations



Project Driveway LOS Analysis

The LOS for unsignalized intersections is reported for the stop-controlled approach, which is always the outbound approach from the Project driveways.

As shown in **Tables 16**, **16B**, and **16C**, the outbound movements at all driveways are projected to operate at LOS C during both peak hours in all 5 Project conditions. Additionally, the southbound movements at the driveways along an arterial street, at Driveways 6A and 9B, are projected to have 0 seconds of delay during both peak hours in all project conditions.

Project Driveway Queuing Analysis

As shown in **Tables 17**, **17B**, and **17C**, the outbound movements at all driveways are projected to have queues of 25 feet or shorter during both peak hours and all project conditions. Additionally, the southbound movements at the driveways along an arterial street, at Driveways 6A and 9B along Harbor Boulevard, are projected to have queues of 0 feet during both peak hours and all conditions. Thus, none of these movements experience unacceptable queueing.



Table 16: Project Driveway LOS
Table 16A: Scenario A

#	Study Intersection	Outbound Movement[1]	Peak Hour Directional LOS			
			Future Year (2030) Plus Project, OSP Specific Plan Site Phase 1 & 327 Harbor Site		Future Year (2035) Plus Project, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site	
			AM	PM	AM	PM
9	Driveway 1A (NB) / 7 (SB) & W 1st St	NBLR	B	B	B	B
		SBLR	-	-	-	-
10	Driveway 1B (SB) / 5A (NB) & W 2nd St	NBLR	-	-	A	A
		SBLR	A	A	A	A
11	Driveway 2 & W 2nd St	SBLR	B	B	B	B
12	Mesa St & Driveway 3	WBLR	A	A	A	A
13	Driveway 4 & W 2nd St	SBLR	B	B	B	B
14	Driveway 5B & W 3rd St	SBLR	-	-	B	A
15	Harbor Blvd & Driveway 6A	EBR	-	-	C	C
		SBT	-	-	0s delay[2]	0s delay[2]
		SBR	-	-	0s delay[2]	0s delay[2]
16	Driveway 6B & W 3rd St	SBLR	-	-	B	B
17	Driveway 8 & W 1st St	SBLR	-	-	-	-
18	Driveway 9A & W 1st ST	NBLR	-	-	-	-
19	Harbor Blvd & Driveway 9B	EBR	-	-	-	-
		SBT	-	-	-	-
		SBR	-	-	-	-
20	Driveway 10 & W Santa Cruz St	NBLR	-	-	-	-
21	327 Harbor Driveway & W O'Farrell St	NBLR	B	A	B	A

1. EBLR = Eastbound left/right, WBR = Westbound right, NBLR = Northbound left/right, SBR = Southbound right, SBT = Southbound through, SBLR = Southbound left/right

2. The southbound movements along Harbor Boulevard are intersecting movements along the arterial, and are not stop-controlled.

Table 16B. Project Driveway LOS – Scenario B

#	Study Intersection	Outbound Movement[1]	Peak Hour Directional LOS			
			Future Year (2030) Plus Project, OSP Specific Plan Site Phase 1 & 327 Harbor Site		Future Year (2035) Plus Project, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site	
			AM	PM	AM	PM
9	Driveway 1A (NB) / 7 (SB) & W 1st St	NBLR	B	B	B	B
		SBLR	-	-	-	-
10	Driveway 1B (SB) / 5A (NB) & W 2nd St	NBLR	-	-	A	A
		SBLR	A	A	A	A
11	Driveway 2 & W 2nd St	SBLR	B	B	B	B
12	Mesa St & Driveway 3	WBLR	A	A	A	A
13	Driveway 4 & W 2nd St	SBLR	B	B	B	B
14	Driveway 5B & W 3rd St	SBLR	-	-	B	A
15	Harbor Blvd & Driveway 6A	EBR	-	-	C	C
		SBT	-	-	0s delay[2]	0s delay[2]
		SBR	-	-	0s delay[2]	0s delay[2]
16	Driveway 6B & W 3rd St	SBLR	-	-	B	B
17	Driveway 8 & W 1st St	SBLR	-	-	-	-
18	Driveway 9A & W 1st ST	NBLR	-	-	-	-
19	Harbor Blvd & Driveway 9B	EBR	-	-	-	-
		SBT	-	-	-	-
		SBR		-	-	-
20	Driveway 10 & W Santa Cruz St	NBLR	-	-	-	-
21	327 Harbor Driveway & W O'Farrell St	NBLR	B	A	B	A

1. EBLR = Eastbound left/right, WBR = Westbound right, NBLR = Northbound left/right, SBR = Southbound right, SBT = Southbound through, SBLR = Southbound left/right

2. The southbound movements along Harbor Boulevard are intersecting movements along the arterial, and are not stop-controlled.

Table 16C. Project Driveway LOS – Full Project Buildout

#	Study Intersection	Outbound Movement[1]	Peak Hour Directional LOS	
			Future Year (2037) Plus Project, Full Project Buildout	
			AM	PM
9	Driveway 1A (NB) / 7 (SB) & W 1st St	NBLR	C	C
		SBLR	C	C
10	Driveway 1B (SB) / 5A (NB) & W 2nd St	NBLR	A	A
		SBLR	A	A
11	Driveway 2 & W 2nd St	SBLR	B	B
12	Mesa St & Driveway 3	WBLR	A	A
13	Driveway 4 & W 2nd St	SBLR	B	B
14	Driveway 5B & W 3rd St	SBLR	B	A
15	Harbor Blvd & Driveway 6A	EBR	C	C
		SBT	0s delay[2]	0s delay[2]
		SBR	0s delay[2]	0s delay[2]
16	Driveway 6B & W 3rd St	SBLR	B	B
17	Driveway 8 & W 1st St	SBLR	B	B
18	Driveway 9A & W 1st ST	NBLR	C	C
19	Harbor Blvd & Driveway 9B	EBR	C	C
		SBT	0s delay[2]	0s delay[2]
		SBR	0s delay[2]	0s delay[2]
20	Driveway 10 & W Santa Cruz St	NBLR	B	B
21	327 Harbor Driveway & W O'Farrell St	NBLR	B	A

1. EBLR = Eastbound left/right, WBR = Westbound right, NBLR = Northbound left/right, SBR = Southbound right, SBT = Southbound through, SBLR = Southbound left/right

2. The southbound movements along Harbor Boulevard are intersecting movements along the arterial, and are not stop-controlled.

Table 17: Project Driveway Queueing
Table 17A: Scenario A

#	Study Intersection	Outbound Movement[1]	Peak Hour 95th Percentile Queue			
			Future Year (2030) Plus Project, OSP Specific Plan Site Phase 1 & 327 Harbor Site		Future Year (2035) Plus Project, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site	
			AM	PM	AM	PM
9	Driveway 1A (NB) / 7 (SB) & W 1st St	NBLR	25	25	25	25
		SBLR	-	-	-	-
10	Driveway 1B (SB) / 5A (NB) & W 2nd St	NBLR	-	-	25	25
		SBLR	25	25	25	25
11	Driveway 2 & W 2nd St	SBLR	25	25	25	25
12	Mesa St & Driveway 3	WBLR	0	0	25	0
13	Driveway 4 & W 2nd St	SBLR	25	0	25	0
14	Driveway 5B & W 3rd St	SBLR	-	-	25	0
15	Harbor Blvd & Driveway 6A	EBR	-	-	25	25
		SBT	-	-	0	0
		SBR	-	-	0	0
16	Driveway 6B & W 3rd St	SBLR	-	-	25	25
17	Driveway 8 & W 1st St	SBLR	-	-	-	-
18	Driveway 9A & W 1st ST	NBLR	-	-	-	-
19	Harbor Blvd & Driveway 9B	EBR	-	-	-	-
		SBT	-	-	-	-
		SBR	-	-	-	-
20	Driveway 10 & W Santa Cruz St	NBLR	-	-	-	-
21	327 Harbor Driveway & W O'Farrell St	NBLR	25	0	25	0

1. EBLR = Eastbound left/right, WBR = Westbound right, NBLR = Northbound left/right, SBR = Southbound right, SBT = Southbound through, SBLR = Southbound left/right

2. Unacceptable queuing defined by the TAG as turning queues that extend out of the storage bay or a through queue that blocks a side street or alley along an Avenue or Boulevard at a signalized intersection.

Table 17B. Project Driveway Queueing – Scenario B

#	Study Intersection	Outbound Movement[1]	Peak Hour 95th Percentile Queue			
			Future Year (2030) Plus Project, OSP Specific Plan Site Phase 1 & 327 Harbor Site		Future Year (2035) Plus Project, OSP Specific Plan Site Phases 1, 2, & 327 Harbor Site	
			AM	PM	AM	PM
9	Driveway 1A (NB) / 7 (SB) & W 1st St	NBLR	25	25	25	25
		SBLR	-	-	-	-
10	Driveway 1B (SB) / 5A (NB) & W 2nd St	NBLR	-	-	25	25
		SBLR	25	25	25	25
11	Driveway 2 & W 2nd St	SBLR	25	25	25	25
12	Mesa St & Driveway 3	WBLR	25	0	25	25
13	Driveway 4 & W 2nd St	SBLR	25	25	25	25
14	Driveway 5B & W 3rd St	SBLR	-	-	25	0
15	Harbor Blvd & Driveway 6A	EBR	-	-	25	25
		SBT	-	-	0	0
		SBR	-	-	0	0
16	Driveway 6B & W 3rd St	SBLR	-	-	25	25
17	Driveway 8 & W 1st St	SBLR	-	-	-	-
18	Driveway 9A & W 1st ST	NBLR	-	-	-	-
19	Harbor Blvd & Driveway 9B	EBR	-	-	-	-
		SBT	-	-	-	-
		SBR	-	-	-	-
20	Driveway 10 & W Santa Cruz St	NBLR	-	-	-	-
21	327 Harbor Driveway & W O'Farrell St	NBLR	25	0	25	0

1. EBLR = Eastbound left/right, WBR = Westbound right, NBLR = Northbound left/right, SBR = Southbound right, SBT = Southbound through, SBLR = Southbound left/right

2. Unacceptable queuing defined by the TAG as turning queues that extend out of the storage bay or a through queue that blocks a side street or alley along an Avenue or Boulevard at a signalized intersection.

Table 17C. Project Driveway Queueing – Full Project Buildout

#	Study Intersection	Outbound Movement[1]	Peak Hour 95th Percentile Queue	
			Future Year (2037) Plus Project, Full Project Buildout	
			AM	PM
9	Driveway 1A (NB) / 7 (SB) & W 1st St	NBLR	25	25
		SBLR	25	25
10	Driveway 1B (SB) / 5A (NB) & W 2nd St	NBLR	25	25
		SBLR	25	25
11	Driveway 2 & W 2nd St	SBLR	25	25
12	Mesa St & Driveway 3	WBLR	25	0
13	Driveway 4 & W 2nd St	SBLR	25	25
14	Driveway 5B & W 3rd St	SBLR	25	0
15	Harbor Blvd & Driveway 6A	EBR	25	25
		SBT	0	0
		SBR	0	0
16	Driveway 6B & W 3rd St	SBLR	25	25
17	Driveway 8 & W 1st St	SBLR	25	25
18	Driveway 9A & W 1st ST	NBLR	25	25
19	Harbor Blvd & Driveway 9B	EBR	25	25
		SBT	0	0
		SBR	0	0
20	Driveway 10 & W Santa Cruz St	NBLR	25	25
21	327 Harbor Driveway & W O'Farrell St	NBLR	25	0

1. EBLR = Eastbound left/right, WBR = Westbound right, NBLR = Northbound left/right, SBR = Southbound right, SBT = Southbound through, SBLR = Southbound left/right

2. The southbound movements along Harbor Boulevard are intersecting movements along the arterial, and are not stop-controlled.

Passenger Loading Evaluation

Passenger loading is expected to occur on the lower-traffic streets surrounding the Project site, or within the Project garages. As the demand for loading would be spread throughout the Project, there are not expected to be any issues with queueing of vehicles waiting to load passengers. Any designated loading areas would be designed to City standards, to have visibility when interfacing with bicycle, pedestrian, and transit facilities.

4.4 Project Construction

This section assesses whether the construction of the project would interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility, considering three categories of construction impacts per the LADOT TAG: (1) temporary transportation constraints, (2) temporary loss of access, and (3) temporary loss of bus stops or rerouting of bus lines.

Construction of the Project would commence with the construction of the 327 Harbor Site, followed by OSP Specific Plan Site Phase 1, OSP Specific Plan Site Phase 2, and OSP Specific Plan Site Phase 3. As previously mentioned, the amount of work completed in each of the OSP Specific Plan Phases differs based on the scenario. Additionally, construction may be split into more discrete stages within each of the OSP Specific Plan Site Phases, and the construction timelines of the OSP Specific Plan Site Phases may overlap.

Anticipated Construction Activity

Construction of the 327 Harbor Site would begin in 2023 and be completed in 2025. For all work on the OSP Specific Plan Site, the construction would begin with demolition of the existing residential buildings, but there would be no demolition for the 327 Harbor Site because it is already a vacant lot. Project construction is anticipated to occur between 2024 and 2030 for OSP Specific Plan Site Phase 1, 2031 and 2035 for OSP Specific Plan Site Phase 2, and 2034 and 2037 for OSP Specific Plan Site Phase 3. This estimated schedule would apply to both the Scenario A and Scenario B alternatives.

It is estimated that approximately 378,645 cubic yards of export would be hauled from the OSP Specific Plan Site, with a total of 23,666 one-way truck trips. Approximately 4,300 cubic yards of soil export would occur on the 327 Harbor Site, for a total of 269 one-way truck trips. Soil would be hauled to the Sunshine Canyon Landfill in LA County and Azusa Land Reclamation in Azusa. Haul trips would be focused on 1st Street, 3rd Street, and Harbor Boulevard. A Construction Management Plan, including haul routes, worker parking, job site informational signage, delivery and material off-haul hours, traffic control plan, and schedule, would be implemented during project construction.

Construction Period Evaluation Criteria

The LADOT TAG provides three categories to be considered in regard to in-street construction effects: temporary traffic constraints, temporary loss of access, and temporary loss of bus stops or rerouting of bus lines. The evaluation criteria to be considered in each of these categories are as follows:

- Temporary Traffic Constraints:
    - The length of time of temporary street closures or closures of two more traffic lanes;
    - The classification of the street (major arterial, state highway, substandard hillside local or collector, etc.) affected;
    - The existing congestion levels on the affected street segments and intersections;
    - The operational constraints of substandard hillside streets needing to access construction sites;

  - Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
  - Potential safety issues involved with street or lane closures;
  - The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.

- Temporary Loss of Access:
  - The length of time of any loss of pedestrian or bicycle circulation past a construction area;
  - The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area;
  - The length of time any loss or impedance of access by emergency vehicles or area residents to hillside properties;
  - The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;
  - The availability of nearbyvehicular or pedestrian access within ¼ mile of the lost access;
  - The type of land uses affected, and related safety, convenience, and/or economic issues.

- Temporary Loss of Bus Stops or Rerouting of Bus Lines:
  - The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;
  - The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;
  - The existence of other bus stops or routes with similar routes/destinations within a ¼ mile radius of the affected stops or routes;
  - Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).

Los Angeles Municipal Code (LAMC) Section 41.40 provides that construction activities are limited to the hours from 7:00 AM to 9:00 PM on weekdays and from 8:00 AM to 6:00 PM on Saturdays and holidays. No construction is permitted on Sundays.

Construction Analysis

The assessment of the Project against the evaluation factors described above is presented in **Table 18** and discussed below. The proposed project includes Project Design Feature (PDF) T-1, Construction Management Plan, shown below, that would apply during project construction.

PDF T-1Construction Management Plan

Prior to the start of construction, a Construction Management Plan will be prepared and submitted to the LADOT for review and approval in accordance with the time frames set forth in Executive Directive 1. The Construction Management Plan will include a Worksite Traffic Control Plan and Construction Worker Parking Plan that will facilitate traffic and pedestrian movement, minimize the potential conflicts between



construction activities, street traffic, bicyclists and pedestrians, and ensure appropriate parking for construction workers is provided. Furthermore, the Construction Management Plan will include, but not be limited to, the following measures:

- A Worksite Traffic Control Plan(s), approved by the LADOT in accordance with the time frames set forth in Executive Directive 1, will be implemented to route vehicular traffic, transit, bicyclists, and pedestrians around any lane and/or sidewalk closures;
- Safety precautions for pedestrians and bicyclists will be implemented through such measures as alternate routing and protection barriers as appropriate, especially as it pertains to maintaining safe access to the Port of Los Angeles High School.
- Minimize obstruction to land uses in proximity to the project site during construction, including temporary traffic constraints, temporary loss of access, and temporary loss of bus stops or rerouting of bus lines;
- Parking for construction workers will be provided either on-site or at off-site, off-street locations; and
- Ensure adequate emergency access is maintained to the project site and neighboring businesses and residences.

Temporary Traffic Constraints

Long-term closures to two or more travel lanes are not anticipated to occur during construction of the Project. There would be travel lane closures on Project frontages during construction for intermittent periods of time to connect utilities such as water, storm drain, and electrical, and to accomplish the proposed roadway reconfigurations.

Closures of the sidewalks are anticipated to accommodate Project construction along the Project frontage for intermittent periods of time to connect utilities such as water, storm drain, and electrical, and to widen or adjust sidewalks as proposed by the Project. Adequate signage, warnings, and alternate routes would be provided during these times, consistent with PDF T-1.

Temporary Loss of Access

The existing land uses near the vicinity of the Project Site would remain open throughout construction. Pedestrian and vehicular access to properties located nearby to the Project Site would be open and unobstructed for the duration of construction, consistent with PDF T-1. When there is loss of ADA pedestrian access to a transit stop while the transit stops are being improved by the Project, available nearby alternate stops would be provided. On-street parking on the Project frontages would be temporarily restricted during the construction period.



Temporary Loss of Bus Stops or Rerouting of Bus Lines

Bus stops along the Project frontage would be temporary relocated during sidewalk and roadway construction, and alternate stops would be provided on nearby blocks during this time, along with adequate signage and warning to transit users in the area.

Table 18: Construction Evaluation

Evaluation Criteria	Assessment
Temporary Traffic Constraints:	
• The length of time of temporary street closures or closures of two or more traffic lanes;	• Long-term closures to multiple traffic lanes, or temporary closures of full streets, are not anticipated to occur during construction, except for during the planned vacation of a portion of 2nd Street. For proposed roadway reconstruction and adjustments, the Project would not close full streets or multiple lanes at one location. 2nd Street between Palos Verdes Street and Beacon Street between 1st Street and 3rd Street would be closed when that construction phase begins to fully pedestrianize this portion of 2nd Street. There may be temporary closures of on-street parking along the Project frontages.
• The classification of the street (major arterial, state highway, substandard hillside local or collector, etc) affected;	• No streets are expected to be affected (temporary closures or 2+ lane closures).
• The existing congestion levels on the affected street segments and intersections;	• No streets are expected to be affected (temporary closures or 2+ lane closures).
• The operational constraints of substandard hillside streets needing to access construction sites;	• The construction site is not located in a hillside area.
• Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;	• Harbor Boulevard leads directly to freeway ramps, however no full time travel lanes on Harbor Boulevard are expected to be closed for Project construction.
• Potential safety issues involved with street or lane closures;	• Worksite traffic control plans would be prepared for any temporary lane closures, if closures become required, in accordance with applicable City and MUTCD guidelines.
• The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.	• No streets are expected to be affected (temporary closures or 2+ lane closures).

Temporary Loss of Access:	
• The length of time of any loss of pedestrian or bicycle circulation past a construction area; • The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area; • The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility; • The availability of nearby vehicular or pedestrian access within ¼ mile of the lost access; • The length of time any loss or impedance of access by emergency vehicles or area residents to hillside properties; • The type of land uses affected, and related safety, convenience, and/or economic issues.	• When sidewalks are reconstructed as part of the proposed roadway reconfigurations, alternate access would be provided, pedestrian re-routing would be minimized, and adequate signage would be used to warn pedestrians of any temporary closures consistent with PDF T-1. For any temporary closures of transit stops, alternate access to nearby temporary ADA stops would be provided. The southbound bike lane along the Project frontage at Harbor Boulevard would be maintained throughout construction to keep the north-south bicycle access to the area.
Temporary Loss of Bus Stops or Rerouting of Bus Lines:	
• The length of time that an existing bus stop would be unavailable or that existing service would be interrupted; • The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated; • The existence of other bus stops or routes with similar routes/ destinations within a ¼mile radius of the affected stops or routes; • Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).	• When the Project is making improvements to bus stops in the vicinity, alternate bus stops on nearby blocks would be provided within 1/4 mile. The majority of construction would occur between 7am and 3:30pm on weekdays, with occasional work on Saturdays.

5. Summary and Conclusions

The study was undertaken to analyze the potential traffic impacts of the One San Pedro Specific Plan Project in the San Pedro area of the City of Los Angeles. The following summarizes the results of this analysis:

- The Project as analyzed in this study involves the following land uses:
    - 1,600 residential units, 15,000 sf of supermarket, 43,000 sf of shopping plaza space, 12,000 sf of restaurant space, and 60,000 sf of other neighborhood uses, , in addition to the removal of 478 existing residential units.

- This Project proposes 15 vehicle access driveways, as summarized below:
    - 4 driveways onto 1st Street
    - 4 driveways onto 2nd Street
    - 2 driveways onto 3rd Street
    - 1 driveway onto Mesa Street
    - 1 driveway onto Santa Cruz Street
    - 2 driveways onto Harbor Boulevard
    - 1 driveway onto O'Farrell Street
- The Project features, location, and design would be consistent with all of the reviewed City plans, programs, ordinances, and policies that support alternative transportation and have been adopted to protect the environment.
- Based on the Project land use and location, the Project would have a less than significant VMT impact.
- The Project is not projected to substantially increase hazards, conflicts, or preclude City action to fulfill or implement projects associated with surrounding transportation networks and would contribute to overall walkability through enhancements to the Project Site and streetscape. Therefore, the Project would have a less than significant impact.
- Per LADOT's guidance, a freeway safety analysis was conducted for the three freeway off-ramps: The I-110 southbound off-ramp at Gaffey Street, and the two SR-47 off-ramps at Front Street and Harbor Boulevard, which would both be reconstructed by the opening of the Project. The Project is projected to have a less than significant freeway safety impact.
- The Project is not expected to have a direct or indirect effect that would lead to removal or degradation of pedestrian, bicycle, or transit facilities. Some routes may be slightly modified that run through the Project, and they would all receive improved bus stops and the Project would install a new transit hub along 1st Street. Many pedestrian facilities would be widened or improved, bicycle



facilities would be added on many streets, and two signalized intersections with high visibility crosswalks would be added.

- The Project is expected to generate an increase in pedestrian volumes in the vicinity, which currently lacks tactile warnings at intersection curb ramps. It is recommended that tactile warnings and marked crosswalks be installed in the vicinity of the Project as part of the Project improvements.
- The site circulation and access assessment included analysis of eight intersections, of which six intersections currently operate under signal control, one intersection is stop-controlled, and one intersection is stop-controlled but would be upgraded to signal control before the opening of the Project. The HCM methodology was used for signalized and unsignalized intersections.
    - In Scenario A, with OSP Specific Plan Site Phase 1 & the 327 Harbor Site constructed, the Project is projected to generate an estimated net increase of 160 trips (71 inbound/89 outbound) during the AM peak hour and 134 trips (69 inbound/65 outbound) during the PM peak hour.
    - In Scenario A, with OSP Specific Plan Site Phases 1 & 2 & the 327 Harbor Site constructed, the Project is projected to generate an estimated net increase of 396 trips (171 inbound/225 outbound) during the AM peak hour and 382 trips (203 inbound/179 outbound) during the PM peak hour.
    - In Scenario B, with OSP Specific Plan Site Phase 1 & the 327 Harbor Site constructed, the Project is projected to generate an estimated net increase of 201 trips (91 inbound/110 outbound) during the AM peak hour and 166 trips (89 inbound/77 outbound) during the PM peak hour.
    - In Scenario B, with OSP Specific Plan Site Phases 1 & 2 & the 327 Harbor Site constructed, the Project is projected to generate an estimated net increase of 483 trips (205 inbound/278 outbound) during the AM peak hour and 451 trips (238 inbound/213 outbound) during the PM peak hour.
    - When the Project is fully built out, which would consist of the same uses for both scenarios, the Project is projected to generate an estimated net increase of 576 trips (243 inbound/333 outbound) during the AM peak hour and 533 trips (284 inbound/249 outbound) during the PM peak hour.
- Per the City's criteria, the Project was found to substantially contribute to unacceptable queuing at three nearby signalized intersections, where Project trips increase the length of turn pocket queues that are already spilling over into adjacent through lanes in the base conditions. This could be alleviated with lengthened turn pockets.
- In all project conditions, the outbound movements at all Project driveways are projected to operate at LOS C or better. Additionally, the conflicting southbound movements at the two driveways along an arterial, Driveways 6A and 9B along Harbor Boulevard, would experience 0 seconds of delay. The outbound queueing at all driveways would also be 25 feet or less in all project conditions.



Appendix A: Memorandum of Understanding

LADOT

Attachment C

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: One San Pedro Specific Plan

Project Address: 275 West First Street, Los Angeles, CA 90731

Project Description: The project involves the redevelopment of the 21-acre, 478 unit Rancho San Pedro housing complex. The proposed redevelopment would include construction of new residential units, as well as local-serving retail and community amenities, with an additional 49-unit residential building offsite at 327 Harbor Boulevard. See Attachment 1 for the full description of land uses.

LADOT Project Case Number: HRB22-112909 Project Site Plan attached? *(Required)* ☑ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Attachment 2

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

✓	Reduced Parking Supply[2]	✓	Bicycle Parking and Amenities		Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc.) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 Bike hub
2 Car share program
3 Subsidized Transit Passes
4
5
6

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other 11th Edition

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	Yes	No
Transit Usage	☑	☐
Existing Active or Previous Land Use	☑	☐
Internal Trip	☑	☐
Pass-By Trip	☑	☐
Transportation Demand Management (See above)	☑	☐

Trip generation table including a description of the existing and proposed land uses, rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☑ Yes ☐ No

	IN	OUT	TOTAL
AM Trips			
PM Trips			

See Attachments 3A-3E for trip generation and Attachments 4B-4F for internal capture worksheets. ~~Note there is no~~ Attachment 4A ~~because internal capture was~~ not used for the 327 Harbor Site.

NET Daily Vehicle Trips (DVT) Attachment 5
10,298 DVT (ITE ___ ed.)
_____ DVT (VMT Calculator ver. 1.3)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or State law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or the City's Transit Oriented Community Guidelines.

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2037 Ambient Growth Rate: 0.3 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ☑ Yes ☐ No Attachment 6

STUDY INTERSECTIONS and/or STREET SEGMENTS:
(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1 See Attachment 7 4 _____
2 _____ 5 _____
3 _____ 6 _____

Provide a separate list if more than six study intersections and/or street segments.

Is this Project located on a street within the High Injury Network? ☑ Yes ☐ No

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval.

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 net DVT? ☑ Yes ☐ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☑ Yes ☐ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☑ Yes ☐ No

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., complete **Attachment C.1: Access Assessment Criteria**.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should also be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable	
Each study intersection and/or street segment	☑	☐		Attachment 7
*Project Vehicle Peak Hour trips at each study intersection	☑	☐		Attachment 8
*Project Vehicle Peak Hour trips at each project access point	☑	☐		Attachment 8
*Project trip distribution percentages at each study intersection	☑	☐		Attachment 9
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☐	☑	☐	
Pedestrian access points and any pedestrian paths	☐	☑	☐	
Pedestrian loading zones	☐	☑	☐	
Delivery loading zone or area	☐	☑	☐	
Bicycle parking onsite	☑	☐		Per LAMC
Bicycle parking offsite (in public right-of-way)	☐	☑	☐	

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☑ YES ☐ NO

Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

The maximum number of freeway trips would be added in Scenario B full buildout. Detailed freeway trip numbers for each phase of construction can be found in Attachment 8

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	John Muggridge, Fehr & Peers	Zoe Kranemann, HACLA
Address:	600 Wilshire Boulevard, Los Angeles, CA 90017	2600 Wilshire Blvd. Los Angeles, CA 90057
Phone Number:	(213) 261-3064	833-422-5248
E-Mail:	j.muggridge@fehrandpeers.com	zoe.kranemann@hacla.org

Approved by:	x		9/12/2022	x	Robert Sanchez (Jun 30, 2022 20:56 PDT)
		Consultant's Representative	Date	LADOT Representative	**Date
Adjacent Municipality:			Approved by: (if applicable)		
			Representative		Date

**MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

Access Assessment Criteria

This Criteria acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: One San Pedro Specific Plan

Project Address: 275 West First Street, Los Angeles, CA 90731

Project Description: The project involves the redevelopment of the 21-acre, 478-unit Rancho San Pedro housing complex. The proposed redevelopment would include construction of new residential units, as well as local-serving retail and community amenities, with an additional 49-unit residential building offsite at 327 Harbor Boulevard.

LADOT Project Case Number: HRB22-112909

II. PEDESTRIAN/ PERSON TRIP GENERATION

Source of Pedestrian/Person Trip Generation Rate(s)? ☑ VMT Calculator ☐ ITE 10th Edition ☑ Other: ITE 11th Edition

	Land Use	Size/Unit	Daily Person Trips
Proposed	See Attachment 10 for the pedestrian trip generation.		
	Total new trips:		

Pedestrian/Person trip generation table including a description of the proposed land uses, trip credits, person trip assumptions, comparison studies used for reference, etc. attached? ☐ Yes ☑ No

III. PEDESTRIAN ATTRACTORS INVENTORY

Attach Pedestrian Map for the area (1,320-foot radius from edge of the project site) depicting:

- site pedestrian entrance(s) Attachment 11
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
  - Geographic Distribution: N 10 % S 35 % E 10 % W 45 %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and other municipal bus stops)
- Key pedestrian destinations with hours of operation:
  - schools (school times)
  - government offices with a public counter or meeting room
  - senior citizen centers
  - recreation centers or playgrounds
  - public libraries
  - medical centers or clinics
  - child care facilities
  - post offices

- places of worship
- grocery stores
- other facilities that attract pedestrian trips

- pedestrian walking routes to key destinations from project site

Note: Pedestrian Count Summary, Bicycle Count Summary, Manual Traffic Count Summary will need to be attached to the Transportation Assessment

IV. FACILITIES INVENTORY

Is a High Injury Network street located within 1,320-foot radius from the edge of the project site? ☑ Yes ☐ No
If yes, list streets and include distance from the project:

South Pacific Avenue at 675 (feet)
_____ at _____(feet)
_____ at _____(feet)
_____ at _____(feet)

Attach Radius Map for the area (1,320 foot radius from edge of the project site) depicting the following existing and proposed facilities: Attachment 12

- transit stops
- bike facilities
- traffic control devices for controlled crossings
- uncontrolled crosswalks
- location of any missing, damaged or substandard sidewalks

For a reference of planned facilities, see the Transportation Assessment Support Map

Crossing Distances

Does the project property have frontage along an arterial street (designated as either an Avenue or Boulevard?)
☑ Yes ☐ No

If yes, provide the distance between the crossing control devices (e.g. signalized crosswalk, or controlled mid-block crossing) along any arterial within 1,320 feet of the property.

925 (feet) at Harbor Boulevard	_____(feet) at _____
675 (feet) at Harbor Boulevard*	_____(feet) at _____
2,400 (feet) at W 1st St**	_____(feet) at _____
_____(feet) at _____	_____(feet) at _____
_____(feet) at _____	_____(feet) at _____
_____(feet) at _____	_____(feet) at _____

***A new traffic signal is proposed at Harbor & 3rd, which will reduce the distance between crossing control devices.**
****Within the 2,400 feet along W 1st St, there are two all-way stop-controlled intersections, although they don't have striped crosswalks.**

V. Project Construction

Will the project require any construction activity within the city right-of-way? ☑ Yes ☐ No

If yes, will the project require temporary closure of any of the following city facilities?

yes
- sidewalk
- bike lane

yes
- parking lane

yes
- travel lane

yes
- bus stop
- bicycle parking (racks or corrals)
- bike share or other micro-mobility station
- car share station
- parklet
- other: _____

ATTACHMENT 1
ONE SAN PEDRO PROJECT, FULL BUILDOUT
DETAILED PROJECT DESCRIPTION

Proposed Land Use	Size/Units
Affordable Multifamily Housing - 327 Harbor Site	960 du
Affordable Multifamily Housing - Main Project Site	49 du
Affordable Senior Housing	71 du
Market-Rate Multifamily Housing (Mid-Rise)	520 du
Supermarket	15 ksf
Shopping Plaza	43 ksf
High-Turnover (Sit-Down) Restaurant	12 ksf
Other Neighborhood Uses	60 ksf
Existing Affordable Multifamily Housing to be Removed	478 du



N
N.T.S.

Attachment 2A
Figure 2A

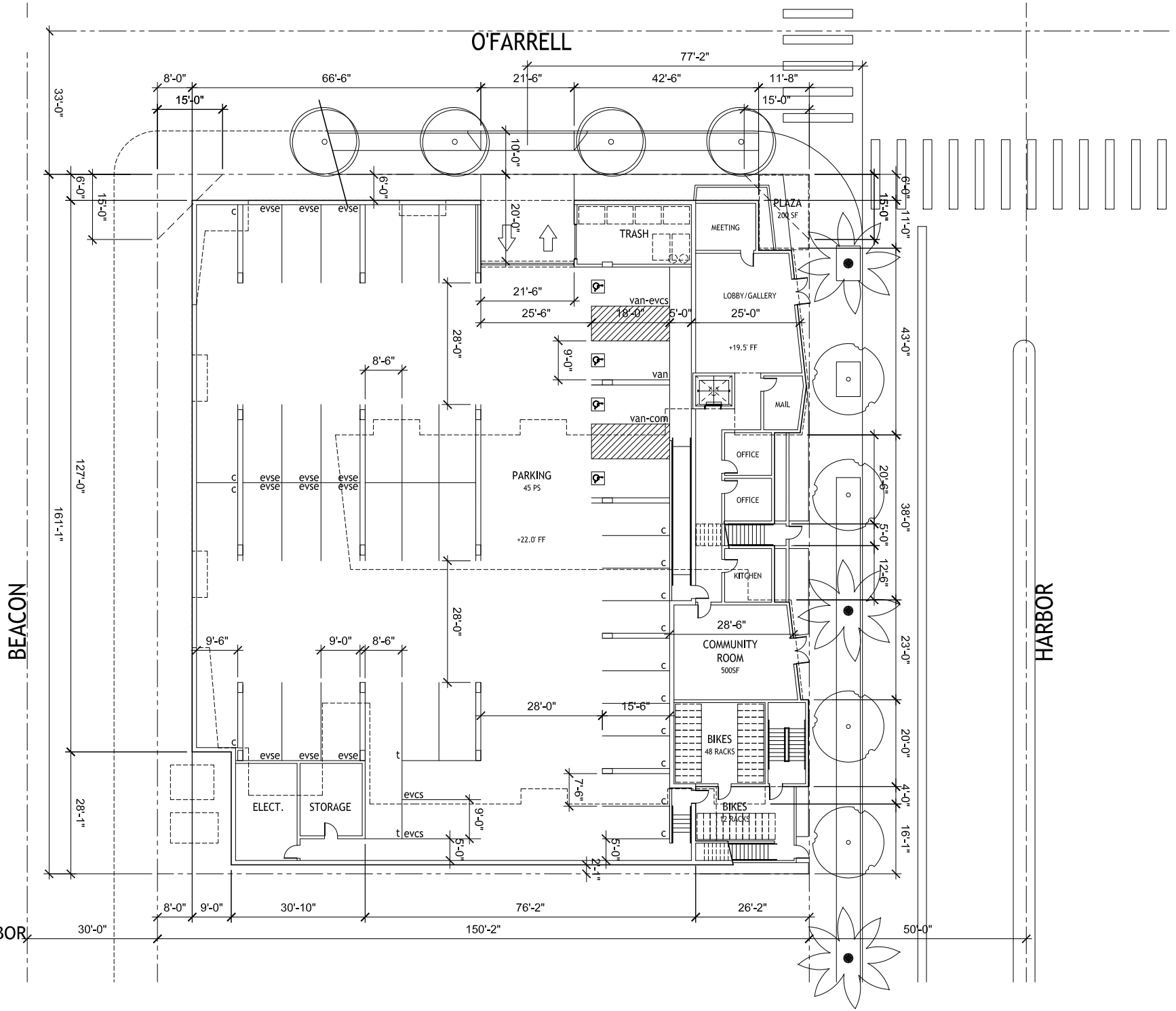
Overall Project Site Plan



Attachment 2B

Project Site Plan

Attachment 2C



327 NORTH HARBOR
HARBOR LEVEL PLAN
SCALE: 1" = 30'
DATE: 22-0520

ATTACHMENT 3A
ONE SAN PEDRO - 327 HARBOR SITE
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	49 DU	11	16	27	12	9	21
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program [d]		*5%*			*5%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		5%			5%				*1*	*1*	*2*	*0*	*1*	*1*
Net External Affordable Multifamily									10	14	24	9	9	18
NET INCREMENTAL EXTERNAL TRIPS									10	14	24	9	9	18

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. To keep the trip generation consistent for the 327 Harbor Site during all phases of the Project, the internal capture was conservatively kept at 0%.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

ATTACHMENT 3B
ONE SAN PEDRO PROJECT SPECIFIC PLAN SCENARIO - PLANNING AREA A
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	350 DU [g]	77	116	193	83	68	151
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*(1)*	*(5)*	*(6)*	*(7)*	*(2)*	*(9)*
Less: TDM Program [d]		*5%*			*5%*				*(4)*	*(5)*	*(9)*	*(4)*	*(3)*	*(7)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(11)*	*(16)*	*(27)*	*(11)*	*(9)*	*(20)*
Added: TNC Adjustment [f]		5%			5%				*7*	*4*	*11*	*4*	*5*	*9*
Net External Affordable Multifamily									68	94	162	65	59	124
Market-Rate Multifamily Housing (Mid-Rise)	221	0.37	23%	77%	0.39	61%	39%	25 DU	2	7	9	6	4	10
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Added: TNC Adjustment [f]		5%			5%				*0*	*1*	*1*	*1*	*0*	*1*
Net External Market-Rate Multifamily (Mid-Rise)									2	7	9	5	4	9
Strip Retail Plaza (<40k)	*822*	*2.36*	*60%*	*40%*	*6.59*	*50%*	*50%*	5 ksf	7	5	12	17	16	33
Less: Internal capture [c]			*25%*	*22%*		*38%*	*56%*		*(2)*	*(1)*	*(3)*	*(6)*	*(9)*	*(15)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(1)*	*0*	*(1)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*0*	*1*	*1*	*0*	*1*
Total Driveway Trips									5	4	9	9	6	15
Less: Pass-by from net trips		50%			50%				*(2)*	*(2)*	*(4)*	*(4)*	*(3)*	*(7)*
Net External Strip Retail Plaza (<40k)									3	2	5	5	3	8
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	3 ksf	16	13	29	16	11	27
Less: Internal capture [c]			*22%*	*9%*		*41%*	*58%*		*(4)*	*(1)*	*(5)*	*(7)*	*(6)*	*(13)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(2)*	*(1)*	*(3)*	*(1)*	*(1)*	*(2)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*1*	*0*	*1*
Total Driveway Trips									10	12	22	8	4	12
Less: Pass-by from net trips [h]		20%			20%				*(1)*	*(2)*	*(3)*	*(1)*	*0*	*(1)*
Net External High-Turnover Sit-Down									9	10	19	7	4	11
Other Neighborhood Uses [i]	495	1.91	66%	34%	2.5	47%	53%	24 ksf	30	16	46	28	32	60
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(15)*	*(8)*	*(23)*	*(14)*	*(16)*	*(30)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*(1)*	*(2)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Added: TNC Adjustment [f]		5%			5%				*0*	*1*	*1*	*1*	*1*	*2*
Total Driveway Trips									12	8	20	12	14	26
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									12	8	20	12	14	26
TOTAL DRIVEWAY TRIPS									97	125	222	99	87	186
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									94	121	215	94	84	178
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	156 DU	34	52	86	37	30	67
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program									*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(8)*	*(13)*	*(6)*	*(4)*	*(10)*
Added: TNC Adjustment [k]		5%			5%				*3*	*2*	*5*	*2*	*2*	*4*
Net External Affordable Multifamily									32	46	78	33	28	61
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE ONLY									62	75	137	61	56	117
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE AND 327 HARBOR SITE [j]									72	89	161	70	65	135

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[j] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporated on any other rows of this table.

ATTACHMENT 3C
ONE SAN PEDRO PROJECT SPECIFIC PLAN SCENARIO - PLANNING AREAS A & B
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	730 DU [g]	161	241	402	173	141	314
Less: Internal capture [c]			*3%*	*3%*		*21%*	*11%*		*(4)*	*(8)*	*(12)*	*(37)*	*(16)*	*(53)*
Less: TDM Program [d]		*5%*			*5%*				*(8)*	*(12)*	*(20)*	*(7)*	*(6)*	*(13)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(22)*	*(34)*	*(56)*	*(20)*	*(17)*	*(37)*
Added: TNC Adjustment [f]		*5%*			*5%*				*14*	*10*	*24*	*7*	*9*	*16*
Net External Affordable Multifamily									141	197	338	116	111	227
Market-Rate Multifamily Housing (Mid-Rise)	221	[i]	23%	77%	[i]	61%	39%	245 DU	22	74	96	59	37	96
Less: Internal capture [c]			3%	*3%*		*19%*	*10%*		*(1)*	*(2)*	*(3)*	*(11)*	*(4)*	*(15)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(4)*	*(5)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(10)*	*(13)*	*(7)*	*(5)*	*(12)*
Added: TNC Adjustment [f]		*5%*			*5%*				*5*	*1*	*6*	*2*	*3*	*5*
Net External Market-Rate Multifamily (Mid-Rise)									22	59	81	41	29	70
Supermarket	850	2.86	59%	41%	[j]	50%	50%	15 ksf	25	18	43	83	83	166
Less: Internal capture [c]			*12%*	*22%*		*15%*	*33%*		*(3)*	*(4)*	*(7)*	*(12)*	*(27)*	*(39)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(3)*	*(6)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(9)*	*(9)*	*(18)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*4*	*4*	*8*
Total Driveway Trips									19	12	31	63	48	111
Less: Pass-by from net trips [h]		40%			40%				*(7)*	*(4)*	*(11)*	*(23)*	*(17)*	*(40)*
Net External Supermarket									12	8	20	40	31	71
Strip Retail Plaza (<40k)	822	2.36	60%	40%	6.59	50%	50%	18 ksf	25	17	42	60	59	119
Less: Internal capture [c]			*12%*	*22%*		*15%*	*33%*		*(3)*	*(4)*	*(7)*	*(9)*	*(19)*	*(28)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(2)*	*(5)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(7)*	*(6)*	*(13)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*3*	*2*	*5*
Total Driveway Trips									19	11	30	44	34	78
Less: Pass-by from net trips [h]		50%			50%				*(9)*	*(5)*	*(14)*	*(20)*	*(16)*	*(36)*
Net External Strip Retail Plaza									10	6	16	24	18	42
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	6 ksf	31	26	57	33	21	54
Less: Internal capture [c]			*34%*	*18%*		*41%*	*58%*		*(11)*	*(5)*	*(16)*	*(14)*	*(12)*	*(26)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(3)*	*(6)*	*(2)*	*(2)*	*(4)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*1*	*1*	*2*
Total Driveway Trips									17	18	35	17	8	25
Less: Pass-by from net trips [h]		20%			20%				*(3)*	*(3)*	*(6)*	*(3)*	*(1)*	*(4)*
Net External High-Turnover Sit-Down									14	15	29	14	7	21
Other Neighborhood Uses [k]	495	1.91	66%	34%	2.5	47%	53%	48 ksf	61	31	92	56	64	120
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(31)*	*(16)*	*(47)*	*(28)*	*(32)*	*(60)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(1)*	*(2)*	*(3)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(2)*	*(6)*	*(4)*	*(5)*	*(9)*
Added: TNC Adjustment [f]		5%			5%				*1*	*2*	*3*	*2*	*2*	*4*
Total Driveway Trips									26	14	40	25	27	52
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									26	14	40	25	27	52
TOTAL DRIVEWAY TRIPS									244	311	555	306	257	563
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									225	299	524	260	223	483
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	300 ksf	66	99	165	71	58	129
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program		*0%*			*0%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(10)*	*(15)*	*(25)*	*(10)*	*(9)*	*(19)*
Added: TNC Adjustment [k]		*5%*			*5%*				*7*	*4*	*11*	*4*	*4*	*8*
Net External Affordable Multifamily									63	88	151	65	53	118
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE ONLY									162	211	373	195	170	365
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE AND 327 HARBOR SITE [l]									172	225	397	204	179	383

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Market-Rate Multi-Family (Mid Rise) were used. For the AM Peak hour, the equation is T = 0.44(x) - 11.61, and for the PM Peak hour, the equation is T = 0.39(x) + 0.34.

[j] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Supermarket were used for the PM Peak Hour. The equation is Ln(T) = 0.81 Ln(x) + 2.92.

[k] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

[l] This total includes the external trips from the 327 Harbor Site of 49 Affordable Multifamily Housing units, per the calculations in Table 1A. The 327 Harbor Site trips are not incorporate on any other rows of this table.

ATTACHMENT 3D
ONE SAN PEDRO PROJECT FRONT-LOADED SCENARIO - PLANNING AREA A
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	420 DU [g]	92	139	231	100	81	181
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*(1)*	*(6)*	*(7)*	*(9)*	*(3)*	*(12)*
Less: TDM Program [d]		*5%*			*5%*				*(4)*	*(7)*	*(11)*	*(4)*	*(4)*	*(8)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(13)*	*(19)*	*(32)*	*(13)*	*(11)*	*(24)*
Added: TNC Adjustment [f]		5%			5%				*8*	*6*	*14*	*5*	*5*	*10*
Net External Affordable Multifamily									82	113	195	79	68	147
Market-Rate Multifamily Housing (Mid-Rise)	221	0.37	23%	77%	0.39	61%	39%	30 DU	3	8	11	7	5	12
Less: Internal capture [c]			*2%*	*4%*		*9%*	*4%*		*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*0*	*(2)*	*(2)*	*(1)*	*(1)*	*(2)*
Added: TNC Adjustment [f]		5%			5%				*0*	*1*	*1*	*1*	*0*	*1*
Net External Market-Rate Multifamily (Mid-Rise)									3	6	9	5	4	9
Strip Retail Plaza (<40k)	*822*	*2.36*	*60%*	*40%*	*6.59*	*50%*	*50%*	6 ksf	8	6	14	20	20	40
Less: Internal capture [c]			*21%*	*20%*		*38%*	*56%*		*(2)*	*(1)*	*(3)*	*(8)*	*(11)*	*(19)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(1)*	*(1)*	*(2)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*0*	*1*	*1*	*0*	*1*
Total Driveway Trips									5	4	9	10	8	18
Less: Pass-by from net trips [h]		50%			50%				*(2)*	*(2)*	*(4)*	*(4)*	*(4)*	*(8)*
Net External Strip Retail Plaza (<40k)									3	2	5	6	4	10
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	4 ksf	21	17	38	22	14	36
Less: Internal capture [c]			*22%*	*7%*		*41%*	*58%*		*(5)*	*(1)*	*(6)*	*(9)*	*(8)*	*(17)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(2)*	*(1)*	*(3)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*1*	*0*	*1*
Total Driveway Trips									13	14	27	11	5	16
Less: Pass-by from net trips [h]		20%			20%				*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Net External High-Turnover Sit-Down									11	12	23	9	4	13
Other Neighborhood Uses [i]	495	1.91	66%	34%	2.5	47%	53%	29 ksf	36	19	55	34	39	73
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(18)*	*(10)*	*(28)*	*(17)*	*(20)*	*(37)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*0*	*(1)*	*(1)*	*(1)*	*(2)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(1)*	*(4)*	*(2)*	*(3)*	*(5)*
Added: TNC Adjustment [f]		5%			5%				*1*	*1*	*2*	*1*	*1*	*2*
Total Driveway Trips									15	9	24	15	16	31
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									15	9	24	15	16	31
TOTAL DRIVEWAY TRIPS									118	146	264	120	101	221
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									114	142	256	114	96	210
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	156 DU	34	52	86	37	30	67
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program									*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(8)*	*(13)*	*(6)*	*(4)*	*(10)*
Added: TNC Adjustment [k]		5%			5%				*3*	*2*	*5*	*2*	*2*	*4*
Net External Affordable Multifamily									32	46	78	33	28	61
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE ONLY									82	96	178	81	68	149
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE AND 327 HARBOR SITE [j]									92	110	202	90	77	167

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] "Other Neighborhood Uses" includes Workforce Development, PM & RAC, Boys+Girls Club & Social Hall, Childcare, Clinic, Wellness Center, Senior Center, Bike Shop, Creative Space, Incubator. All of these are intended for internal use.

ATTACHMENT 3E
ONE SAN PEDRO PROJECT FRONT-LOADED SCENARIO - PLANNING AREAS A & B
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	827 DU [g]	182	273	455	196	160	356
Less: Internal capture [c]			*3%*	*4%*		*19%*	*10%*		*(5)*	*(10)*	*(15)*	*(36)*	*(16)*	*(52)*
Less: TDM Program [d]		*5%*			*5%*				*(9)*	*(13)*	*(22)*	*(8)*	*(7)*	*(15)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(25)*	*(38)*	*(63)*	*(24)*	*(19)*	*(43)*
Added: TNC Adjustment [f]		*5%*			*5%*				*16*	*11*	*27*	*8*	*10*	*18*
Net External Affordable Multifamily									159	223	382	136	128	264
Market-Rate Multifamily Housing (Mid-Rise)	221	[i]	23%	77%	[i]	61%	39%	294 DU	27	91	118	70	45	115
Less: Internal capture [c]			3%	*3%*		*19%*	*10%*		*(1)*	*(3)*	*(4)*	*(13)*	*(5)*	*(18)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(5)*	*(6)*	*(3)*	*(2)*	*(5)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(12)*	*(16)*	*(9)*	*(5)*	*(14)*
Added: TNC Adjustment [f]		*5%*			*5%*				*5*	*2*	*7*	*2*	*4*	*6*
Net External Market-Rate Multifamily (Mid-Rise)									26	73	99	47	37	84
Supermarket	850	2.86	59%	41%	[j]	50%	50%	15 ksf	25	18	43	83	83	166
Less: Internal capture [c]			*15%*	*23%*		*17%*	*36%*		*(4)*	*(4)*	*(8)*	*(14)*	*(30)*	*(44)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(3)*	*(6)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(9)*	*(8)*	*(17)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*4*	*3*	*7*
Total Driveway Trips									18	12	30	61	45	106
Less: Pass-by from net trips [h]		40%			40%				*(6)*	*(4)*	*(10)*	*(22)*	*(16)*	*(38)*
Net External Supermarket									12	8	20	39	29	68
Strip Retail Plaza (<40k)	822	2.36	60%	40%	6.59	50%	50%	16 ksf	23	15	38	53	52	105
Less: Internal capture [c]			*15%*	*23%*		*17%*	*36%*		*(3)*	*(3)*	*(6)*	*(9)*	*(19)*	*(28)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(6)*	*(5)*	*(11)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*3*	*2*	*5*
Total Driveway Trips									17	10	27	39	28	67
Less: Pass-by from net trips [h]		50%			50%				*(8)*	*(4)*	*(12)*	*(18)*	*(13)*	*(31)*
Net External Strip Retail Plaza									9	6	15	21	15	36
High-Turnover Sit-Down Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	8 ksf	42	35	77	44	28	72
Less: Internal capture [c]			*34%*	*18%*		*41%*	*58%*		*(14)*	*(6)*	*(20)*	*(18)*	*(16)*	*(34)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(1)*	*(1)*	*(2)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(4)*	*(4)*	*(8)*	*(3)*	*(2)*	*(5)*
Added: TNC Adjustment [f]		*5%*			*5%*				*2*	*1*	*3*	*1*	*1*	*2*
Total Driveway Trips									24	25	49	23	10	33
Less: Pass-by from net trips [h]		20%			20%				*(4)*	*(4)*	*(8)*	*(4)*	*(1)*	*(5)*
Net External High-Turnover Sit-Down									20	21	41	19	9	28
Other Neighborhood Uses [k]	495	1.91	66%	34%	2.5	47%	53%	58 ksf	73	38	111	68	77	145
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(37)*	*(19)*	*(56)*	*(34)*	*(39)*	*(73)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(3)*	*(8)*	*(5)*	*(5)*	*(10)*
Added: TNC Adjustment [f]		5%			5%				*1*	*2*	*3*	*2*	*2*	*4*
Total Driveway Trips									30	17	47	29	33	62
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									30	17	47	29	33	62
TOTAL DRIVEWAY TRIPS									274	360	634	335	281	616
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									256	348	604	291	251	542
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	300 ksf	66	99	165	71	58	129
Less: Internal capture [c]			*0%*	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program		*0%*			*0%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(10)*	*(15)*	*(25)*	*(10)*	*(9)*	*(19)*
Added: TNC Adjustment [k]		*5%*			*5%*				*7*	*4*	*11*	*4*	*4*	*8*
Net External Affordable Multifamily									63	88	151	65	53	118
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE ONLY									193	260	453	226	198	424
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE AND 327 HARBOR SITE [l]									203	274	477	235	207	442

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Market-Rate Multi-Family (Mid Rise) were used. For the AM Peak hour, the equation is T = 0.44(x) - 11.61, and for the PM Peak hour, the equation is T = 0.39(x) + 0.34.

[j] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Supermarket were used for the PM Peak Hour. The equation is Ln(T) = 0.81 Ln(x) + 2.92.

ATTACHMENT 3F
ONE SAN PEDRO PROJECT - FULL BUILDOUT (BOTH SCENARIOS)
TRIP GENERATION ESTIMATES

Land Use	ITE Land Use Code	Trip Generation Rates [a]						Size	Estimated Trip Generation					
		AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
		Rate	In%	Out%	Rate	In%	Out%		In	Out	Total	In	Out	Total
PROPOSED PROJECT														
Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	960 DU [g]	211	317	528	227	186	413
Less: Internal capture [c]			*3%*	*4%*		*20%*	*11%*		*(6)*	*(13)*	*(19)*	*(45)*	*(21)*	*(66)*
Less: TDM Program [d]		*5%*			*5%*				*(10)*	*(15)*	*(25)*	*(9)*	*(8)*	*(17)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(29)*	*(44)*	*(73)*	*(28)*	*(22)*	*(50)*
Added: TNC Adjustment [f]		*5%*			*5%*				*19*	*12*	*31*	*9*	*12*	*21*
Net External Affordable Multifamily									185	257	442	154	147	301
Affordable Senior Housing	[b]	0.11	38%	62%	0.17	55%	45%	71 DU	3	5	8	7	5	12
Less: Internal capture [c]			*3%*	*4%*		*20%*	*11%*		*0*	*0*	*0*	*(1)*	*(1)*	*(2)*
Less: TDM Program [d]		*5%*			*5%*				*0*	*0*	*0*	*(1)*	*0*	*(1)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*0*	*(1)*	*(1)*	*(1)*	*0*	*(1)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*0*	*1*	*0*	*1*	*1*
Net External Affordable Senior Housing									4	4	8	4	5	9
Market-Rate Multifamily Housing (Mid-Rise)	221	[i]	23%	77%	[i]	61%	39%	520 DU	50	167	217	124	79	203
Less: Internal capture [c]			*3%*	*4%*		*20%*	*11%*		*(1)*	*(7)*	*(8)*	*(25)*	*(9)*	*(34)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(8)*	*(10)*	*(5)*	*(3)*	*(8)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(7)*	*(23)*	*(30)*	*(15)*	*(9)*	*(24)*
Added: TNC Adjustment [f]		*5%*			*5%*				*10*	*3*	*13*	*4*	*6*	*10*
Net External Market-Rate Multifamily (Mid-Rise)									50	132	182	83	64	147
Supermarket	850	2.86	59%	41%	[j]	50%	50%	15 ksf	25	18	43	83	83	166
Less: Internal capture [c]			*14%*	*22%*		*18%*	*36%*		*(4)*	*(4)*	*(8)*	*(15)*	*(30)*	*(45)*
Less: TDM Program [d]		*5%*			*5%*				*(1)*	*(1)*	*(2)*	*(3)*	*(3)*	*(6)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(3)*	*(2)*	*(5)*	*(9)*	*(8)*	*(17)*
Added: TNC Adjustment [f]		*5%*			*5%*				*1*	*1*	*2*	*4*	*3*	*7*
Total Driveway Trips									18	12	30	60	45	105
Less: Pass-by from net trips [h]		40%			40%				*(6)*	*(4)*	*(10)*	*(22)*	*(16)*	*(38)*
Net External Supermarket									12	8	20	38	29	67
Shopping Plaza (40-150k)	821	1.73	62%	38%	5.19	49%	51%	43 ksf	46	28	74	109	114	223
Less: Internal capture [c]			*14%*	*22%*		*18%*	*36%*		*(6)*	*(6)*	*(12)*	*(20)*	*(40)*	*(60)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(4)*	*(4)*	*(8)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(6)*	*(3)*	*(9)*	*(11)*	*(12)*	*(23)*
Added: TNC Adjustment [f]		*5%*			*5%*				*2*	*2*	*4*	*5*	*5*	*10*
Total Driveway Trips									34	20	54	79	63	142
Less: Pass-by from net trips [h]		50%			50%				*(16)*	*(9)*	*(25)*	*(37)*	*(29)*	*(66)*
Net External Shopping Plaza (40-150k)									18	11	29	42	34	76
High-Turnover (Sit-Down) Restaurant	932	9.57	*55%*	*45%*	9.05	*61%*	*39%*	12 ksf	63	52	115	66	43	109
Less: Internal capture [c]			*29%*	*16%*		*41%*	*59%*		*(18)*	*(8)*	*(26)*	*(27)*	*(25)*	*(52)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(2)*	*(4)*	*(2)*	*(1)*	*(3)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(7)*	*(6)*	*(13)*	*(5)*	*(3)*	*(8)*
Added: TNC Adjustment [f]		*5%*			*5%*				*2*	*3*	*5*	*1*	*2*	*3*
Total Driveway Trips									38	39	77	33	16	49
Less: Pass-by from net trips [h]		20%			20%				*(7)*	*(7)*	*(14)*	*(6)*	*(2)*	*(8)*
Net External High-Turnover Sit-Down									31	32	63	27	14	41
Other Neighborhood Uses [k]	495	1.91	66%	34%	2.5	47%	53%	60 ksf	76	39	115	71	79	150
Less: Internal capture [c]			*50%*	*50%*		*50%*	*50%*		*(38)*	*(20)*	*(58)*	*(36)*	*(40)*	*(76)*
Less: TDM Program [d]		*5%*			*5%*				*(2)*	*(1)*	*(3)*	*(2)*	*(2)*	*(4)*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(5)*	*(3)*	*(8)*	*(5)*	*(6)*	*(11)*
Added: TNC Adjustment [f]		5%			5%				*1*	*2*	*3*	*2*	*2*	*4*
Total Driveway Trips									32	17	49	30	33	63
Less: Pass-by from net trips [h]		0%			0%				*0*	*0*	*0*	*0*	*0*	*0*
Net External Other Neighborhood Uses									32	17	49	30	33	63
TOTAL DRIVEWAY TRIPS									361	481	842	443	373	816
TOTAL PROJECT EXTERNAL VEHICLE TRIPS									332	461	793	378	326	704
EXISTING USE CREDIT														
Existing Affordable Multifamily Housing	[b]	0.55	40%	60%	0.43	55%	45%	478 DU	105	158	263	113	93	206
Less: Internal capture [c]			0%	*0%*		*0%*	*0%*		*0*	*0*	*0*	*0*	*0*	*0*
Less: TDM Program		*0%*			*0%*				*0*	*0*	*0*	*0*	*0*	*0*
Less: Transit/Walk credit [e]		*15%*			*15%*				*(16)*	*(23)*	*(39)*	*(17)*	*(14)*	*(31)*
Added: TNC Adjustment [k]		*5%*			*5%*				*10*	*7*	*17*	*6*	*7*	*13*
Net External Affordable Multifamily									99	142	241	102	86	188
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE ONLY									233	319	552	276	240	516
NET INCREMENTAL EXTERNAL TRIPS - MAIN PROJECT SITE AND 327 HARBOR SITE [i]									243	333	576	285	249	534

Notes:

[a] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition* , 2021, unless otherwise noted.

[b] Affordable multifamily housing and affordable senior housing data presented in the LADOT Transportation Assessment Guidelines was used to determine the trip generation for these land uses.

[c] Internal capture represents the percentage of trips between land uses that occur within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, 2011. This internal capture rate is based on the project components built during Planning Area 1. An internal capture rate of 50% was applied to the community uses since they are expected to heavily serve residents of the Project.

[d] A TDM reduction of 5% was assumed based on the provided bicycle parking and parking reductions.

[e] The transit credit is based on LADOT's Transportation Assessment Guidelines. The guidelines state that up to 15% transit credit may be taken for projects.

[f] An assumed TNC rate of 5% was applied for all uses. Assuming half of these TNC trips came from transit/walk trips, producing 2 additional trips each (one inbound and one outbound), and half came from vehicle trips, producing 1 additional trip each (since there was already an inbound or outbound trip), the effective rate is 7.5%. The In and Out percentages for this calculation were reversed, since TNC trips change single-direction trips into round trips.

[g] This total does not include the 49 Affordable Multifamily Housing units at the 327 Harbor Site. The trips for those units are calculated separately in Table 1A and added at the very bottom of this table where noted.

[h] Pass-by credit based on Attachment H of the LADOT Transportation Assessment Guidelines, July 2020.

[i] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Market-Rate Multi-Family (Mid Rise) were used. For the AM Peak hour, the equation is T = 0.44(x) - 11.61, and for the PM Peak hour, the equation is T = 0.39(x) + 0.34.

[j] Per the ITE Handbook (3rd Edition) flowchart, the fitted curve equations for Supermarket were used for the PM Peak Hour. The equation is Ln(T) = 0.81 Ln(x) + 2.92.

Attachment 4B

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Specific Plan Scenario, Planning Area A	**Date:**	6/8/2022
Analysis Year:	2030	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				12	7	5
Restaurant				29	16	13
Cinema/Entertainment				0		
Residential				202	79	123
Hotel				0		
All Other Land Uses[2]				0		
				243	102	141

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	5	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	353	150	203
Internal Capture Percentage	6%	7%	5%
External Vehicle-Trips[5]	196	82	114
External Transit-Trips[6]	49	20	29
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	25%	22%
Restaurant	22%	9%
Cinema/Entertainment	N/A	N/A
Residential	2%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4B

Project Name:	One San Pedro Project
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	7	12	1.70	5	9
Restaurant	1.70	16	27	1.70	13	22
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	79	111	1.40	123	172
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	3		1	0	1	0
Restaurant	7	3		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	3	2	34	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	6	0	0	0
Retail	0		14	0	2	0
Restaurant	0	1		0	6	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	5	0		0
Hotel	0	0	2	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	3	9	12	5	1	0
Restaurant	6	21	27	11	3	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	109	111	66	16	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	2	7	9	4	1	0
Restaurant	2	20	22	10	3	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	165	172	100	25	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4B

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Specific Plan Scenario, Planning Area A	**Date:**	6/8/2022
Analysis Year:	2030	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				33	17	16
Restaurant				27	16	11
Cinema/Entertainment				0		
Residential				203	83	120
Hotel				0		
All Other Land Uses[2]				0		
				263	116	147

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					600	
Restaurant					600	
Cinema/Entertainment						
Residential		600	600			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		8	0	7	0
Restaurant	0	8		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	3	3	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	386	172	214
Internal Capture Percentage	17%	19%	15%
External Vehicle-Trips[5]	190	81	109
External Transit-Trips[6]	48	21	27
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	38%	56%
Restaurant	41%	58%
Cinema/Entertainment	N/A	N/A
Residential	9%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4B

Project Name:	One San Pedro Project
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	17	29	1.70	16	27
Restaurant	1.70	16	27	1.70	11	19
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	83	116	1.40	120	168
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		8	1	7	1
Restaurant	1	8		2	3	1
Cinema/Entertainment	0	0	0		0	0
Residential	7	62	31	0		5
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		2	1	0	5	0
Retail	0		8	0	53	0
Restaurant	0	15		0	19	0
Cinema/Entertainment	0	1	1		5	0
Residential	0	3	3	0		0
Hotel	0	1	1	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	11	18	29	9	3	0
Restaurant	11	16	27	8	2	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	10	106	116	64	16	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	15	12	27	6	2	0
Restaurant	11	8	19	4	1	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	6	162	168	99	24	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4C

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Specific Plan Scenario, Planning Areas A & B	**Date:**	6/8/2022
Analysis Year:	2035	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				85	50	35
Restaurant				57	31	26
Cinema/Entertainment				0		
Residential				498	183	315
Hotel				0		
All Other Land Uses[2]				0		
				640	264	376

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		8	0	5	0
Restaurant	0	6		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	11	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	939	394	545
Internal Capture Percentage	8%	9%	7%
External Vehicle-Trips[5]	507	206	301
External Transit-Trips[6]	129	53	76
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	12%	22%
Restaurant	36%	18%
Cinema/Entertainment	N/A	N/A
Residential	3%	3%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4C

Project Name:	One San Pedro Project
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	50	85	1.70	35	60
Restaurant	1.70	31	53	1.70	26	44
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	183	256	1.40	315	441
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	17		8	0	8	0
Restaurant	14	6		0	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	9	4	88	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		27	12	0	0	0
Retail	0		27	0	5	0
Restaurant	0	7		0	13	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	14	11	0		0
Hotel	0	3	3	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	10	75	85	38	11	0
Restaurant	19	34	53	17	5	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	249	256	151	37	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	13	47	60	24	7	0
Restaurant	8	36	44	18	5	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	15	426	441	259	64	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4C

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Specific Plan Scenario, Planning Areas A & B	**Date:**	6/8/2022
Analysis Year:	2035	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				285	143	142
Restaurant				54	33	21
Cinema/Entertainment				0		
Residential				410	232	178
Hotel				0		
All Other Land Uses[2]				0		
				749	408	341

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					600	
Restaurant					600	
Cinema/Entertainment						
Residential		600	600			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		16	0	63	0
Restaurant	0	15		0	6	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	21	7	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,150	624	526
Internal Capture Percentage	22%	21%	24%
External Vehicle-Trips[5]	499	276	223
External Transit-Trips[6]	133	74	59
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	15%	33%
Restaurant	41%	58%
Cinema/Entertainment	N/A	N/A
Residential	21%	11%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4C

Project Name:	One San Pedro Project
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	143	243	1.70	142	241
Restaurant	1.70	33	56	1.70	21	36
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	232	325	1.40	178	249
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	5		70	10	63	12
Restaurant	1	15		3	6	3
Cinema/Entertainment	0	0	0		0	0
Residential	10	92	46	0		7
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		19	1	0	13	0
Retail	0		16	0	150	0
Restaurant	0	122		0	52	0
Cinema/Entertainment	0	10	2		13	0
Residential	0	21	7	0		0
Hotel	0	5	3	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	36	207	243	104	31	0
Restaurant	23	33	56	16	5	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	69	256	325	156	38	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	79	162	241	81	24	0
Restaurant	21	15	36	8	2	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	28	221	249	134	33	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4D

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Front-Loaded Scenario, Planning Area A	**Date:**	6/8/2022
Analysis Year:	2030	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				14	8	6
Restaurant				38	21	17
Cinema/Entertainment				0		
Residential				242	95	147
Hotel				0		
All Other Land Uses[2]				0		
				294	124	170

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	1	0
Restaurant	0	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	7	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	428	183	245
Internal Capture Percentage	6%	7%	5%
External Vehicle-Trips[5]	235	98	137
External Transit-Trips[6]	61	26	35
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	21%	20%
Restaurant	22%	7%
Cinema/Entertainment	N/A	N/A
Residential	2%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4D

Project Name:	One San Pedro Project
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	8	14	1.70	6	10
Restaurant	1.70	21	36	1.70	17	29
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	95	133	1.40	147	206
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	3		1	0	1	0
Restaurant	9	4		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	4	2	41	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	8	0	0	0
Retail	0		18	0	3	0
Restaurant	0	1		0	7	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	7	0		0
Hotel	0	1	2	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	3	11	14	5	2	0
Restaurant	8	28	36	14	4	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	131	133	79	20	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	2	8	10	4	1	0
Restaurant	2	27	29	14	4	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	9	197	206	119	30	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4D

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Front-Loaded Scenario, Planning Area A	**Date:**	6/8/2022
Analysis Year:	2030	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				40	20	20
Restaurant				36	22	14
Cinema/Entertainment				0		
Residential				243	99	144
Hotel				0		
All Other Land Uses[2]				0		
				319	141	178

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					600	
Restaurant					600	
Cinema/Entertainment						
Residential		600	600			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		10	0	9	0
Restaurant	0	10		0	4	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	3	5	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	470	210	260
Internal Capture Percentage	17%	20%	16%
External Vehicle-Trips[5]	229	98	131
External Transit-Trips[6]	58	25	33
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	38%	56%
Restaurant	41%	58%
Cinema/Entertainment	N/A	N/A
Residential	9%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4D

Project Name:	One San Pedro Project
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	20	34	1.70	20	34
Restaurant	1.70	22	37	1.70	14	24
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	99	139	1.40	144	202
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		10	1	9	2
Restaurant	1	10		2	4	2
Cinema/Entertainment	0	0	0		0	0
Residential	8	75	37	0		6
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	6	0
Retail	0		11	0	64	0
Restaurant	0	17		0	22	0
Cinema/Entertainment	0	1	1		6	0
Residential	0	3	5	0		0
Hotel	0	1	2	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	13	21	34	11	3	0
Restaurant	15	22	37	11	3	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	13	126	139	76	19	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	19	15	34	8	2	0
Restaurant	14	10	24	5	2	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	8	194	202	118	29	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4E

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Front-Loaded Scenario, Planning Areas A & B	**Date:**	6/8/2022
Analysis Year:	2035	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				81	48	33
Restaurant				77	42	35
Cinema/Entertainment				0		
Residential				573	209	364
Hotel				0		
All Other Land Uses[2]				0		
				731	299	432

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		7	0	6	0
Restaurant	0	7		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	5	14	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,072	446	626
Internal Capture Percentage	8%	9%	7%
External Vehicle-Trips[5]	578	233	345
External Transit-Trips[6]	150	62	88
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	15%	23%
Restaurant	30%	15%
Cinema/Entertainment	N/A	N/A
Residential	3%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4E

Project Name:	One San Pedro Project
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	48	82	1.70	33	56
Restaurant	1.70	42	71	1.70	35	60
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	209	293	1.40	364	510
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	16		7	0	8	0
Restaurant	19	8		0	2	2
Cinema/Entertainment	0	0	0		0	0
Residential	10	5	102	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		26	16	0	0	0
Retail	0		36	0	6	0
Restaurant	0	7		0	15	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	14	14	0		0
Hotel	0	3	4	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	12	70	82	35	11	0
Restaurant	21	50	71	25	8	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	8	285	293	173	43	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	13	43	56	22	6	0
Restaurant	9	51	60	25	8	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	19	491	510	298	74	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4E

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Front-Loaded Scenario, Planning Areas A & B	**Date:**	6/8/2022
Analysis Year:	2035	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				271	136	135
Restaurant				72	44	28
Cinema/Entertainment				0		
Residential				471	266	205
Hotel				0		
All Other Land Uses[2]				0		
				814	446	368

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					600	
Restaurant					600	
Cinema/Entertainment						
Residential		600	600			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		22	0	60	0
Restaurant	0	20		0	9	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	20	9	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,243	678	565
Internal Capture Percentage	23%	21%	25%
External Vehicle-Trips[5]	540	301	239
External Transit-Trips[6]	145	81	64
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	17%	36%
Restaurant	41%	60%
Cinema/Entertainment	N/A	N/A
Residential	19%	10%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4E

Project Name:	One San Pedro Project
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	136	231	1.70	135	230
Restaurant	1.70	44	75	1.70	28	48
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	266	372	1.40	205	287
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	5		67	9	60	12
Restaurant	1	20		4	9	3
Cinema/Entertainment	0	0	0		0	0
Residential	11	106	53	0		9
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		18	2	0	15	0
Retail	0		22	0	171	0
Restaurant	0	116		0	60	0
Cinema/Entertainment	0	9	2		15	0
Residential	0	20	9	0		0
Hotel	0	5	4	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	40	191	231	95	29	0
Restaurant	31	44	75	22	7	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	69	303	372	184	45	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	82	148	230	74	22	0
Restaurant	29	19	48	9	3	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	29	258	287	156	39	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4F

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Full Buildout (Both Scenarios)	**Date:**	6/8/2022
Analysis Year:	2037	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				117	71	46
Restaurant				115	63	52
Cinema/Entertainment				0		
Residential				753	264	489
Hotel				0		
All Other Land Uses[2]				0		
				985	398	587

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		10	0	7	0
Restaurant	0	10		0	4	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	7	21	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,449	598	851
Internal Capture Percentage	8%	10%	7%
External Vehicle-Trips[5]	775	308	467
External Transit-Trips[6]	200	81	119
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	14%	22%
Restaurant	29%	16%
Cinema/Entertainment	N/A	N/A
Residential	3%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4F

Project Name:	One San Pedro Project
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	71	121	1.70	46	78
Restaurant	1.70	63	107	1.70	52	88
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	264	370	1.40	489	685
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	23		10	0	11	0
Restaurant	27	12		0	4	3
Cinema/Entertainment	0	0	0		0	0
Residential	14	7	137	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		39	25	0	0	0
Retail	0		54	0	7	0
Restaurant	0	10		0	19	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	21	21	0		0
Hotel	0	5	6	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	17	104	121	52	16	0
Restaurant	31	76	107	38	11	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	11	359	370	218	54	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	17	61	78	31	9	0
Restaurant	14	74	88	37	11	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	28	657	685	399	99	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 4F

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	One San Pedro Project	**Organization:**	Fehr & Peers
Project Location:	275 West First Street	**Performed By:**	Dawn Malla
Scenario Description:	Full Buildout (Both Scenarios)	**Date:**	6/8/2022
Analysis Year:	2037	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				389	192	197
Restaurant				109	66	43
Cinema/Entertainment				0		
Residential				628	358	270
Hotel				0		
All Other Land Uses[2]				0		
				1,126	616	510

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	15%	0%	1.70	15%	0%
Restaurant	1.70	15%	0%	1.70	15%	0%
Cinema/Entertainment						
Residential	1.40	15%	0%	1.40	15%	0%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					600	
Restaurant					600	
Cinema/Entertainment						
Residential		600	600			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		32	0	87	0
Restaurant	0	30		0	13	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	29	14	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,725	939	786
Internal Capture Percentage	24%	22%	26%
External Vehicle-Trips[5]	738	411	327
External Transit-Trips[6]	197	110	87
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	18%	36%
Restaurant	41%	59%
Cinema/Entertainment	N/A	N/A
Residential	20%	11%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

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Attachment 4F

Project Name:	One San Pedro Project
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	192	326	1.70	197	335
Restaurant	1.70	66	112	1.70	43	73
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	358	501	1.40	270	378
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	7		97	13	87	17
Restaurant	2	30		6	13	5
Cinema/Entertainment	0	0	0		0	0
Residential	15	140	70	0		11
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		26	2	0	20	0
Retail	0		32	0	230	0
Restaurant	0	163		0	80	0
Cinema/Entertainment	0	13	3		20	0
Residential	0	29	14	0		0
Hotel	0	7	6	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	59	267	326	134	40	0
Restaurant	46	66	112	33	10	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	100	401	501	244	60	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	119	216	335	108	32	0
Restaurant	43	30	73	15	5	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	43	335	378	204	50	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment 5

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Screening Criteria: Is this project required to conduct a vehicle miles traveled analysis?

Project Information

Project: One San Pedro Specific Plan

Scenario: Full Buildout

Address: 275 W 1ST ST, 90731



Is the project replacing an existing number of residential units with a smaller number of residential units AND is located within one-half mile of a fixed-rail or fixed-guideway transit station?

○ Yes ○ No

Existing Land Use

Land Use Type	Value	Unit
Housing | Affordable Housing - Family	478	DU
Housing | Affordable Housing - Family	478	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Proposed Project Land Use

Land Use Type	Value	Unit
Housing | Affordable Housing - Senior	120	DU
Housing | Multi-Family	520	DU
Retail | General Retail	43	ksf
Retail | Supermarket	15	ksf
Retail | High-Turnover Sit-Down Restaurant	12	ksf
Housing | Affordable Housing - Family	1009	DU
Housing | Affordable Housing - Senior	71	DU

☐ Click here to add a single custom land use type (will be included in the above list)

Project Screening Summary

Existing Land Use	Proposed Project
2,078 Daily Vehicle Trips	10,298 Daily Vehicle Trips
18,792 Daily VMT	95,130 Daily VMT

Tier 1 Screening Criteria

Project will have less residential units compared to existing residential units & is within one-half mile of a fixed-rail station. ☐

Tier 2 Screening Criteria

The net increase in daily trips < 250 trips	8,220 Net Daily Trips
The net increase in daily VMT ≤ 0	76,338 Net Daily VMT
The proposed project consists of only retail land uses ≤ 50,000 square feet total.	70.000 ksf

The proposed project is required to perform VMT analysis.

Measuring the Miles

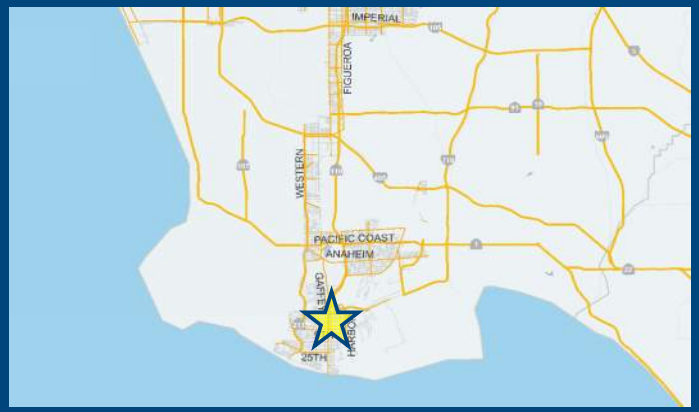
6/8/2022

Attachment 5

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	520	
Retail | General Retail	43	
Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1009	
Housing | Affordable Housing - Senior	71	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

Reduce Parking Supply
☑ Proposed Prj ☐ Mitigation
1991 city code parking provision for the project site
1800 actual parking provision for the project site

Unbundle Parking
☐ Proposed Prj ☐ Mitigation
175 monthly parking cost (dollar) for the project site

Parking Cash-Out
☐ Proposed Prj ☐ Mitigation
50 percent of employees eligible

Price Workplace Parking
☐ Proposed Prj ☐ Mitigation
6.00 daily parking charge (dollar)
50 percent of employees subject to priced parking

Residential Area Parking Permits
☐ Proposed Prj ☐ Mitigation
200 cost (dollar) of annual permit

B Transit

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
9,682 Daily Vehicle Trips	**9,475** Daily Vehicle Trips
89,438 Daily VMT	**87,533** Daily VMT
6.5 Household VMT per Capita	**6.4** Household VMT per Capita
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

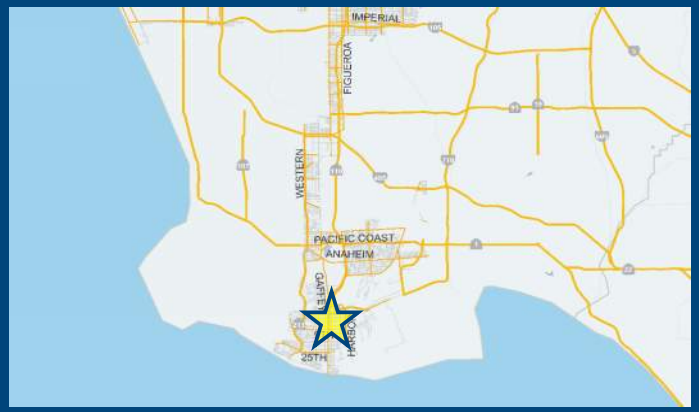
Measuring the Miles

Attachment 5

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	520	
Retail | General Retail	43	
Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1009	
Housing | Affordable Housing - Senior	71	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

A Parking

B Transit

Reduce Transit Headways
☐ Proposed Prj ☐ Mitigation
100 percent reduction in headways (increase in frequency)
6 percent existing transit mode share (as a % of total daily trips)
>= 50 percent of lines within project site improved

Implement Neighborhood Shuttle
☐ Proposed Prj ☐ Mitigation
medium degree of implementation
100 percent of employees and residents eligible

Transit Subsidies
☐ Proposed Prj ☑ Mitigation
7 percent of employees and residents eligible
5.96 amount (dollar) of transit subsidy per passenger (daily equivalent)

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
9,682 Daily Vehicle Trips	**9,475** Daily Vehicle Trips
89,438 Daily VMT	**87,533** Daily VMT
6.5 Household VMT per Capita	**6.4** Household VMT per Capita
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

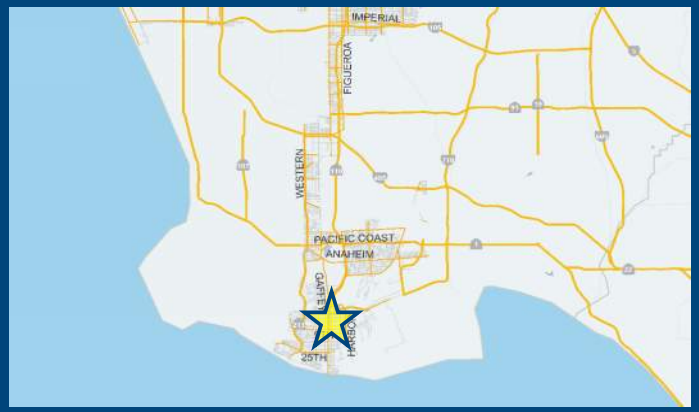
Measuring the Miles

Attachment 5

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	520	
Retail | General Retail	43	
Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1009	
Housing | Affordable Housing - Senior	71	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

- A Parking
- B Transit
- C Education & Encouragement
- D Commute Trip Reductions
- E Shared Mobility

Car-Share
☐ Proposed Prj ☑ Mitigation — All Other — project setting

Bike Share
☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

School Carpool Program
☐ Proposed Prj ☐ Mitigation — High (75%-100% of all students + active school pool c — Level of implementation

- F Bicycle Infrastructure
- G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
9,682 Daily Vehicle Trips	9,475 Daily Vehicle Trips
89,438 Daily VMT	87,533 Daily VMT
6.5 Household VMT per Capita	6.4 Household VMT per Capita
N/A Work VMT per Employee	N/A Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

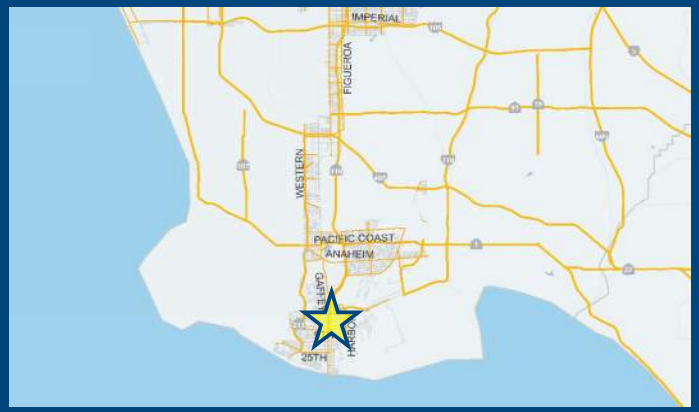
Measuring the Miles

Attachment 5

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	520	
Retail | General Retail	43	
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Housing | Affordable Housing - Family	1009	
Housing | Affordable Housing - Senior	71	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

- A Parking
- B Transit
- C Education & Encouragement
- D Commute Trip Reductions
- E Shared Mobility
- F Bicycle Infrastructure
  - Implement/Improve On-street Bicycle Facility — ☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy
  - Include Bike Parking Per LAMC — ☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy
  - Include Secure Bike Parking and Showers — ☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy
- G Neighborhood Enhancement

Analysis Results

Proposed Project	With Mitigation
9,682 Daily Vehicle Trips	9,475 Daily Vehicle Trips
89,438 Daily VMT	87,533 Daily VMT
6.5 Household VMT per Capita	6.4 Household VMT per Capita
N/A Work VMT per Employee	N/A Work VMT per Employee

Significant VMT Impact?

Proposed Project	With Mitigation
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

Measuring the Miles

6/8/2022

Attachment 6A

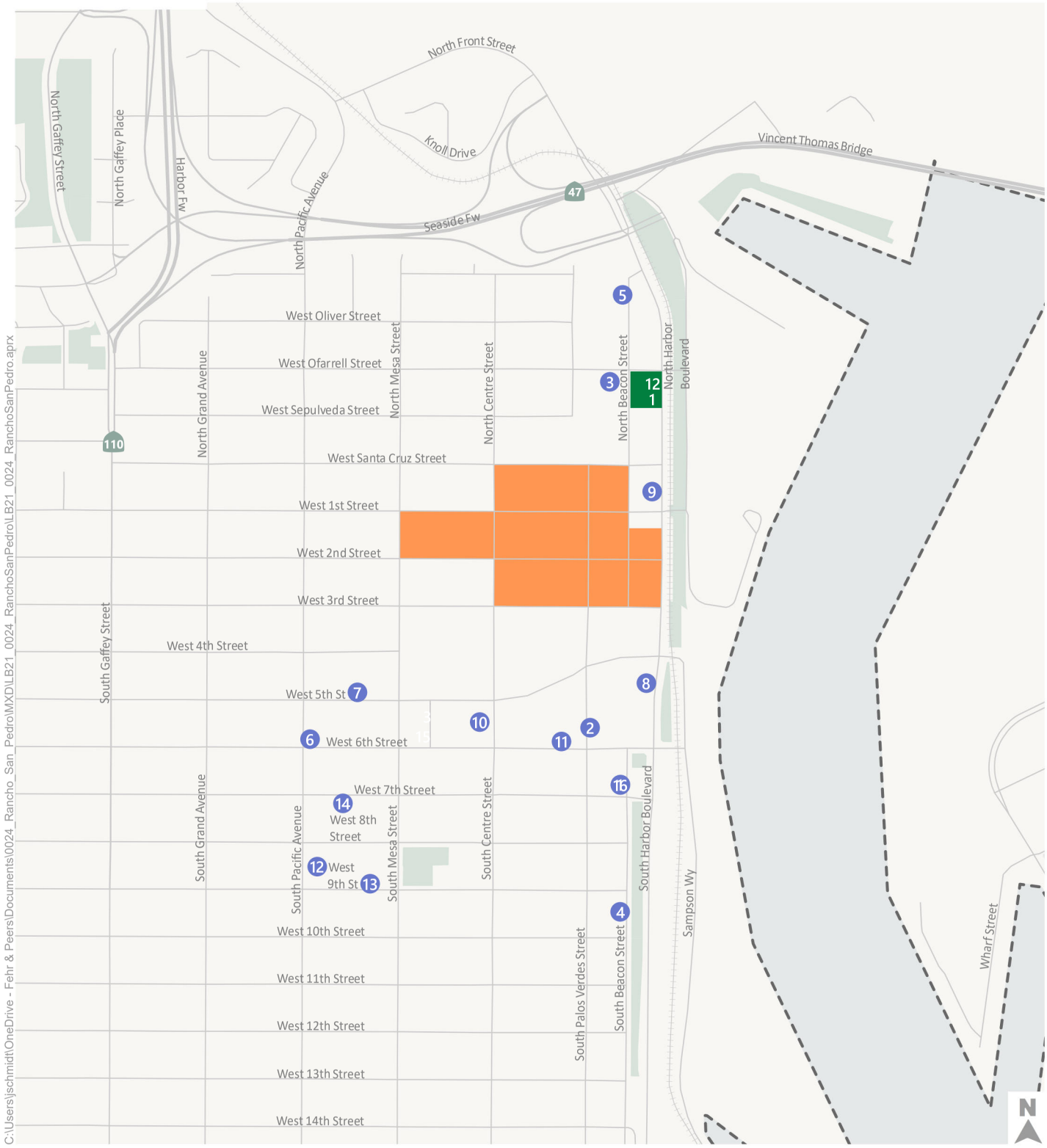


Figure x

Attachment 6A
Related Projects

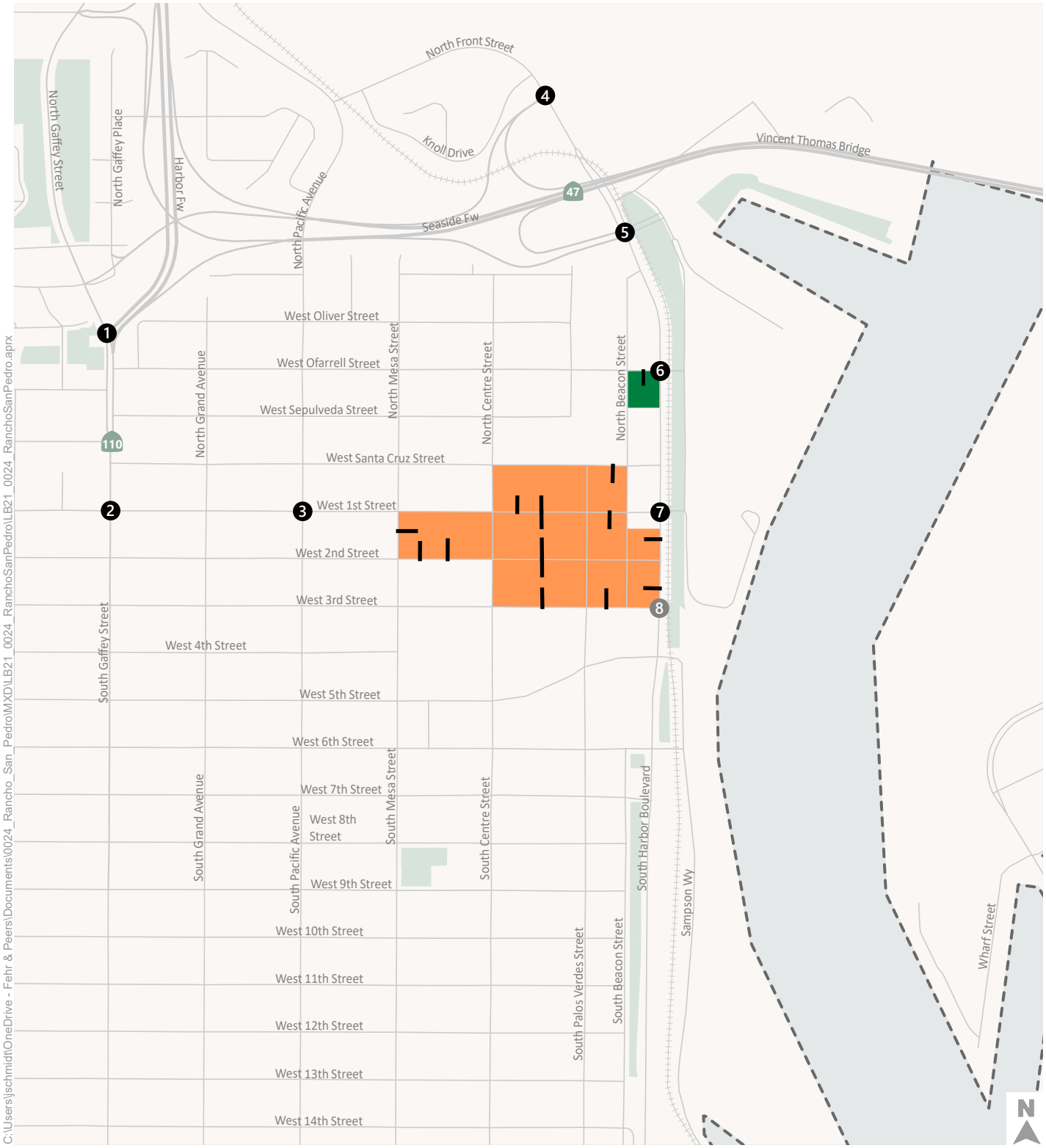
Attachment 6B

ATTACHMENT 6B - RELATED PROJECTS
275 WEST 1ST STREET, LOS ANGELES, CA 90731
ONE SAN PEDRO PROJECT

ID	PROJECT TITLE	PROJECT ADDRESS	LAND USE	SIZE		Trip Generation Estimates [a]					
						AM PEAK HOUR			PM PEAK HOUR		
						IN	OUT	TOTAL	IN	OUT	TOTAL
1	-	625 S Beacon St [d]	Apartments	281	du	36	90	126	80	51	131
			Restaurant	2.316	ksf						
2	-	550 S Palos Verdes St [c]	Apartments	412	du	66	335	401	331	163	494
			Retail	3.8	ksf						
			Office	14.875	ksf						
3		319-345 Beacon & 117 O'Farrell [b]	Apartments	89	du	8	25	33	21	14	35
4	COU for Historic Assisted Living	921 S Beacon St	Mixed Use			43	55	98	64	32	96
5	Beacon St Bridge Home Housing Facility	515 N Beacon St [c]	Other	102	du	6	8	14	8	6	14
6	Hotel	544 S Pacific Ave	Hotel	80	du	21	14	35	31	26	57
7	-	444 W 5th St [b]	Apartments	106	du	11	30	41	35	23	58
			Retail	3	ksf						
8	-	511 S Harbor Blvd	Apartments	137	du	2	27	29	25	16	41
			Retail	0.394	ksf						
			Restaurant	2.129	ksf						
9	-	111 N Harbor Blvd	Apartments	120	du	16	38	54	42	32	74
			Retail	4.166	ksf						
10	-	505 S Centre St	Apartments	300	du	109	152	261	183	133	316
			Retail	13.038	ksf						
			Restaurant	12.441	ksf						
11	-	222 W 6th St	Office (to be removed)	262.679	ksf	-262	-43	-305	-48	-254	-302
			Apartments	228	du	41	79	120	104	84	188
			Retail	15	ksf						
12		456-462 W 9th St & 457-473 W 8th St [b]	Apartments	91	du	8	26	34	22	13	35
13	-	420 W 9th St [d]	Apartments	56	du	5	16	21	13	9	22
14	-	457 W 7th St [d]	Restaurant	3.812	ksf	20	16	36	21	13	34

du = dwelling units
ksf = one thousand square feet
[a] Related projects list is based on information provided by LADOT on January 13, 2021 and January 5, 2022, and input from LA City Planning on April 11, 2022.
[b] Inbound/outbound trip distribution for this project not provided by LADOT, so it was estimated with the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition, 2021* .
[c] Project was completed in 2020.
[d] Project information provided by LA city planning or external research. Trip generation estimated using the ITE *Trip Generation Manual, 11th Edition, 2021* .

Attachment 7



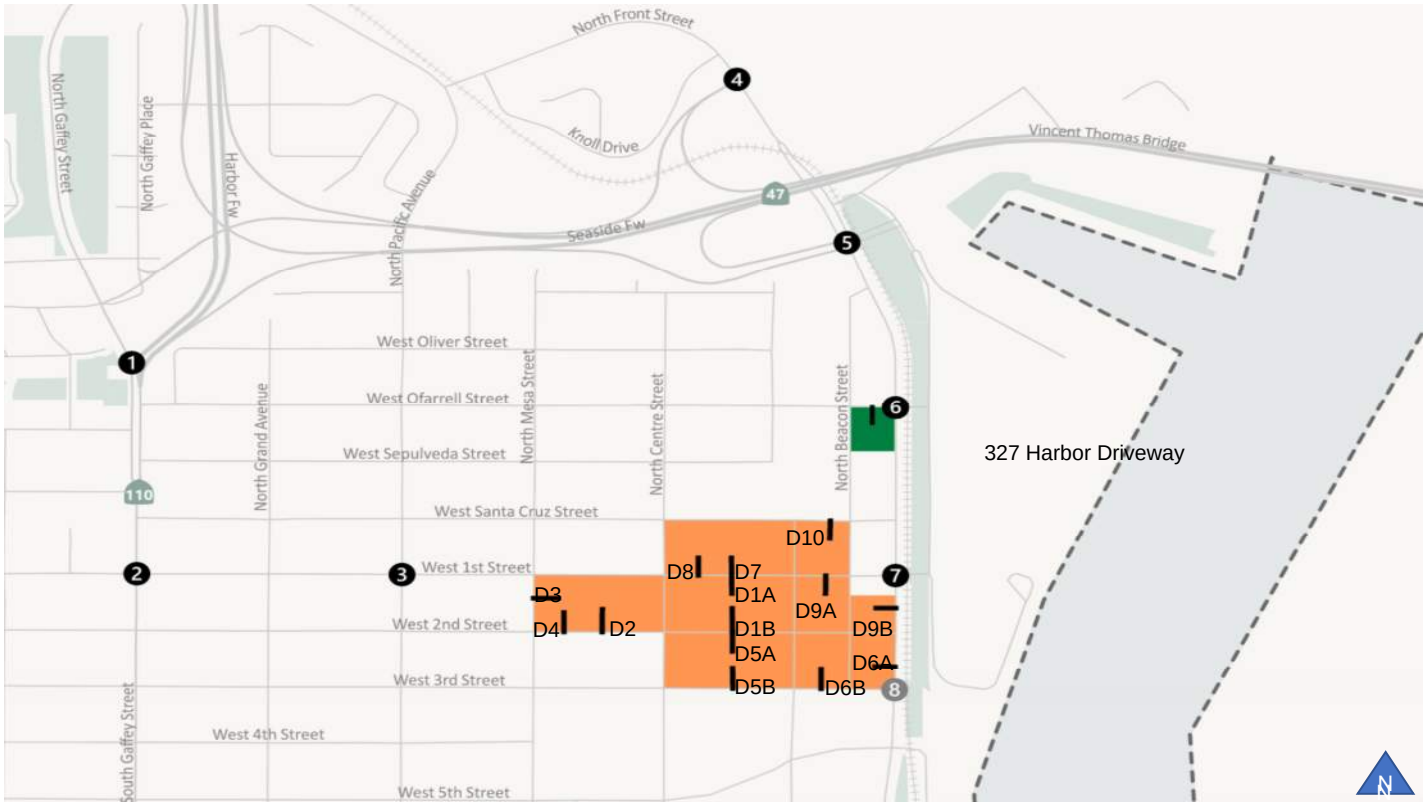
Main Project Site

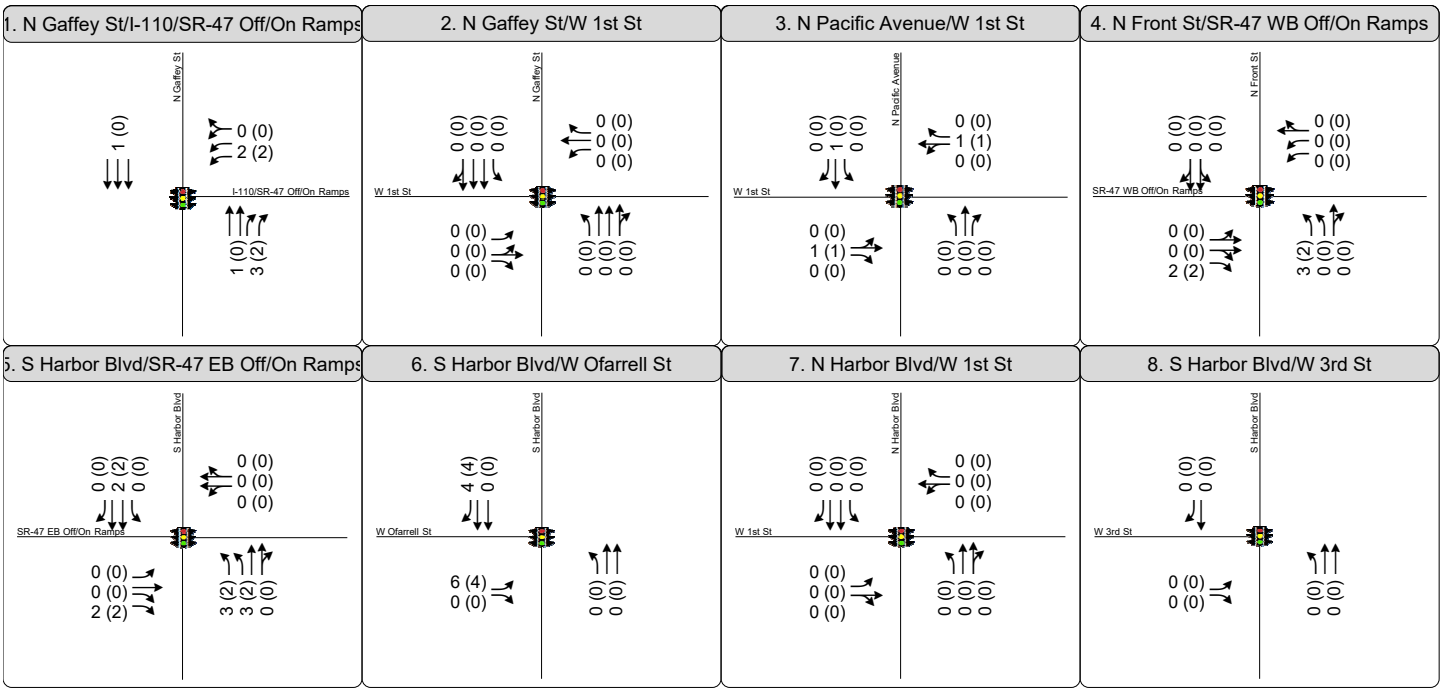
Signalized Study Intersection

Unsignalized Study Intersection

Project Driveways

327 Harbor Site



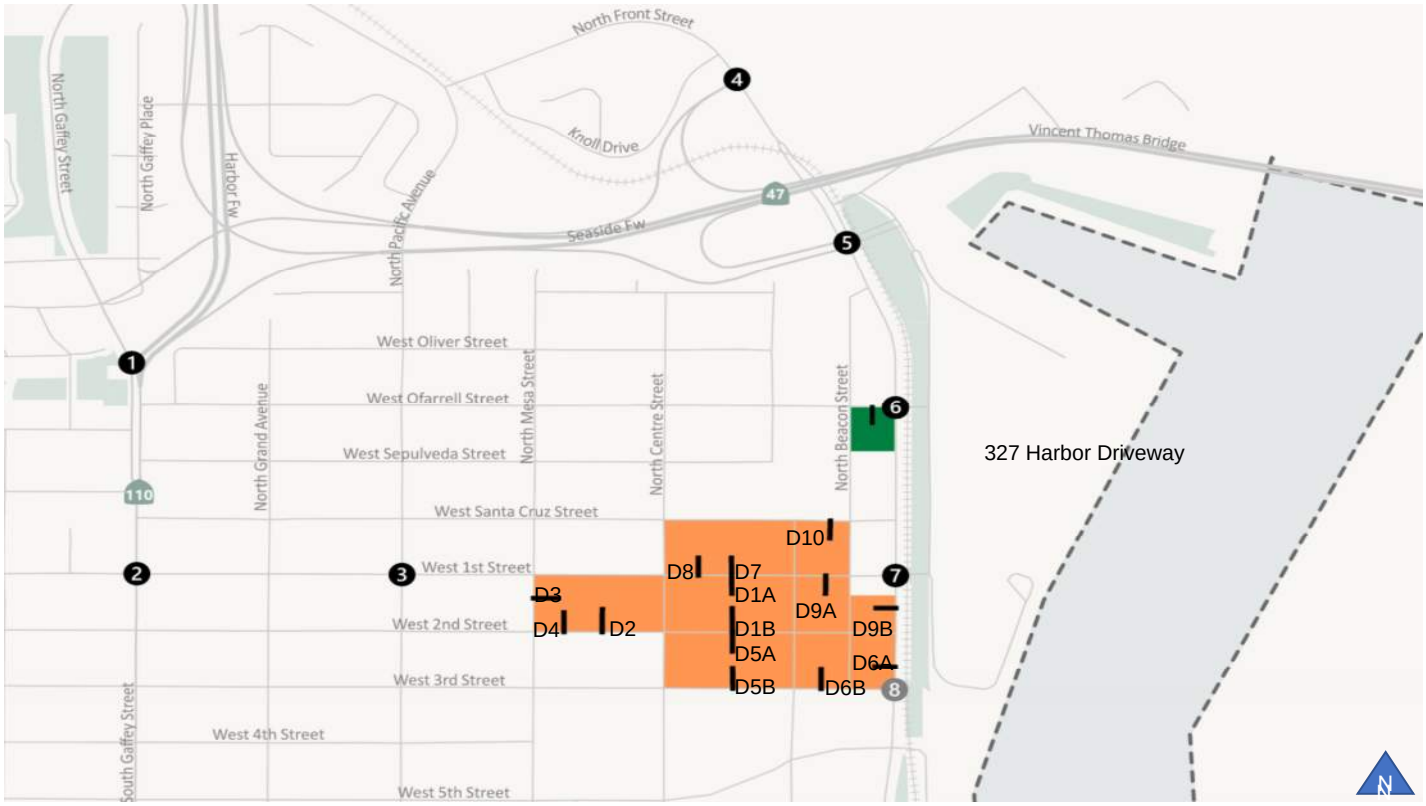


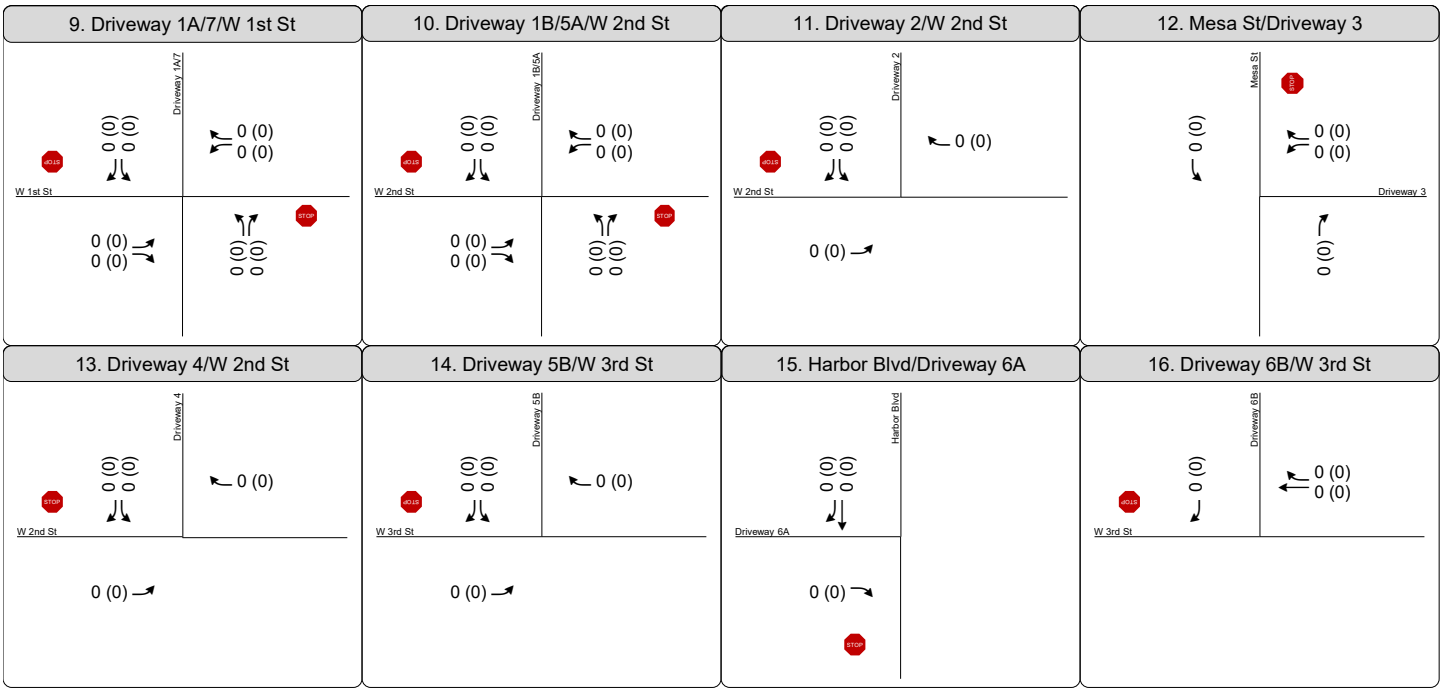
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8A

Peak Hour Traffic Volumes and Lane Configurations
Project Only, 327 Harbor Site - Residential (All) Trips
One San Pedro Both Scenarios



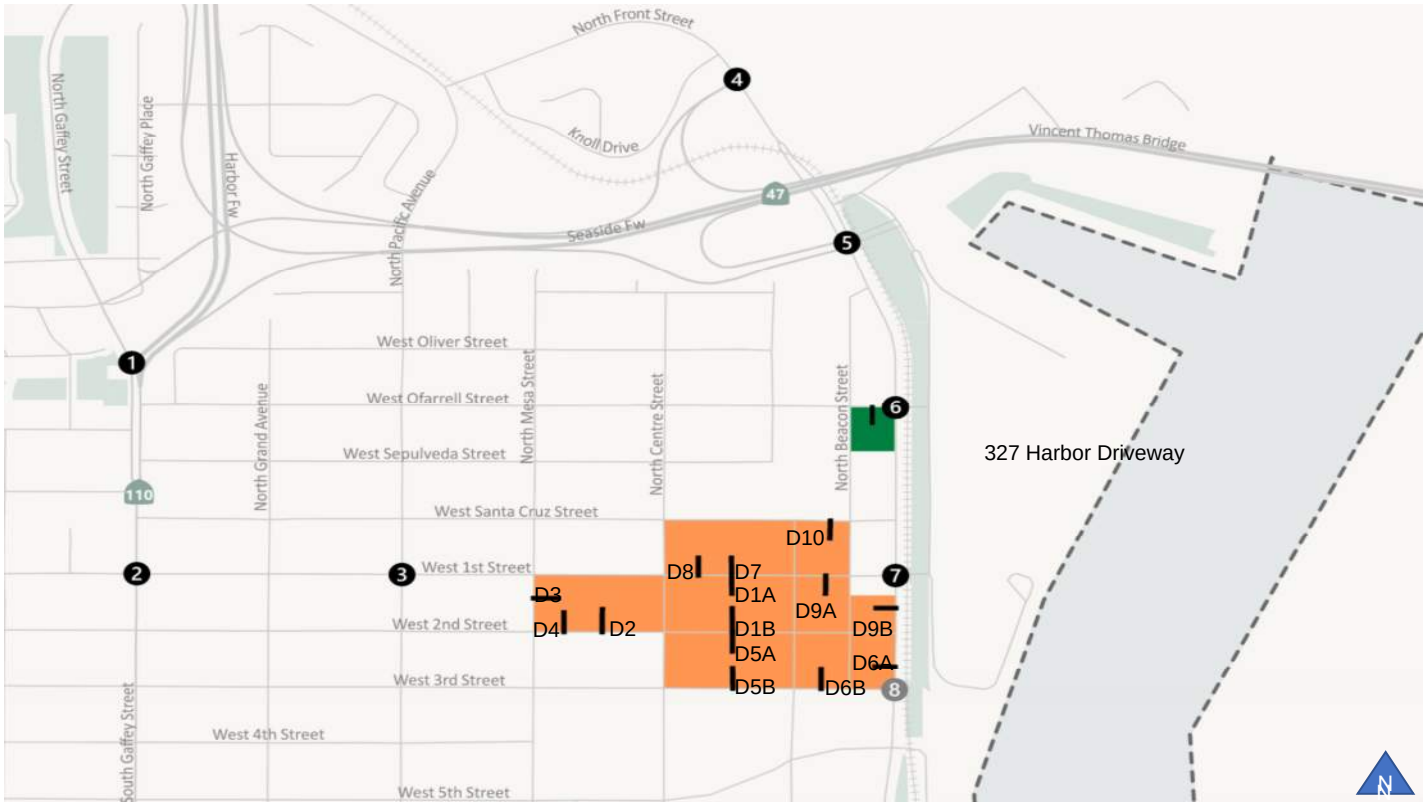


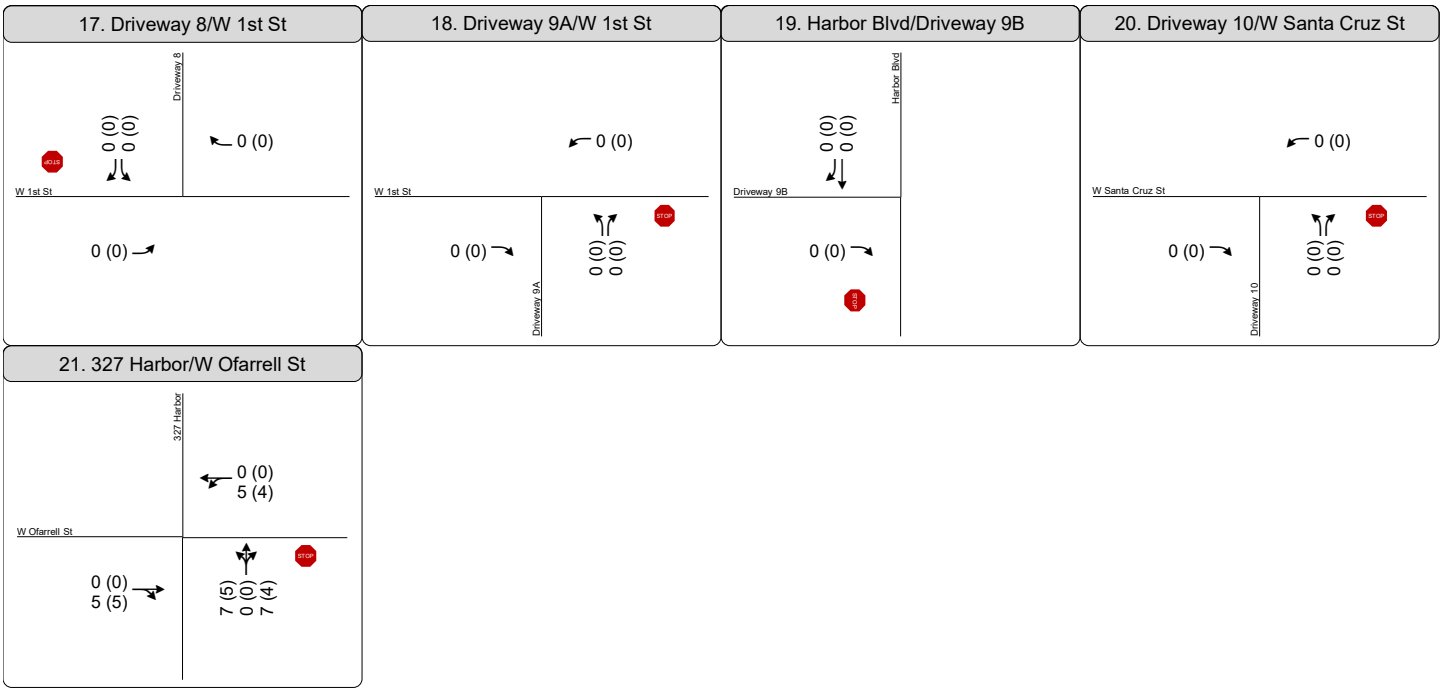
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8A

Peak Hour Traffic Volumes and Lane Configurations
Project Only, 327 Harbor Site - Residential (All) Trips
One San Pedro Both Scenarios



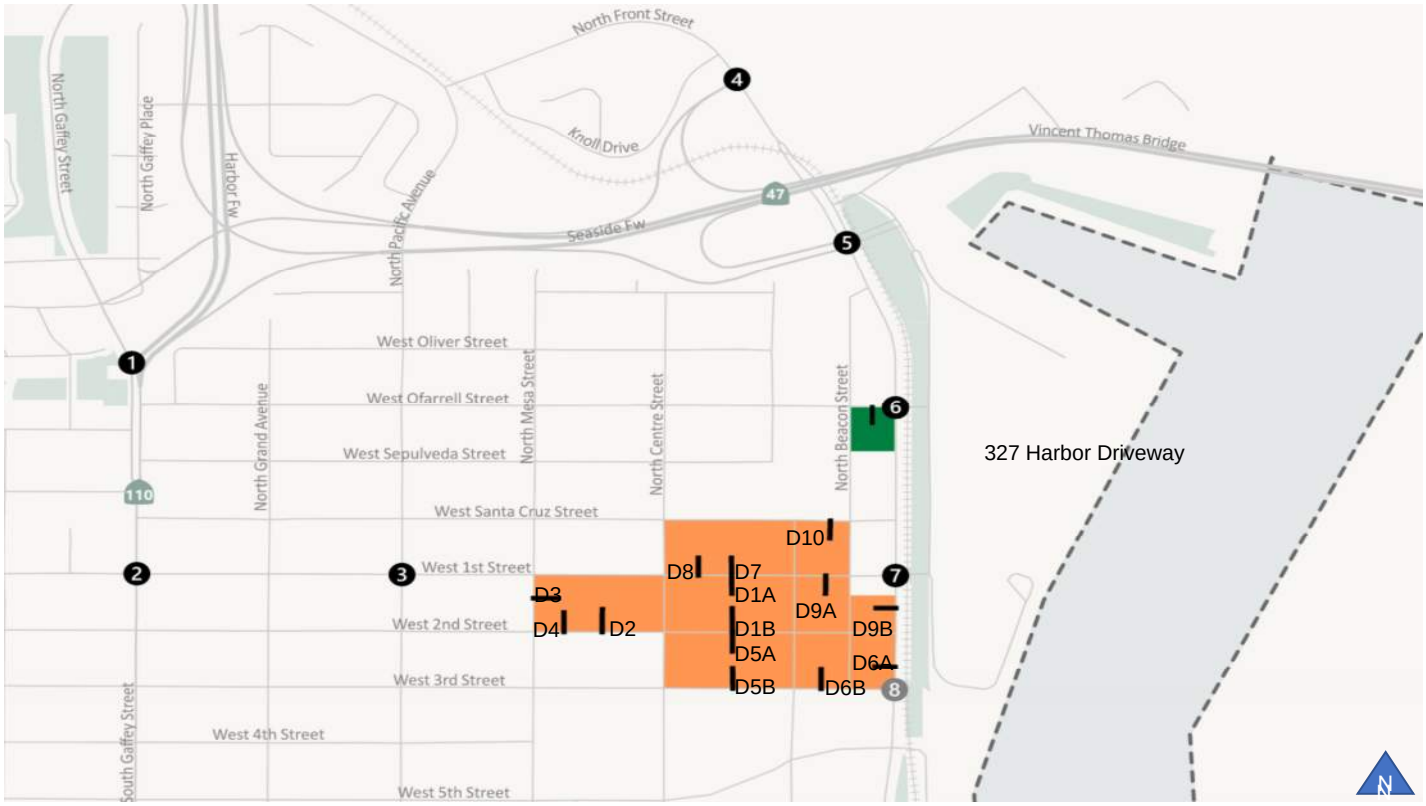


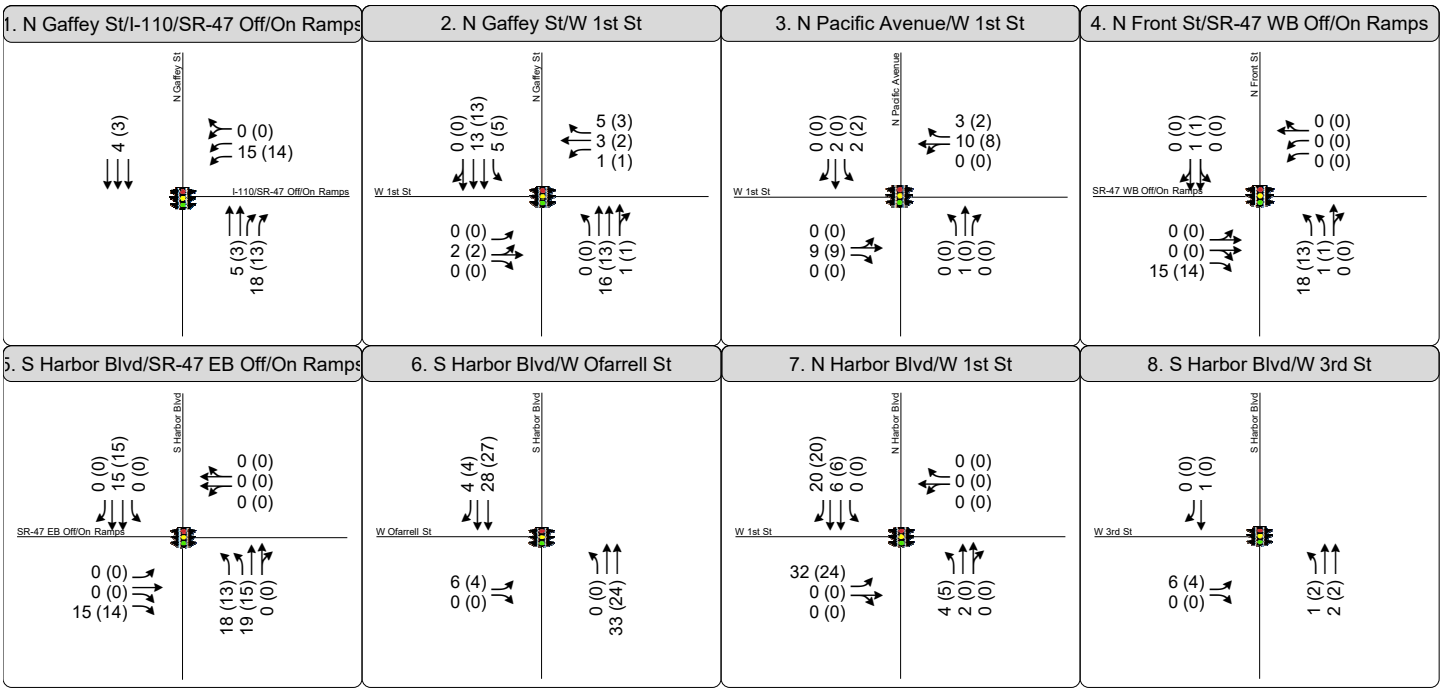
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8A

Peak Hour Traffic Volumes and Lane Configurations
Project Only, 327 Harbor Site - Residential (All) Trips
One San Pedro Both Scenarios



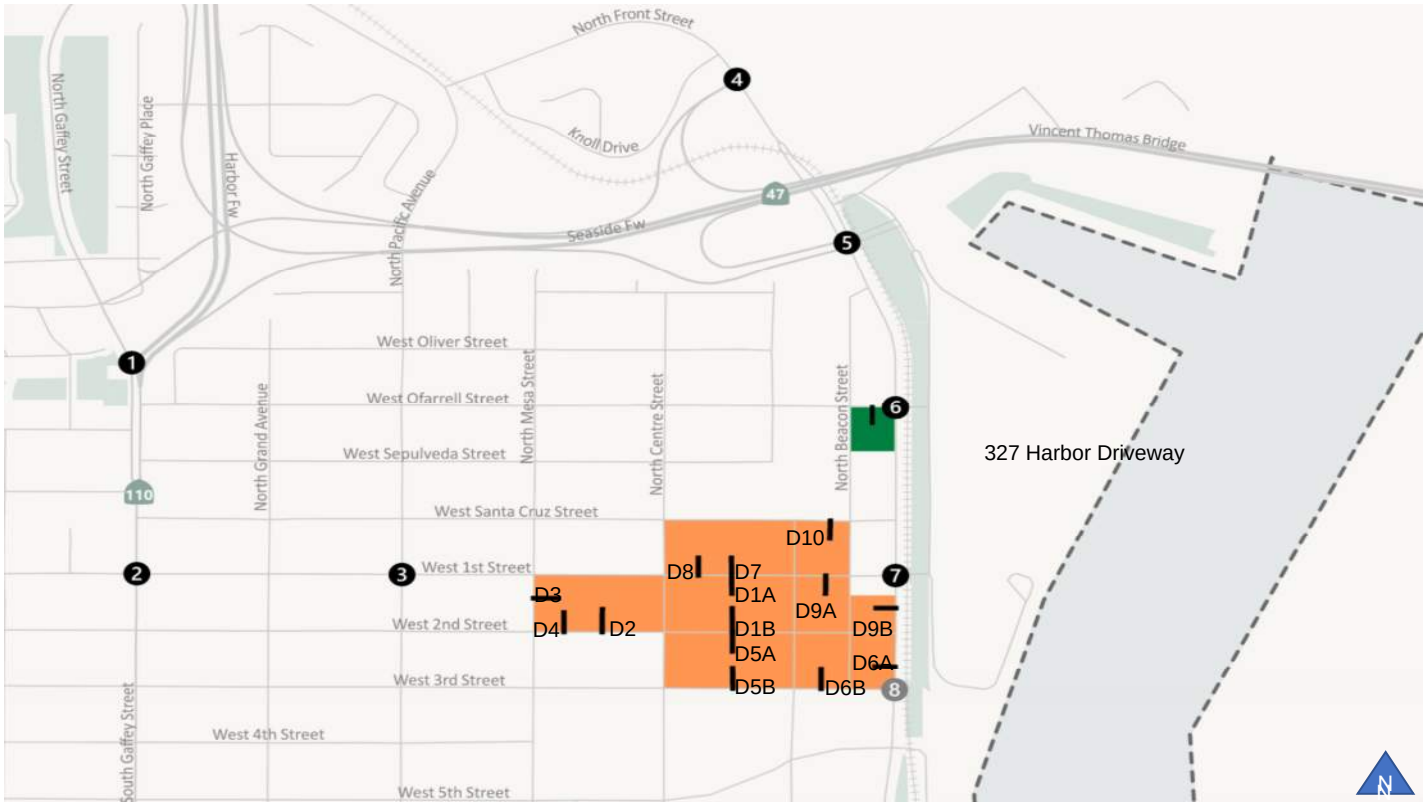


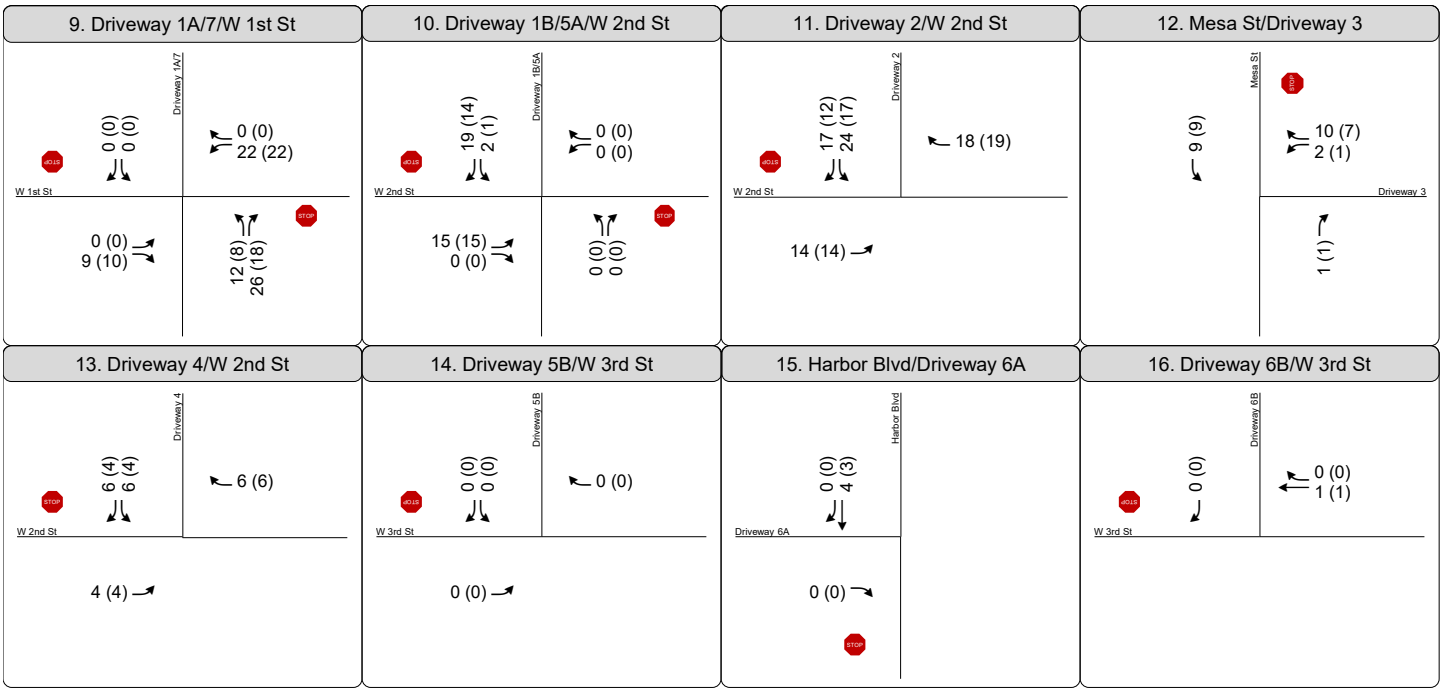
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8B

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - All Trips
One San Pedro Specific Plan Scenario



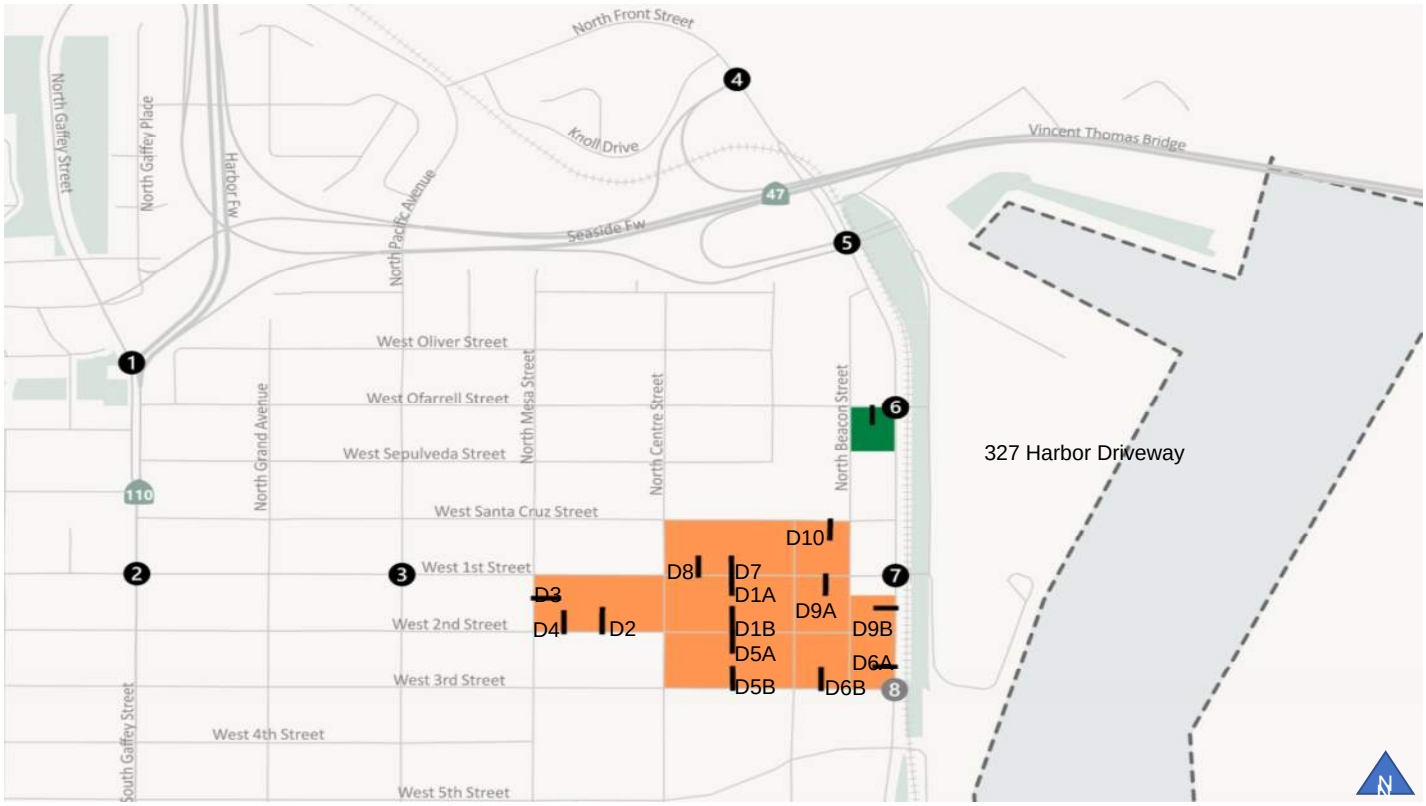


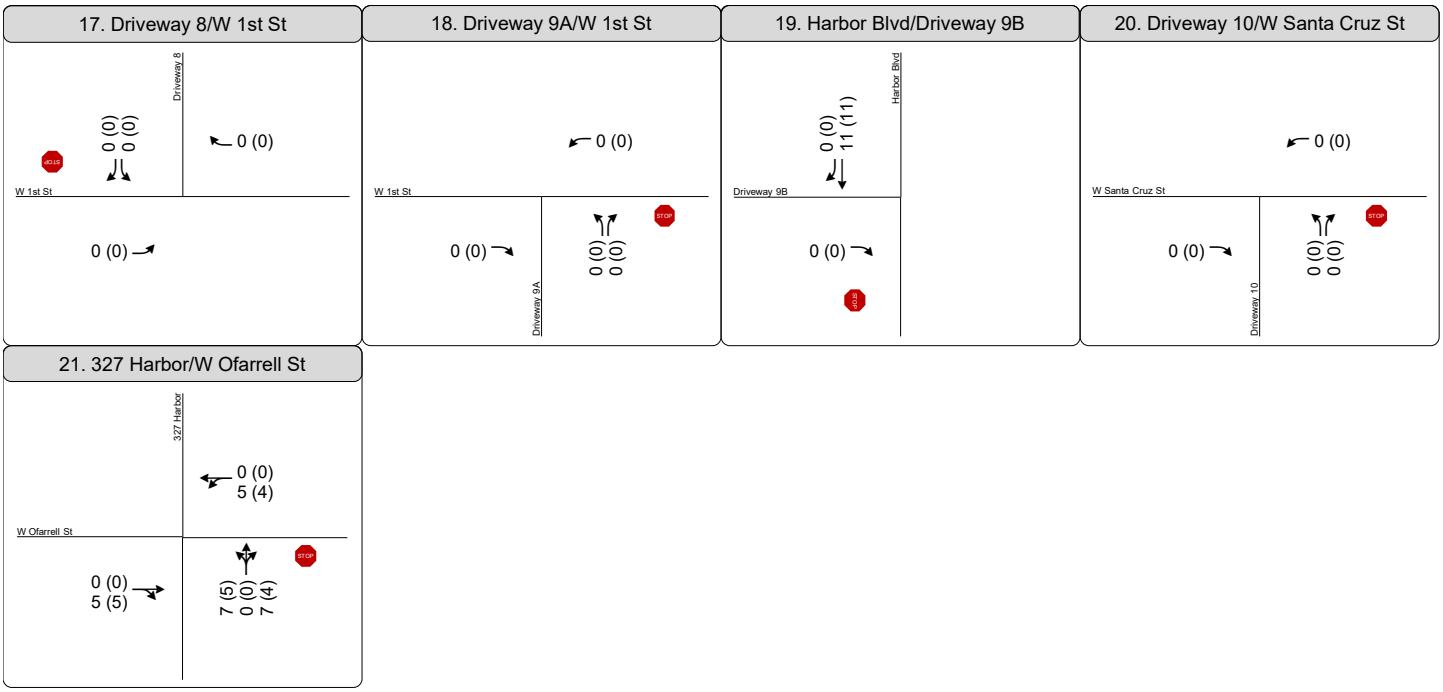
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8B

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - All Trips
One San Pedro Specific Plan Scenario



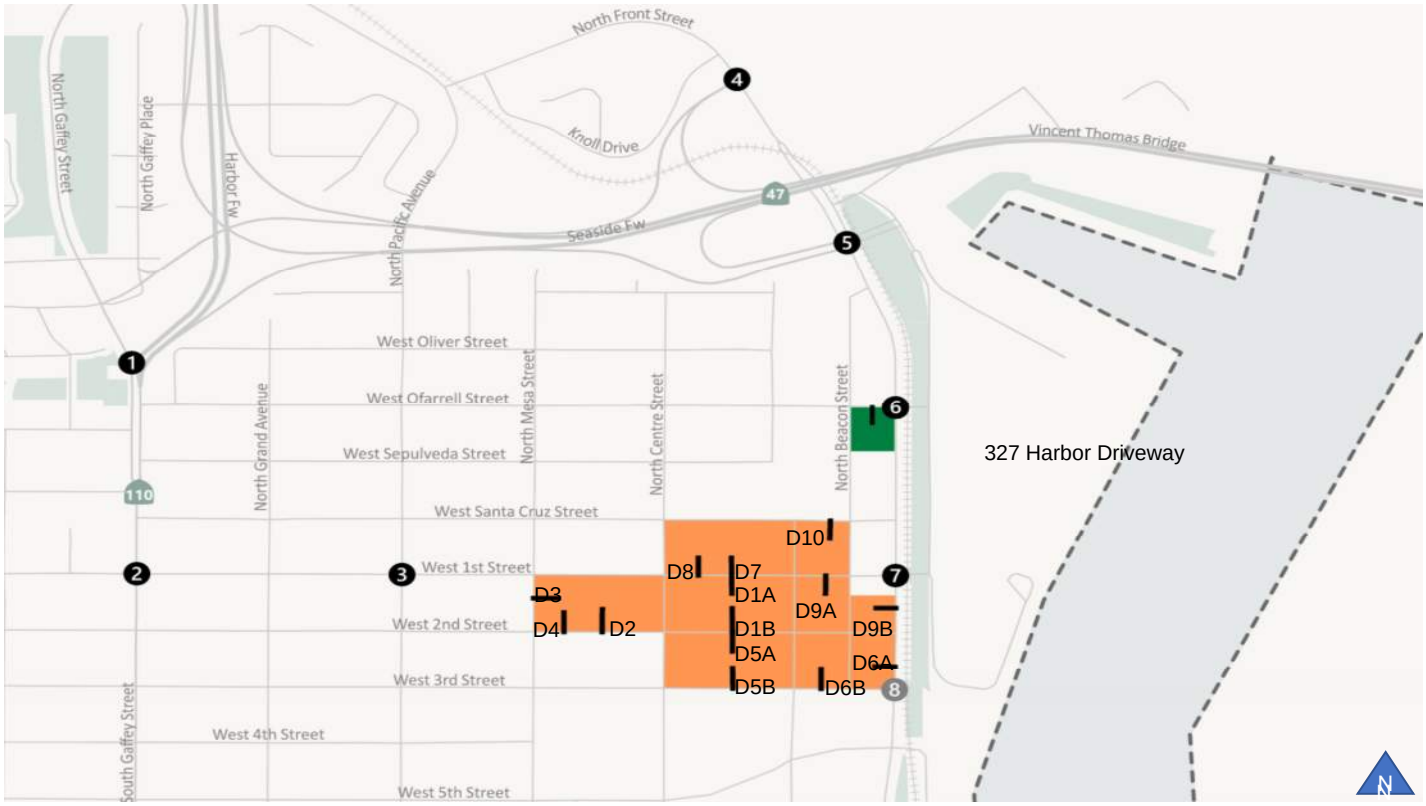


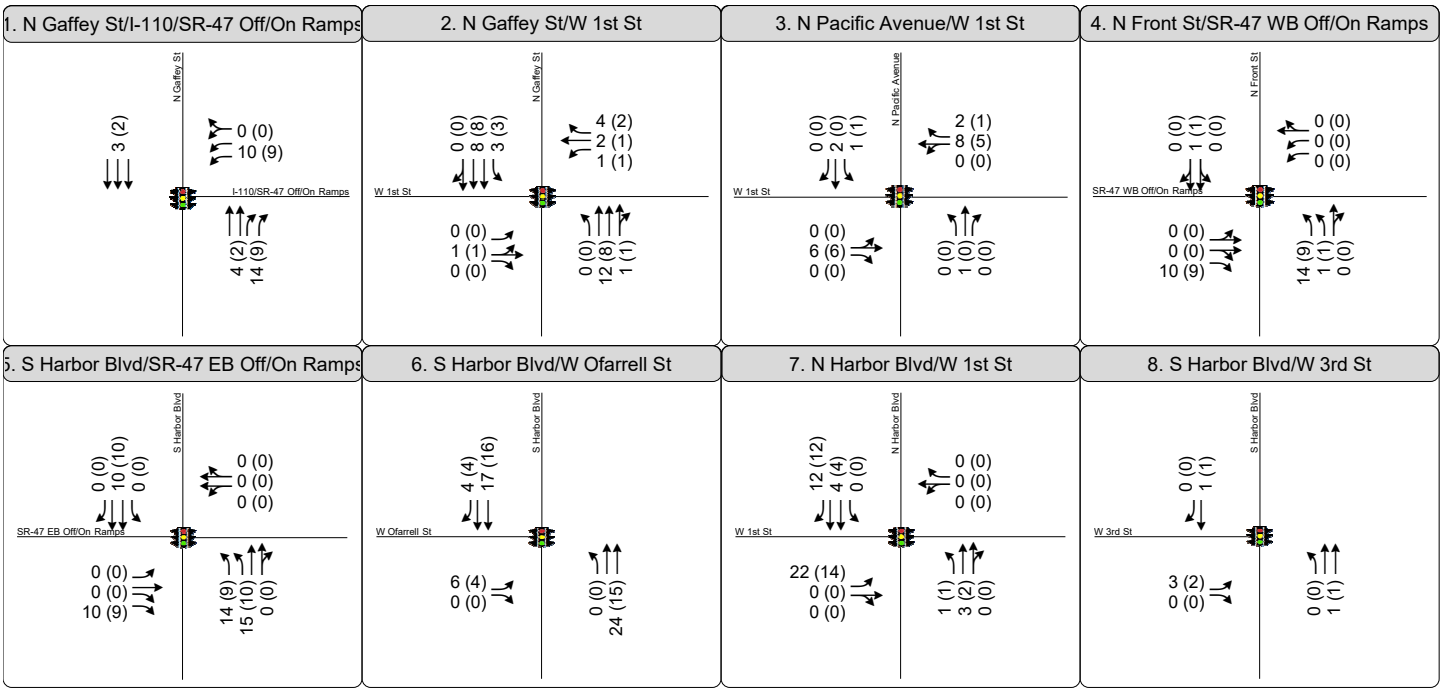
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8B

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - All Trips
One San Pedro Specific Plan Scenario



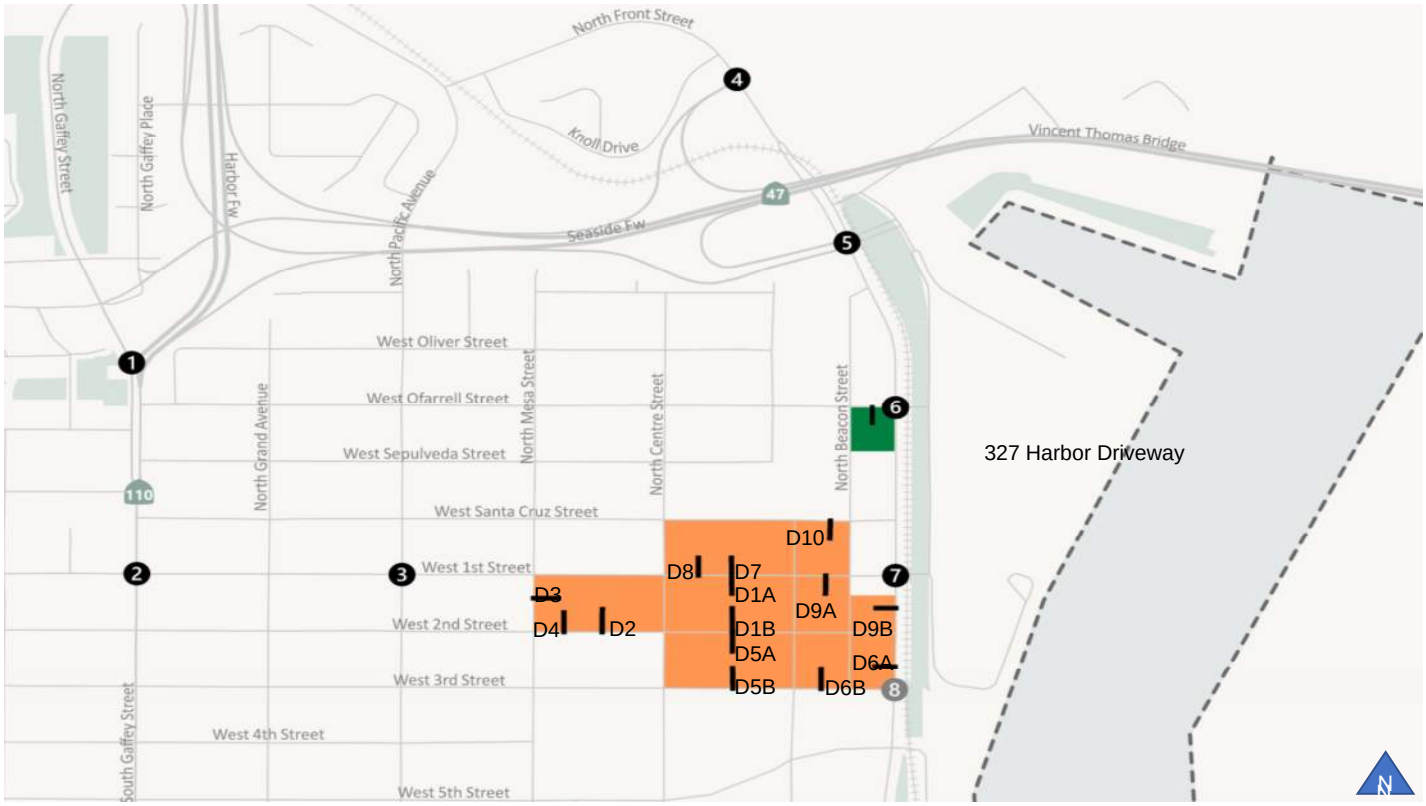


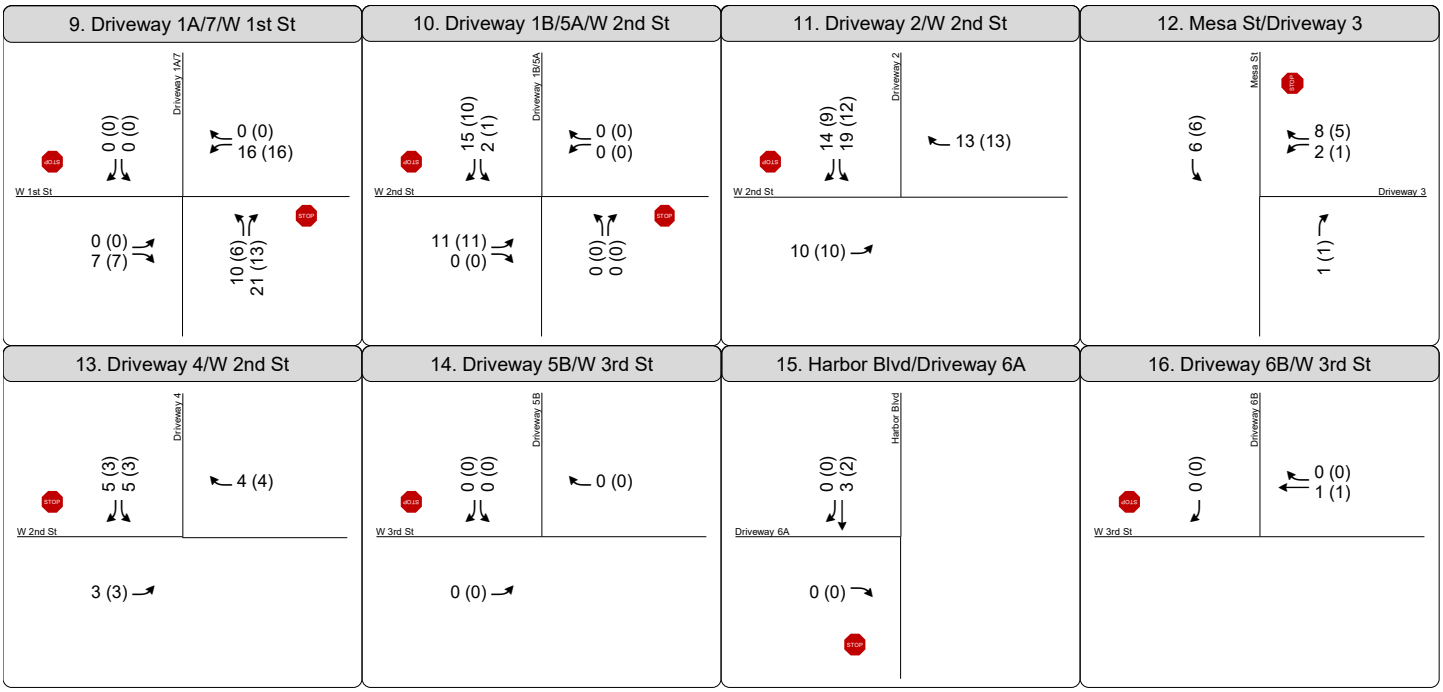
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8C

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Residential Trips
One San Pedro Specific Plan Scenario



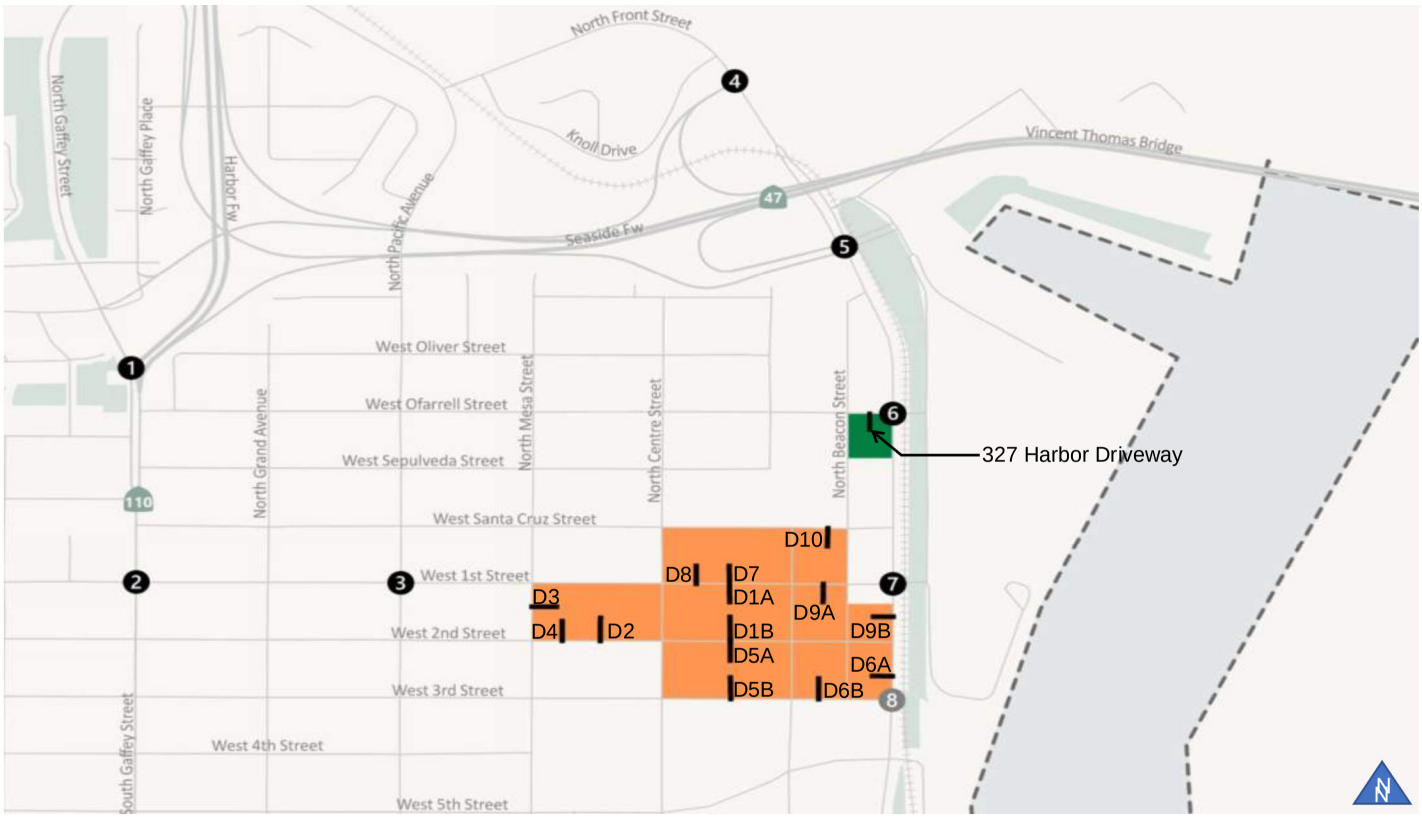


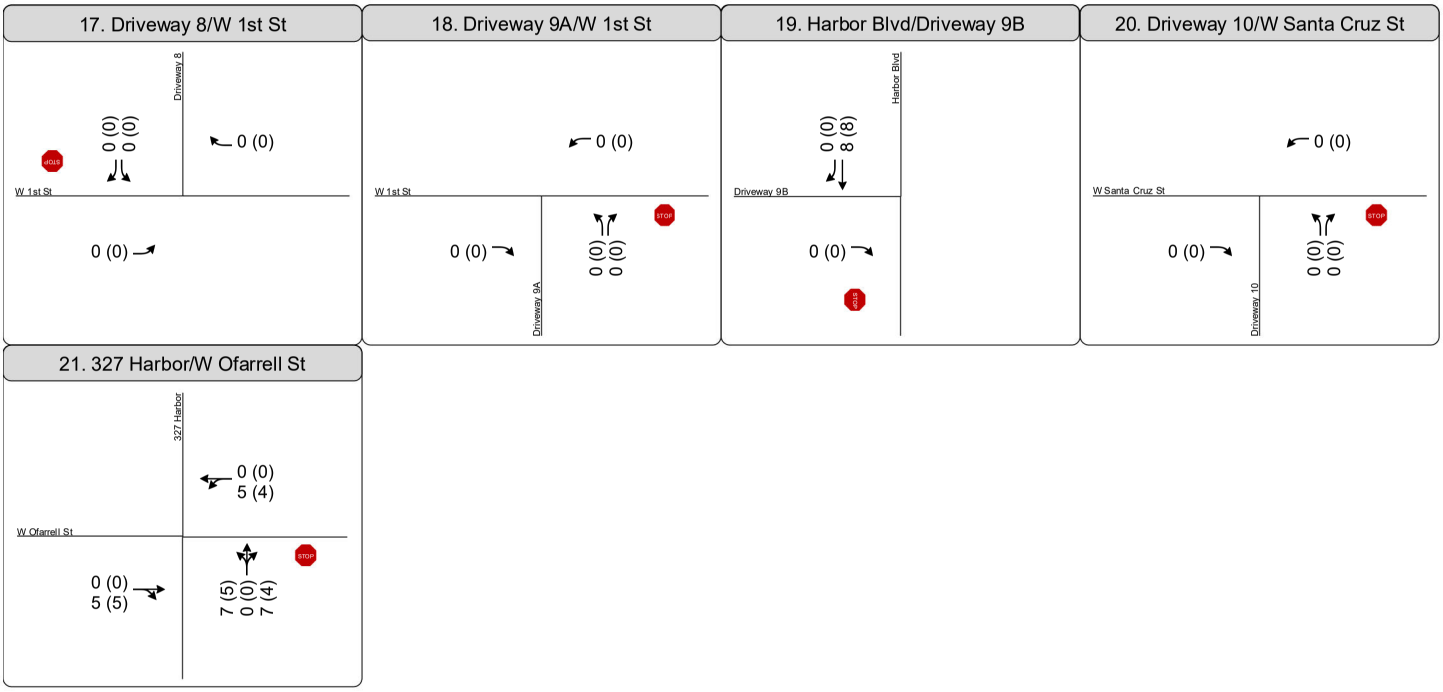
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8C

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Residential Trips
One San Pedro Specific Plan Scenario



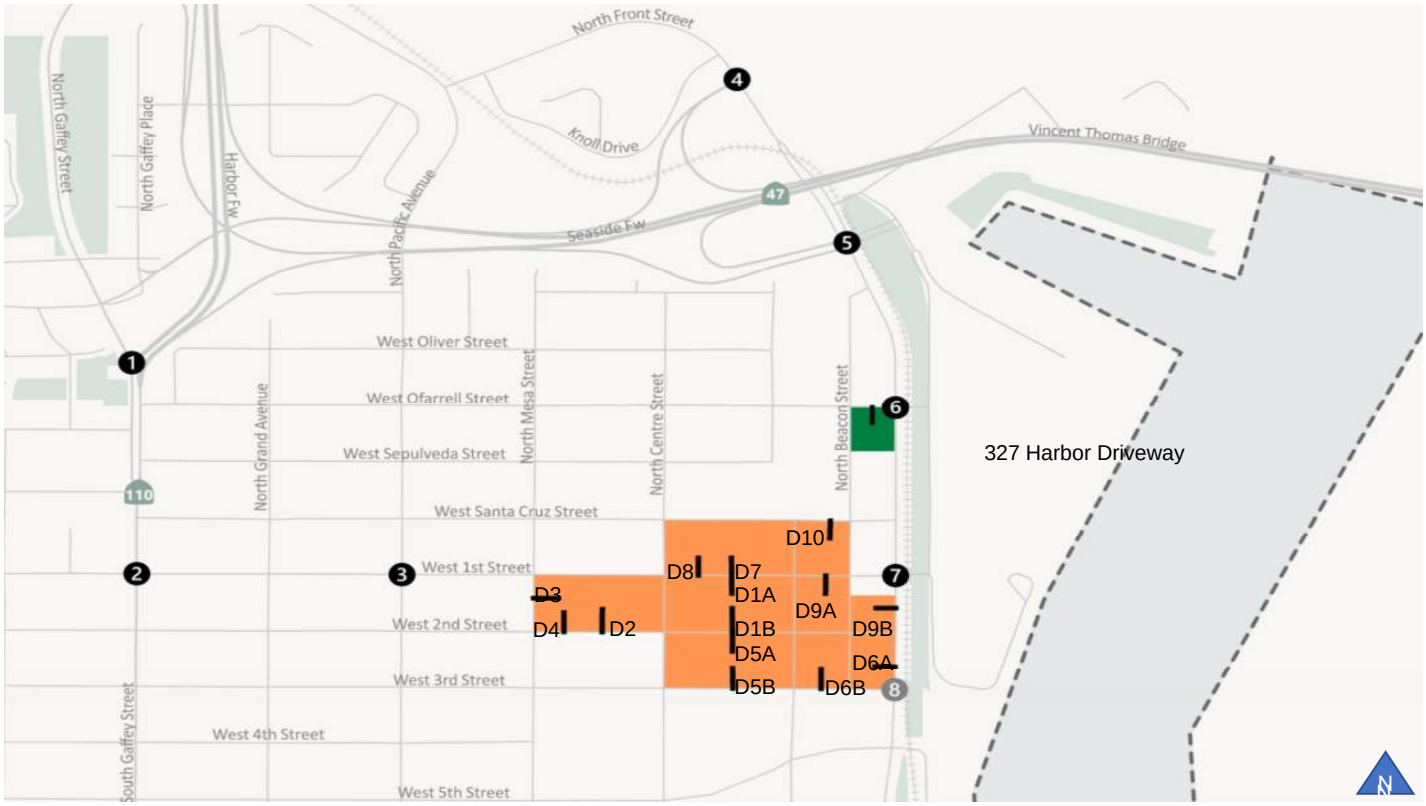


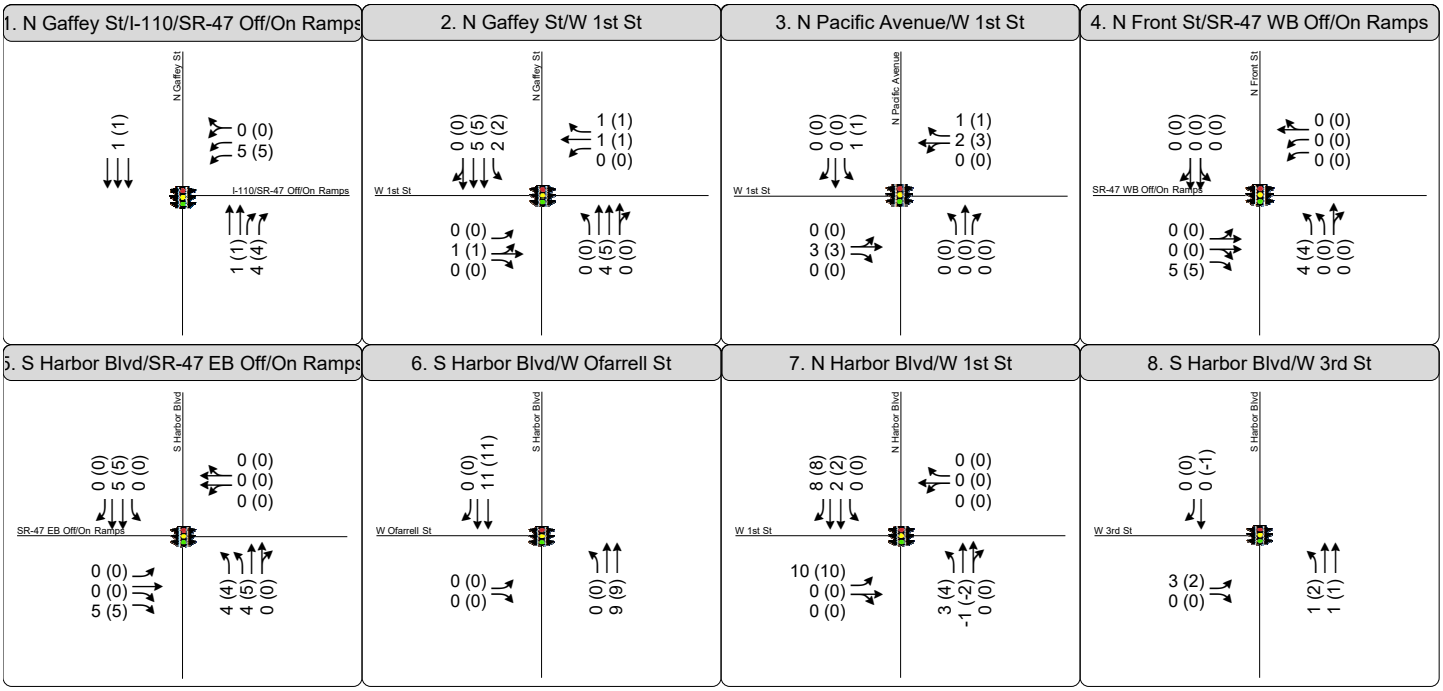
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8C

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Residential Trips
One San Pedro Specific Plan Scenario



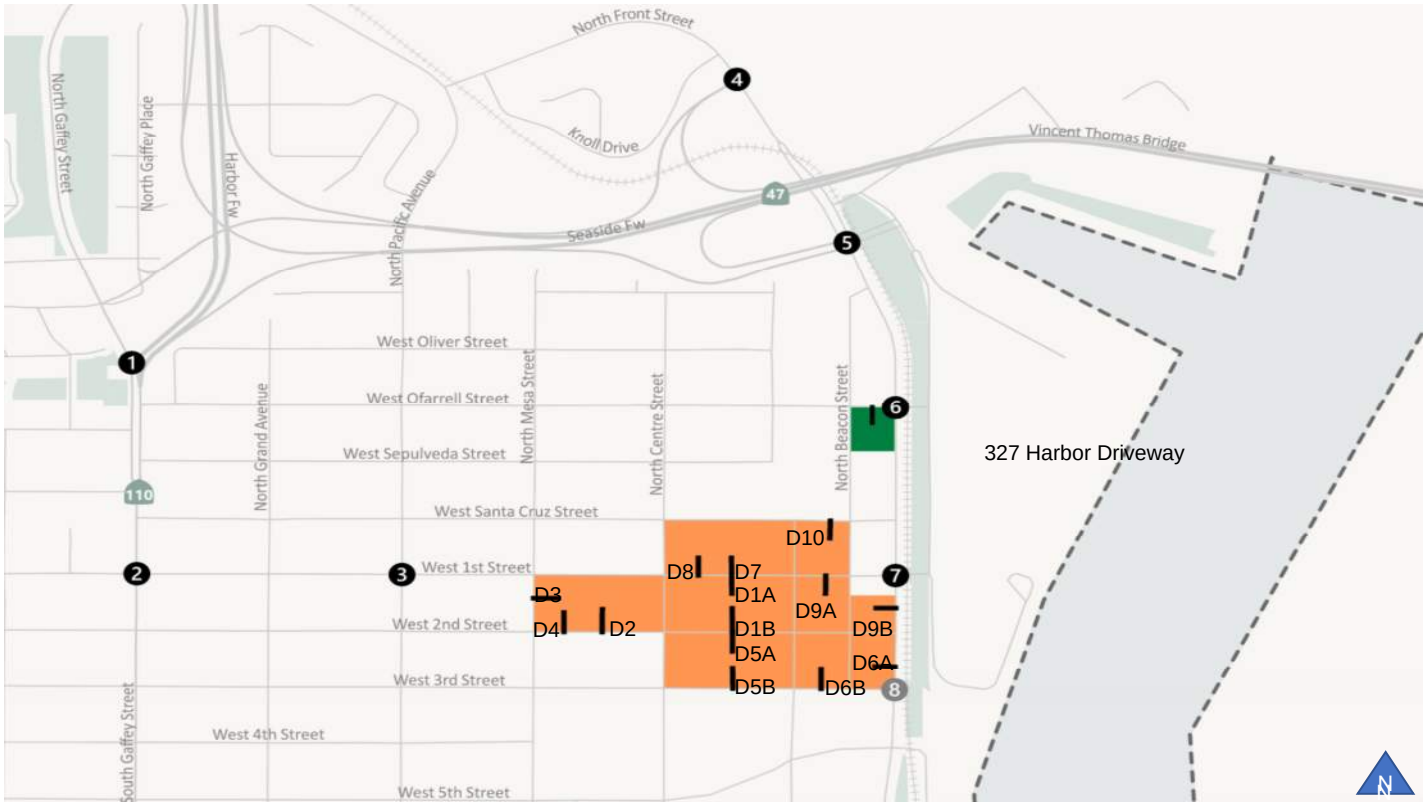


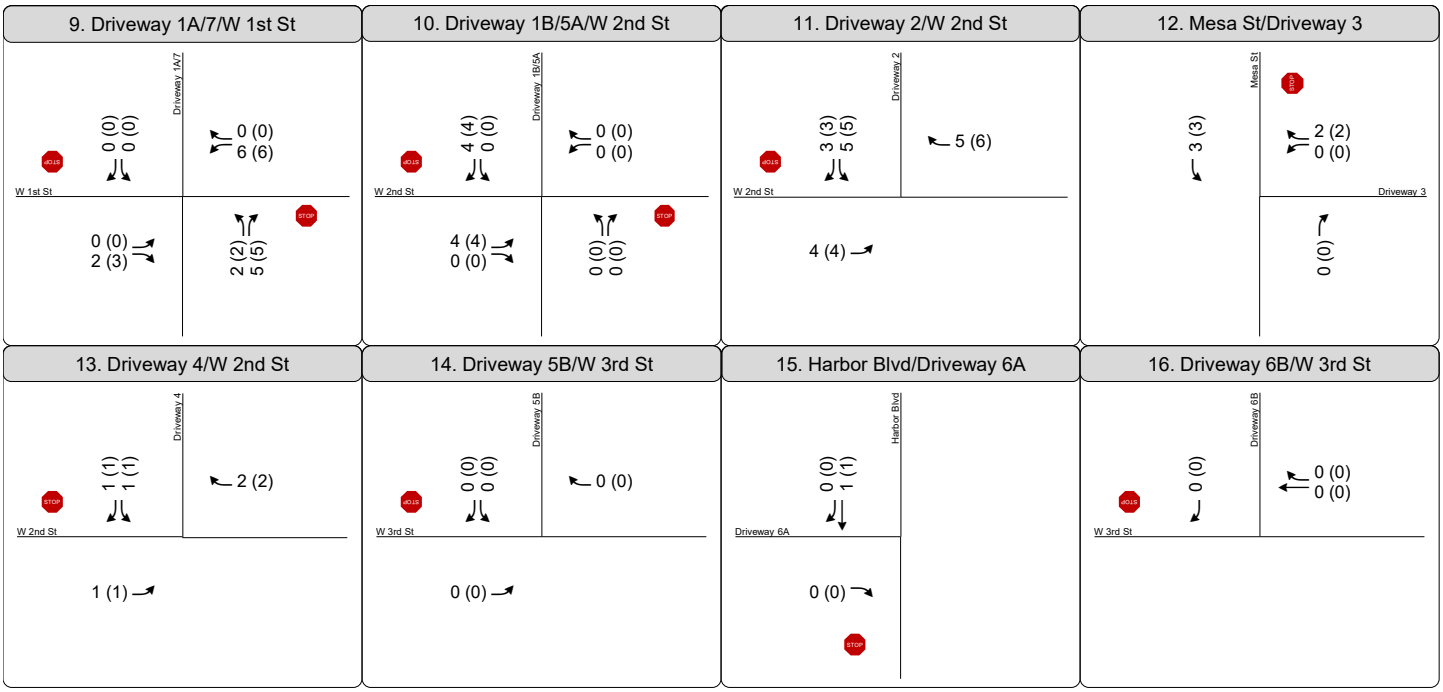
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8D

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Retail Trips
One San Pedro Specific Plan Scenario



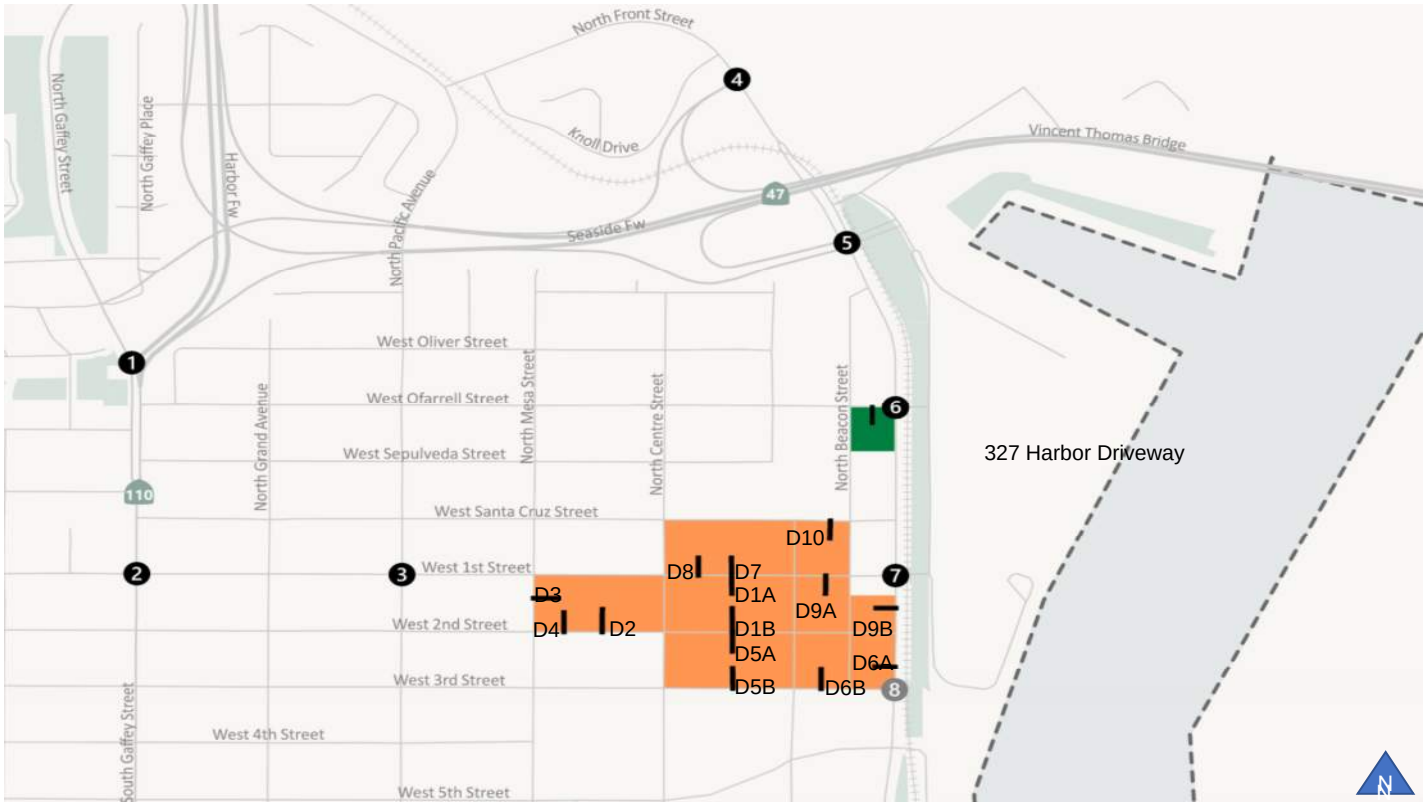


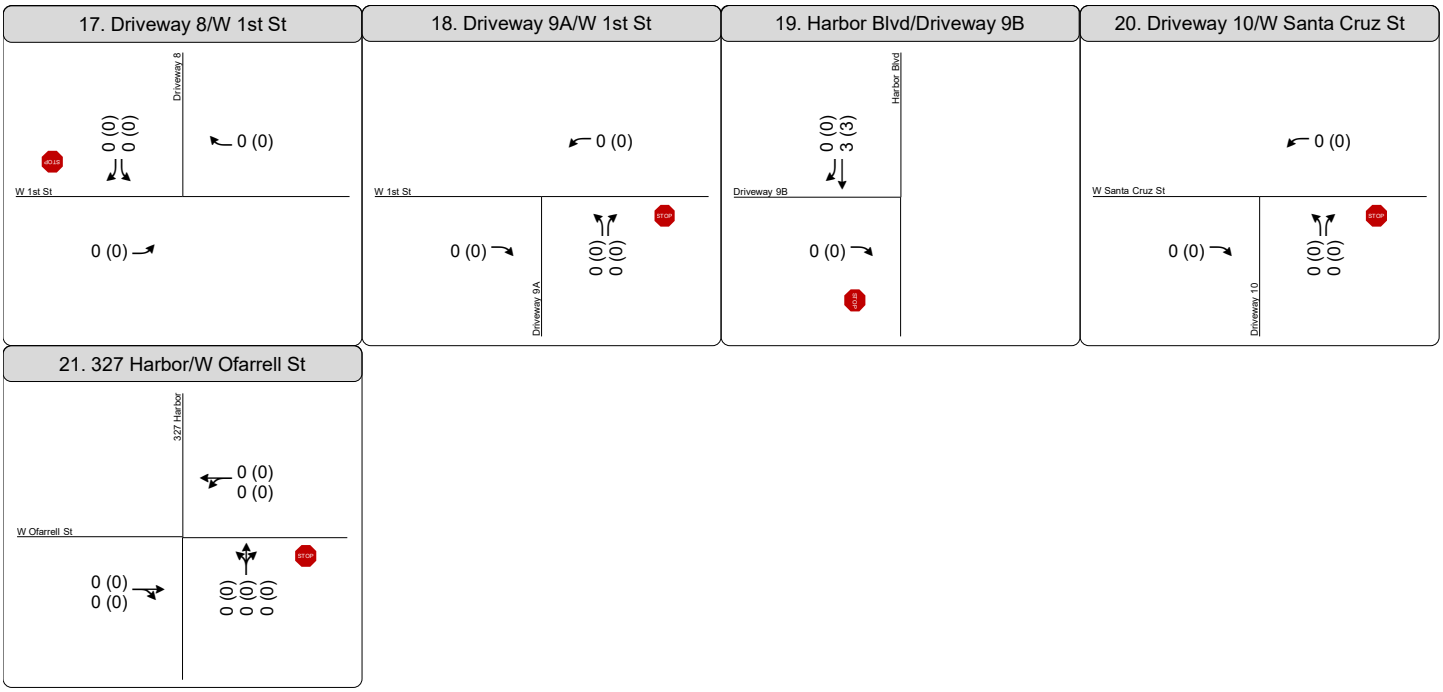
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8D

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Retail Trips
One San Pedro Specific Plan Scenario



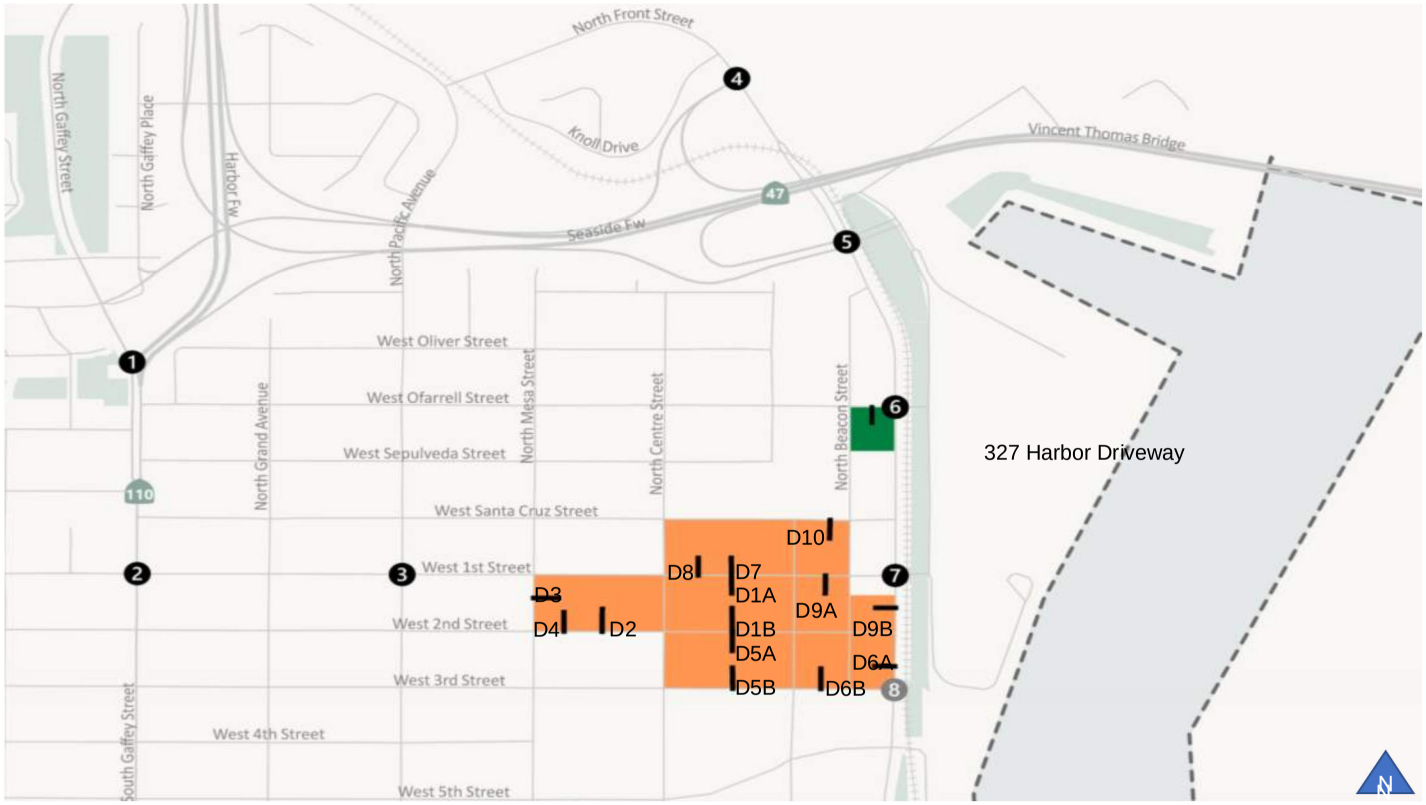


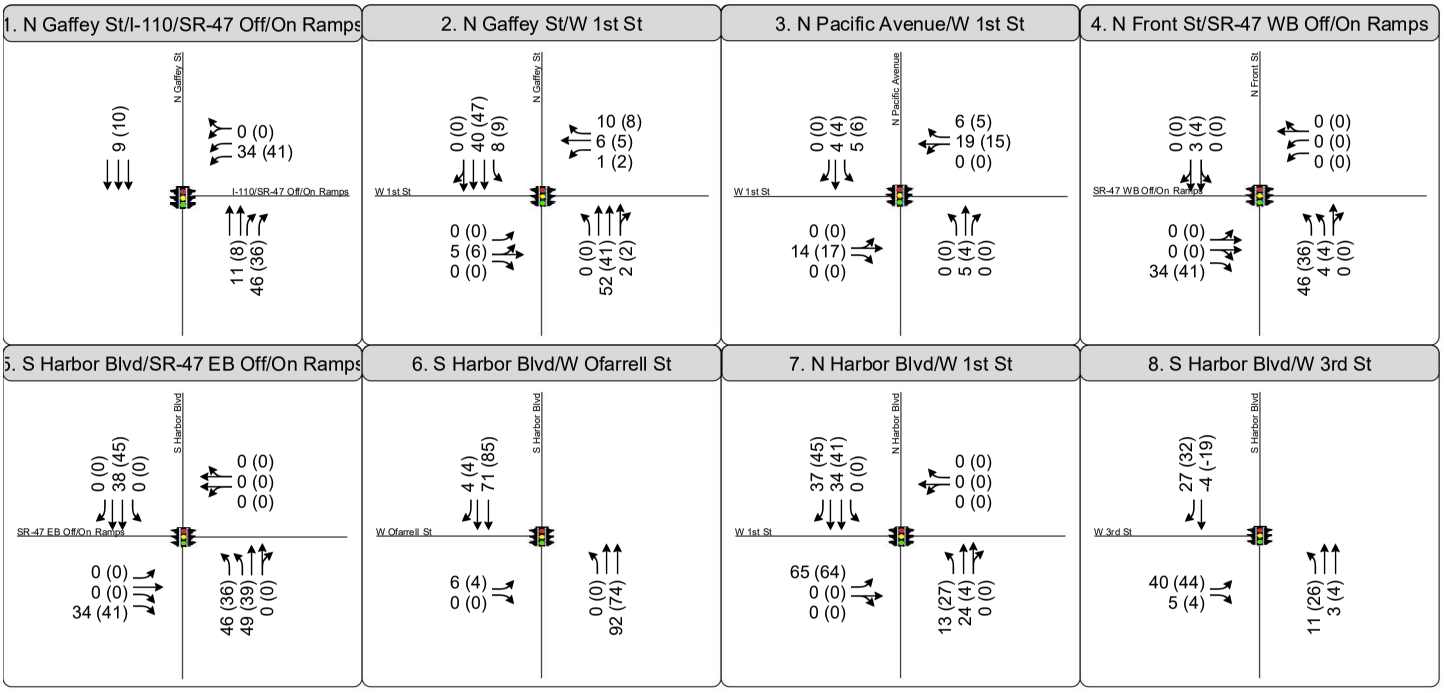
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8D

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Retail Trips
One San Pedro Specific Plan Scenario



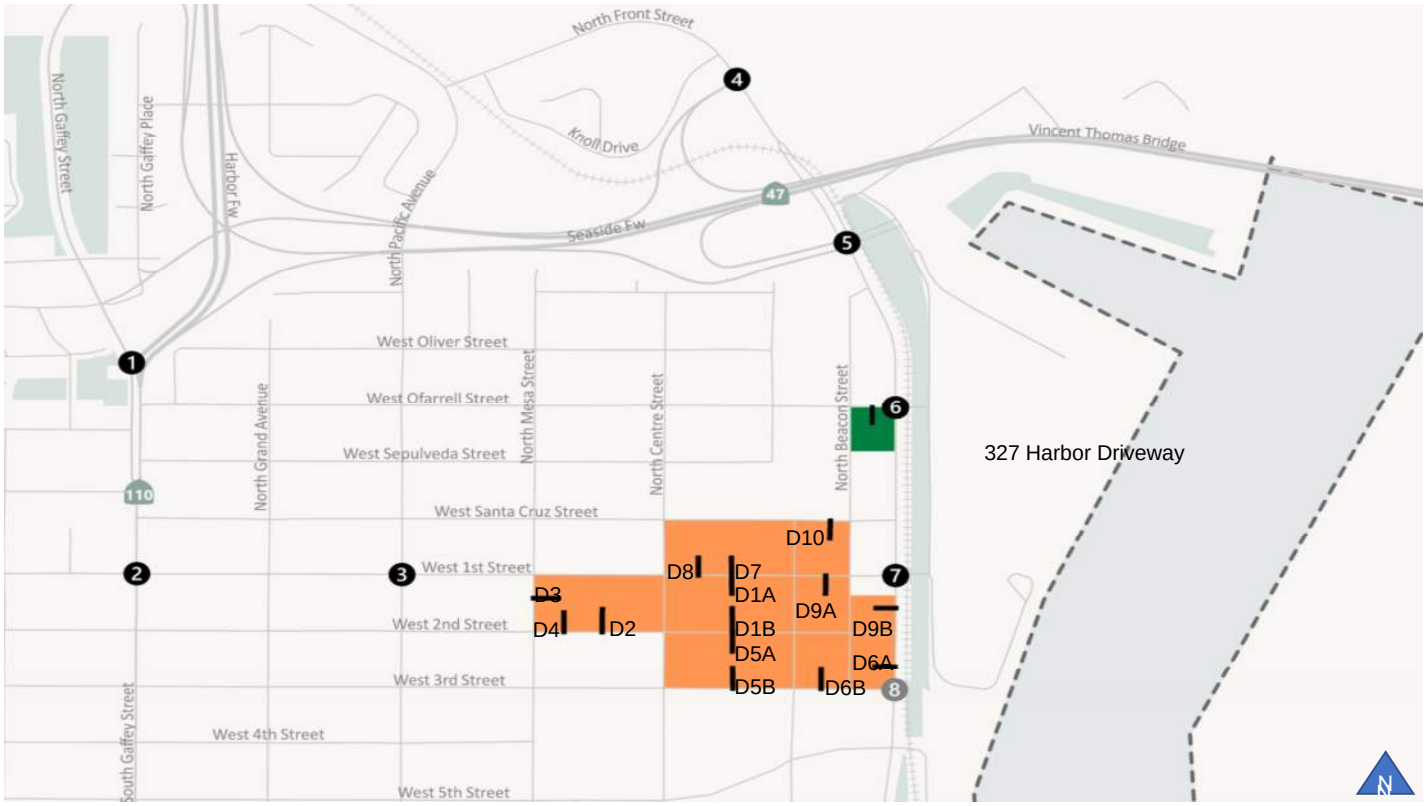


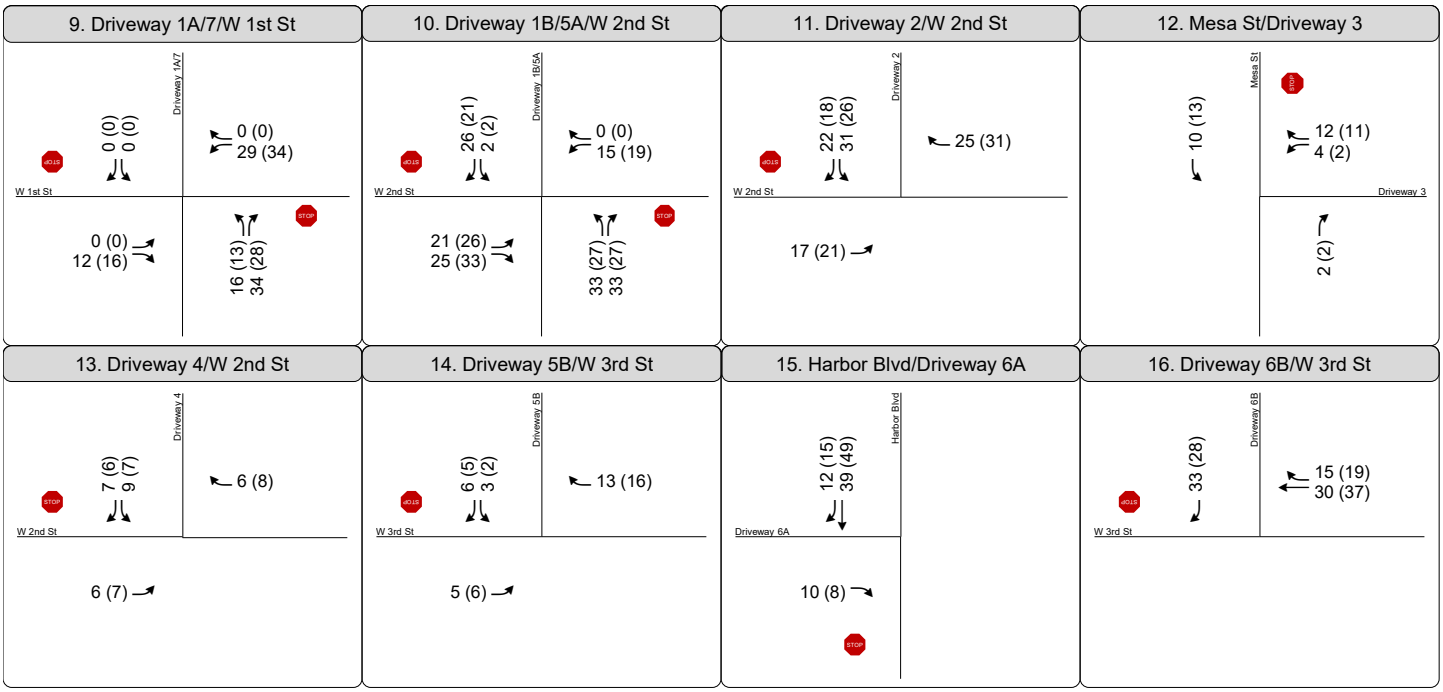
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8E

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Areas A & B & 327 Harbor Site - All Trips
One San Pedro Specific Plan Scenario



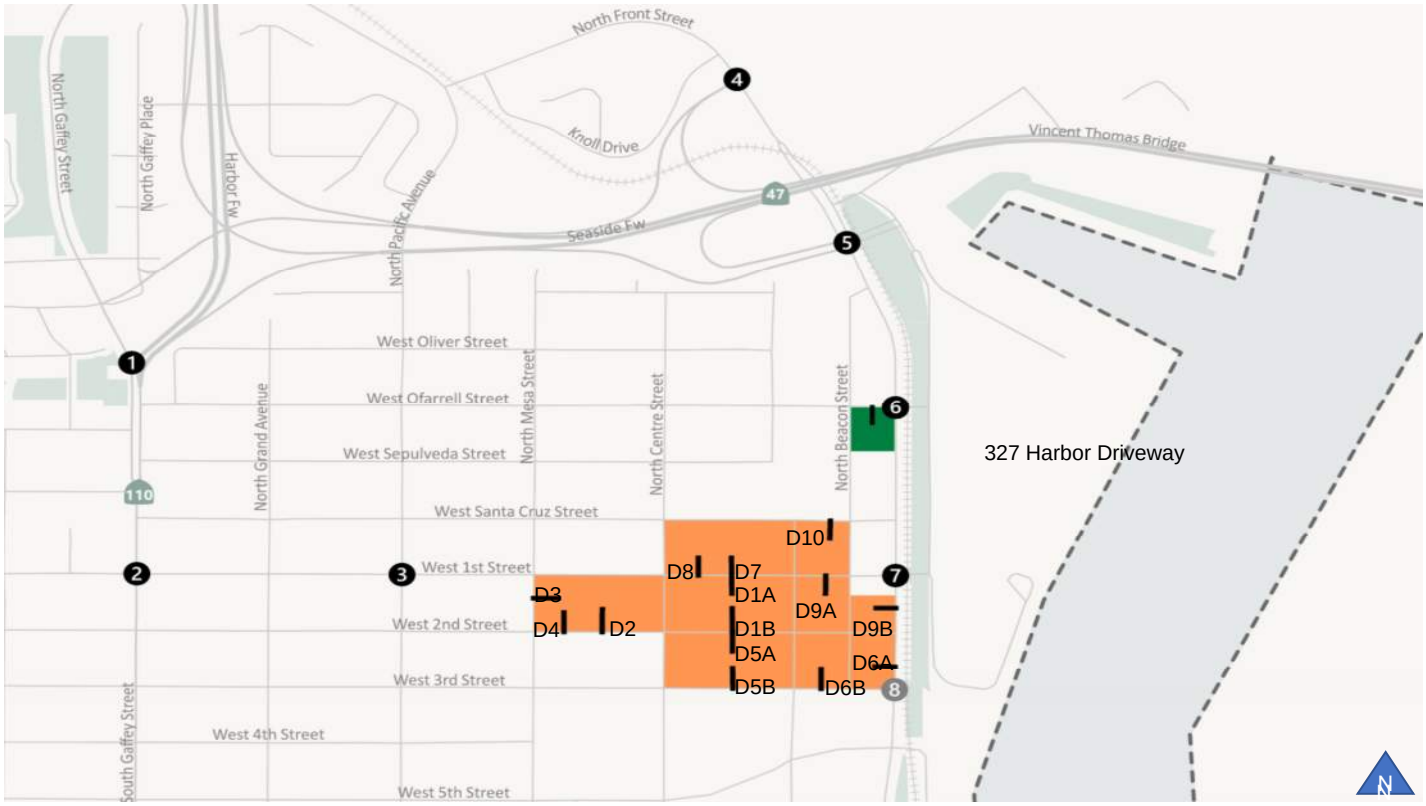


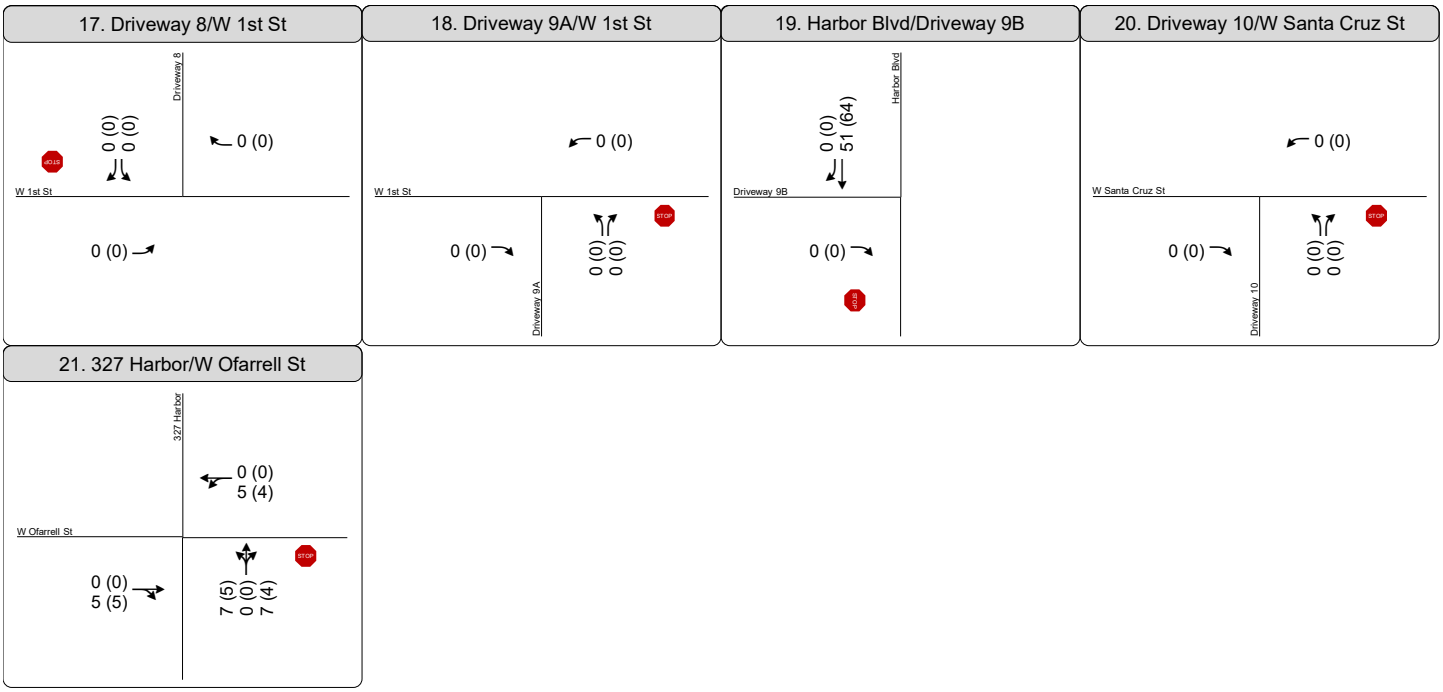
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- STOP — Stop Sign
- Signalized

Attachment 8E

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Areas A & B & 327 Harbor Site - All Trips
One San Pedro Specific Plan Scenario



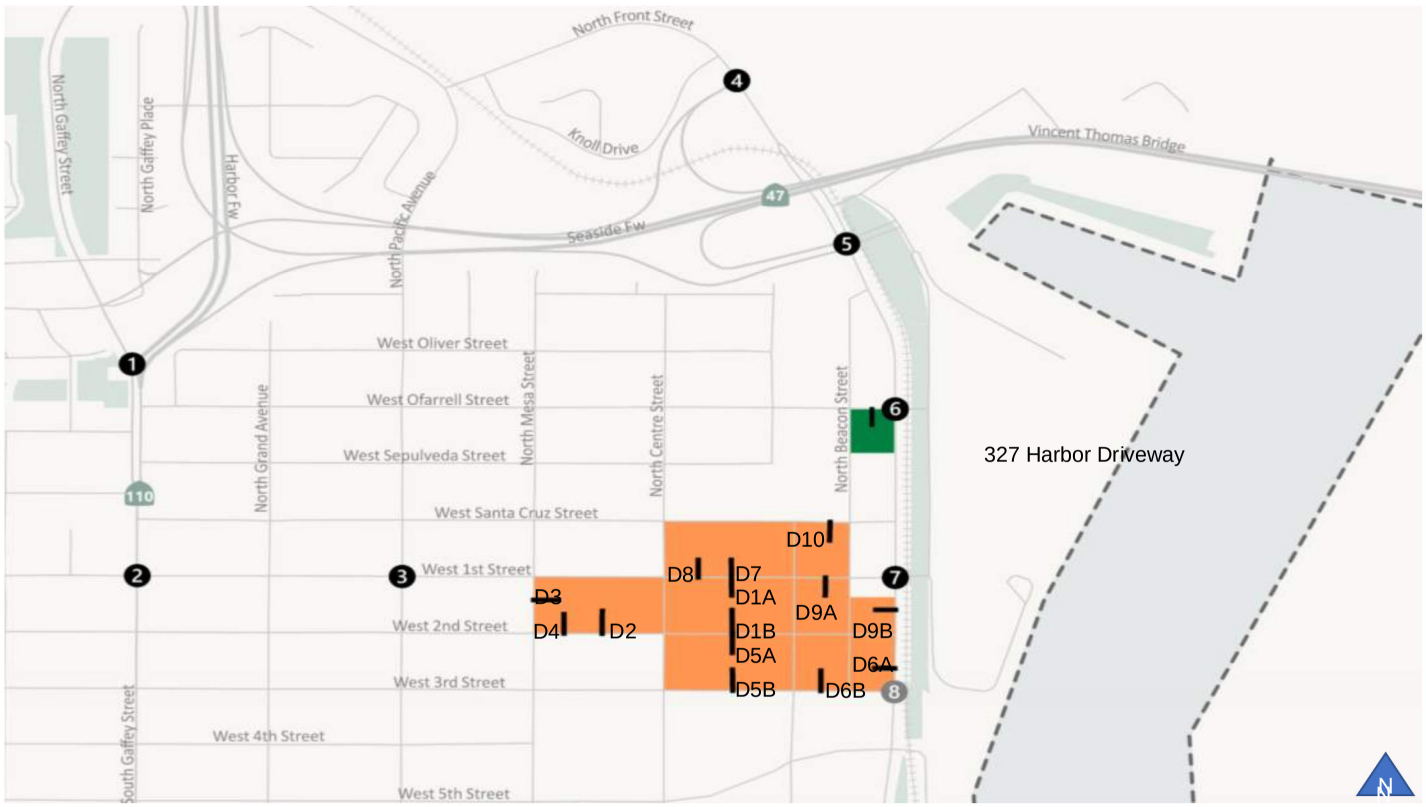


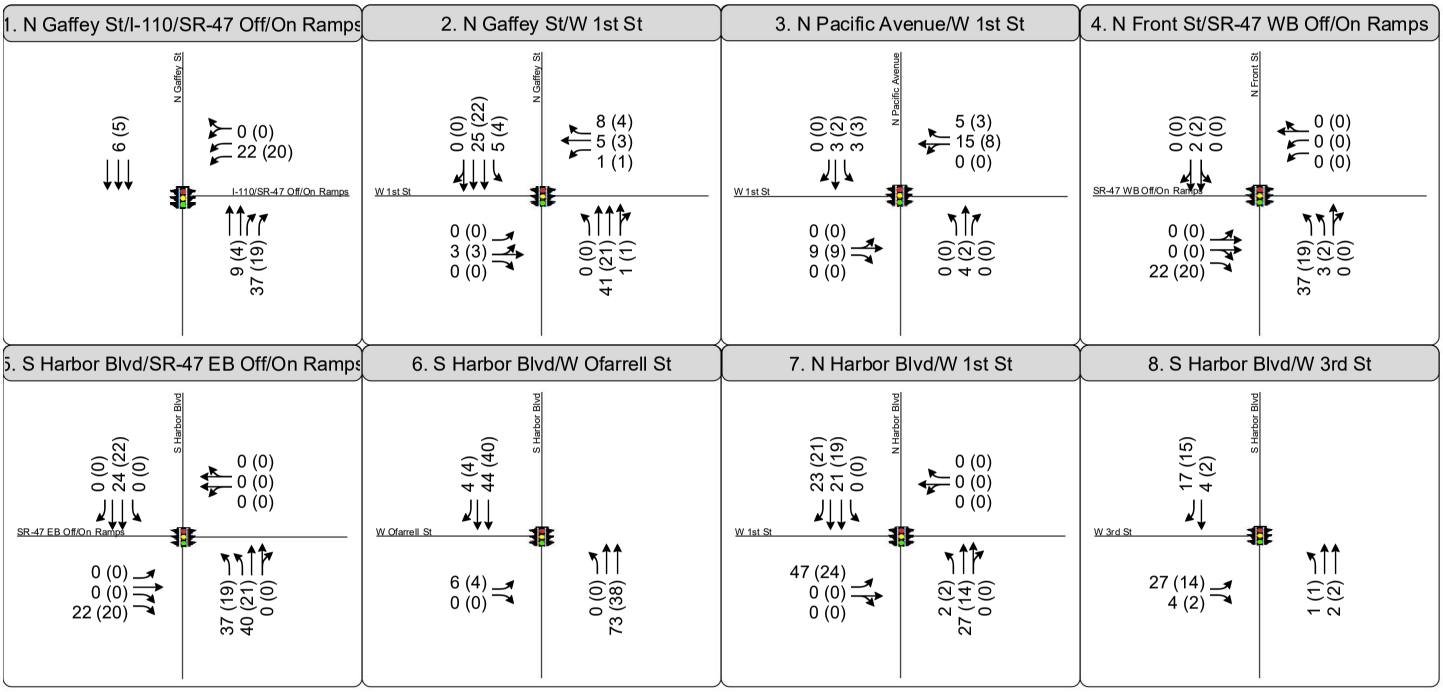
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8E

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Areas A & B & 327 Harbor Site - All Trips
One San Pedro Specific Plan Scenario





LEGEND

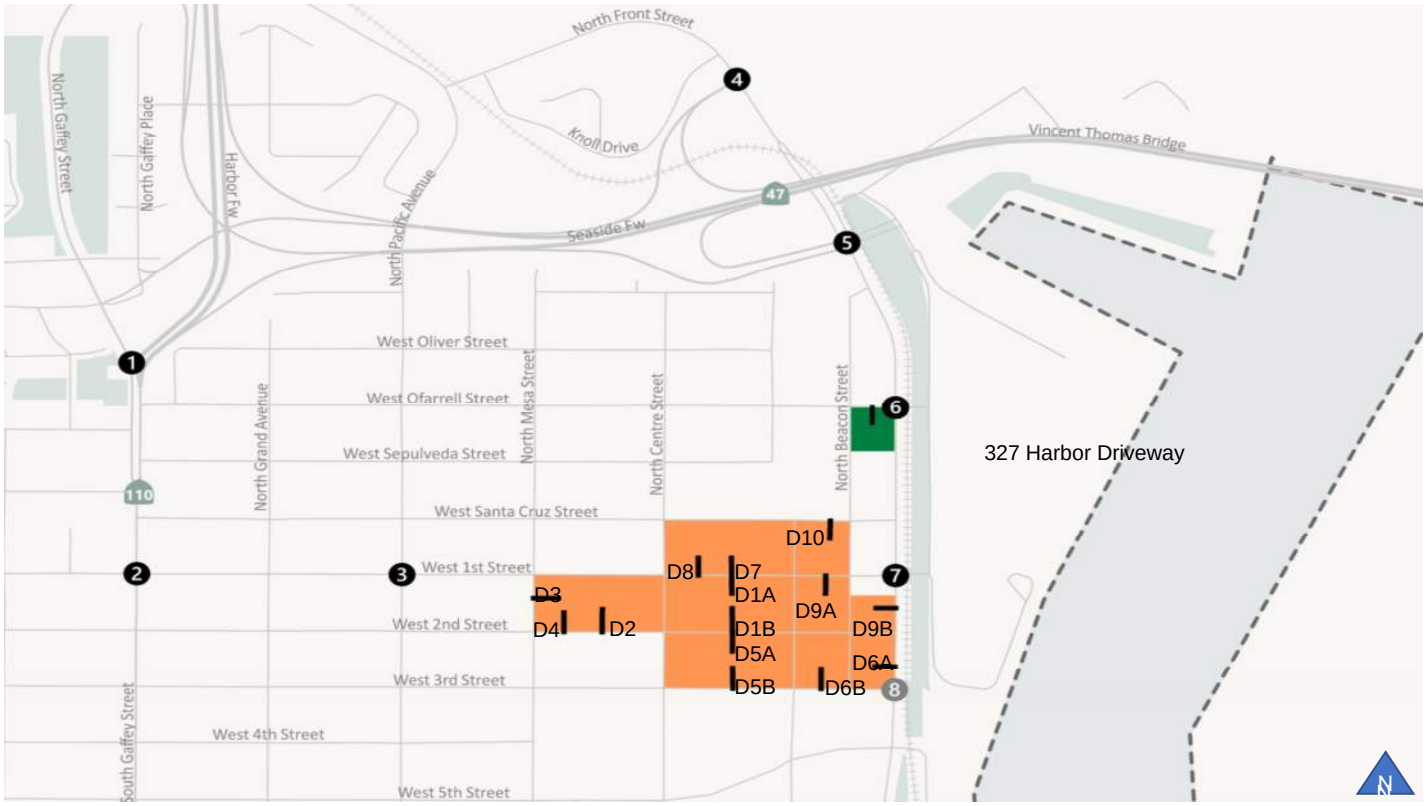
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

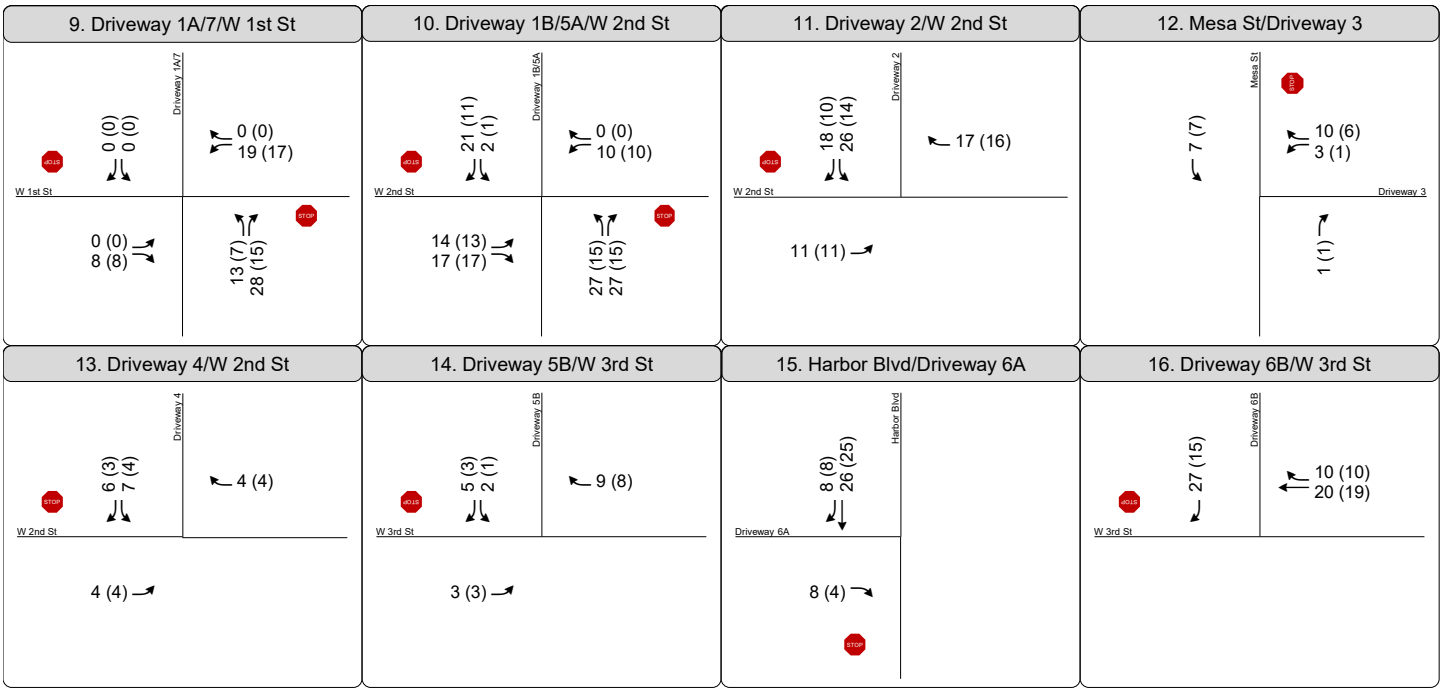
Attachment 8F

Peak Hour Traffic Volumes and Lane Configurations

Project Only, Planning Area A & B & 327 Harbor Site - Residential Trips

One San Pedro Specific Plan Scenario





LEGEND

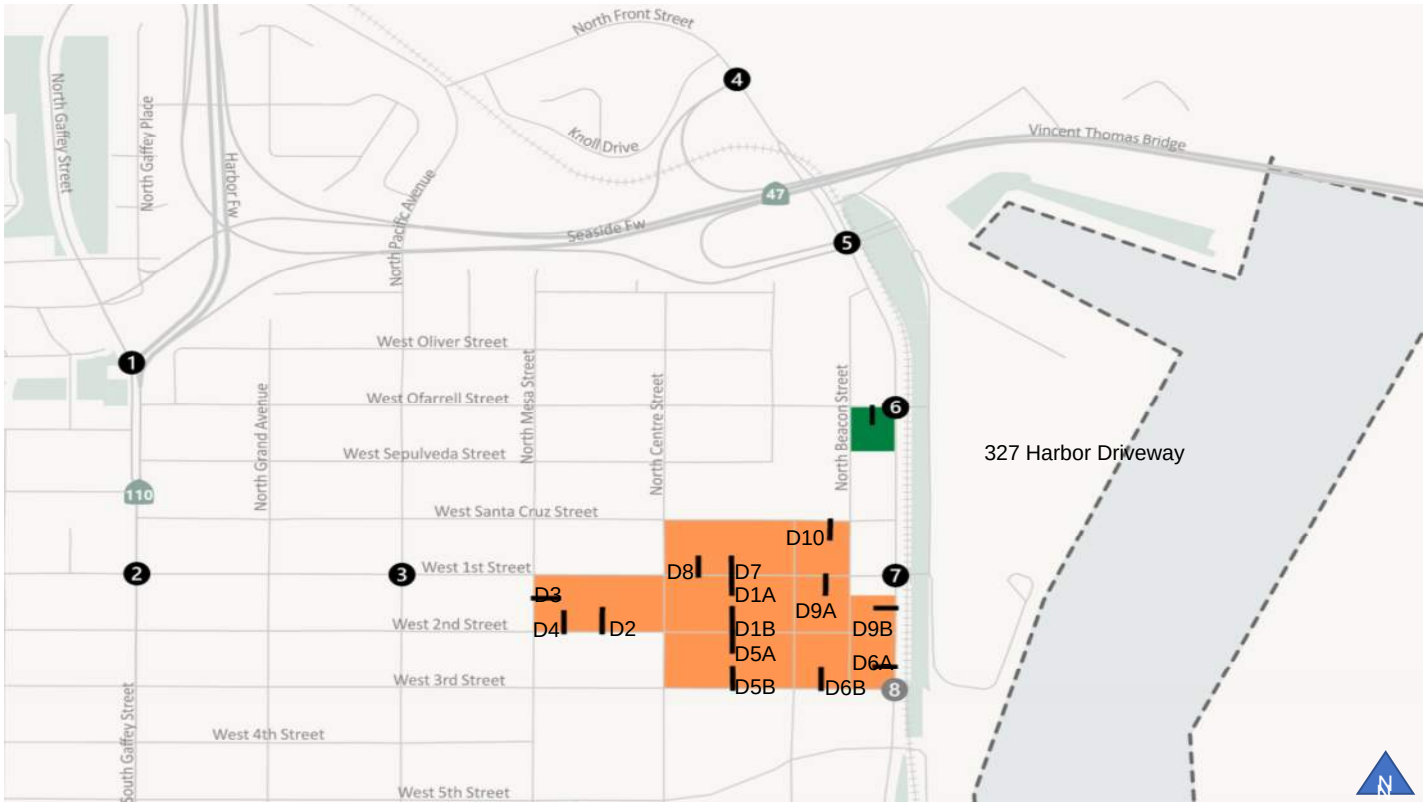
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

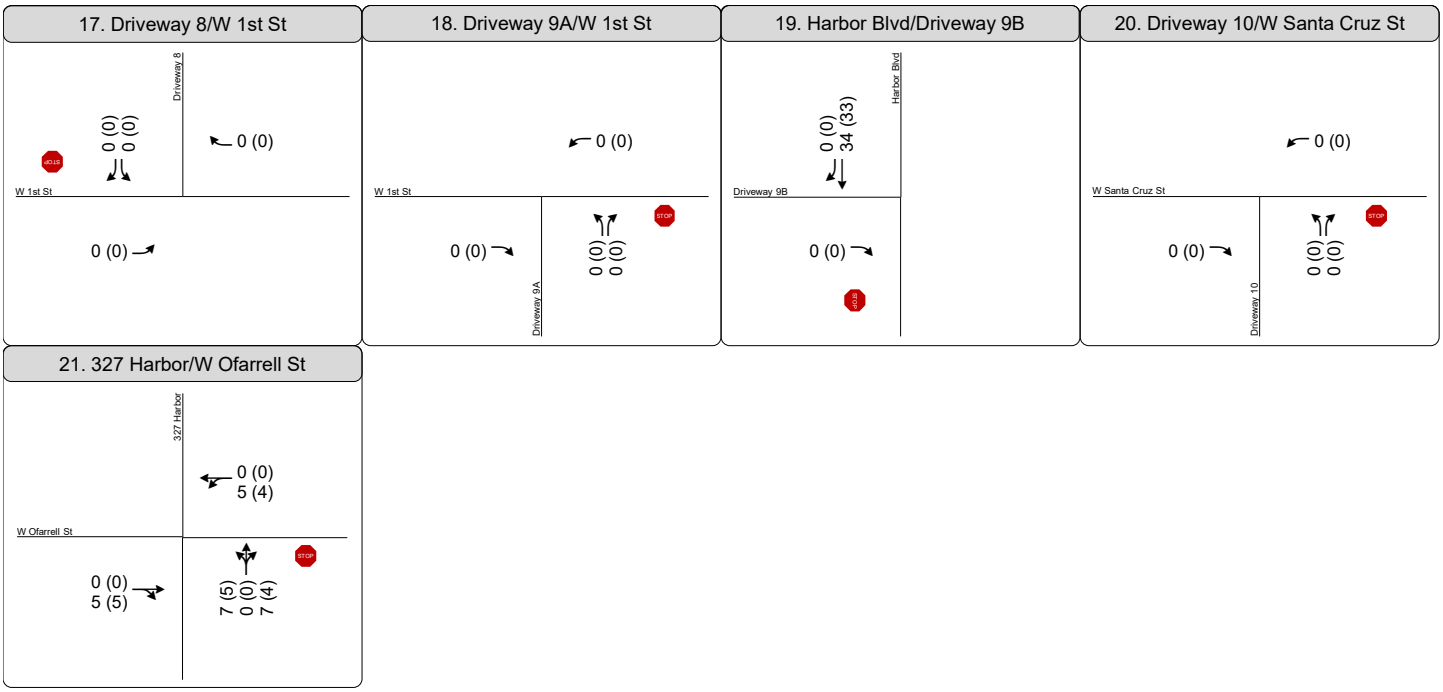
Attachment 8F

Peak Hour Traffic Volumes and Lane Configurations

Project Only, Planning Area A & B & 327 Harbor Site - Residential Trips

One San Pedro Specific Plan Scenario





LEGEND

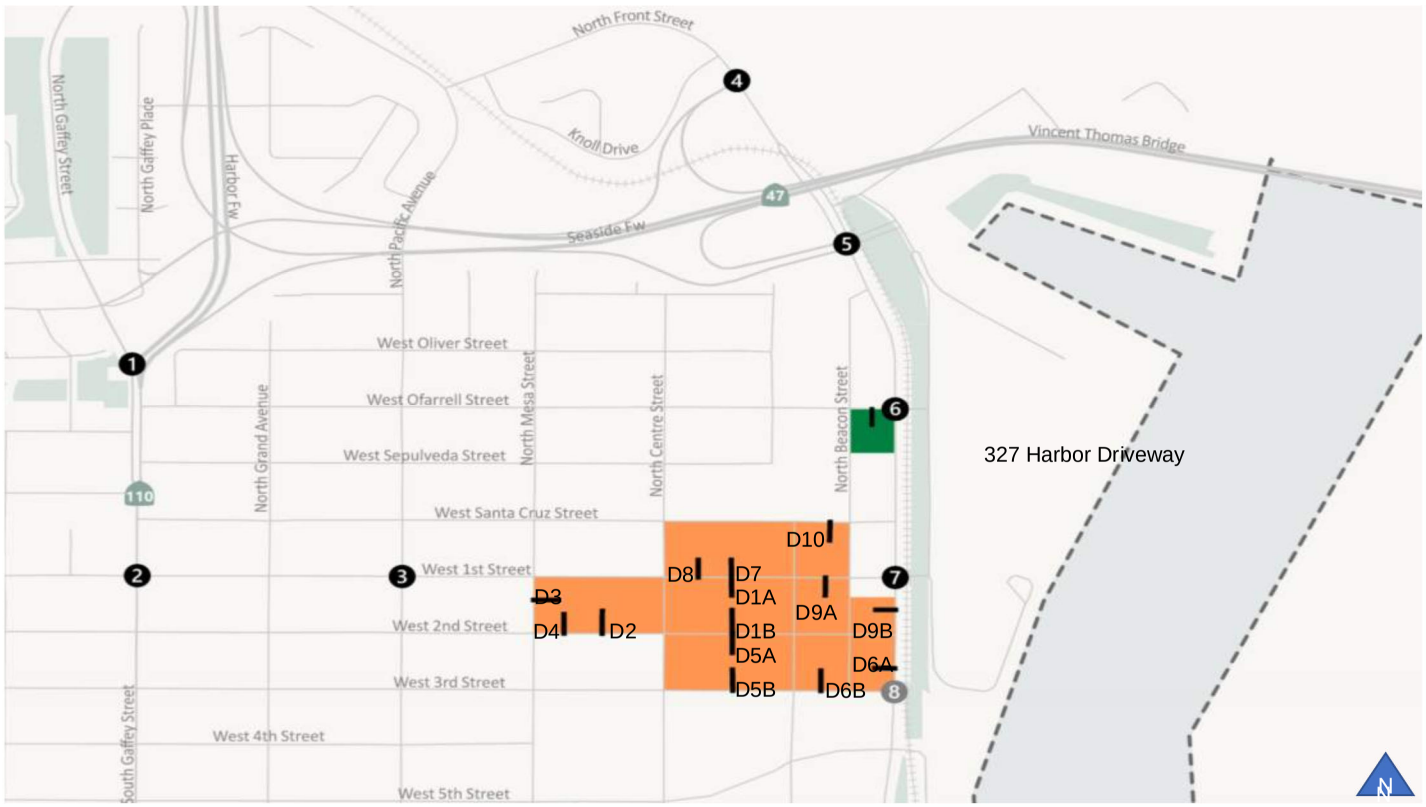
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

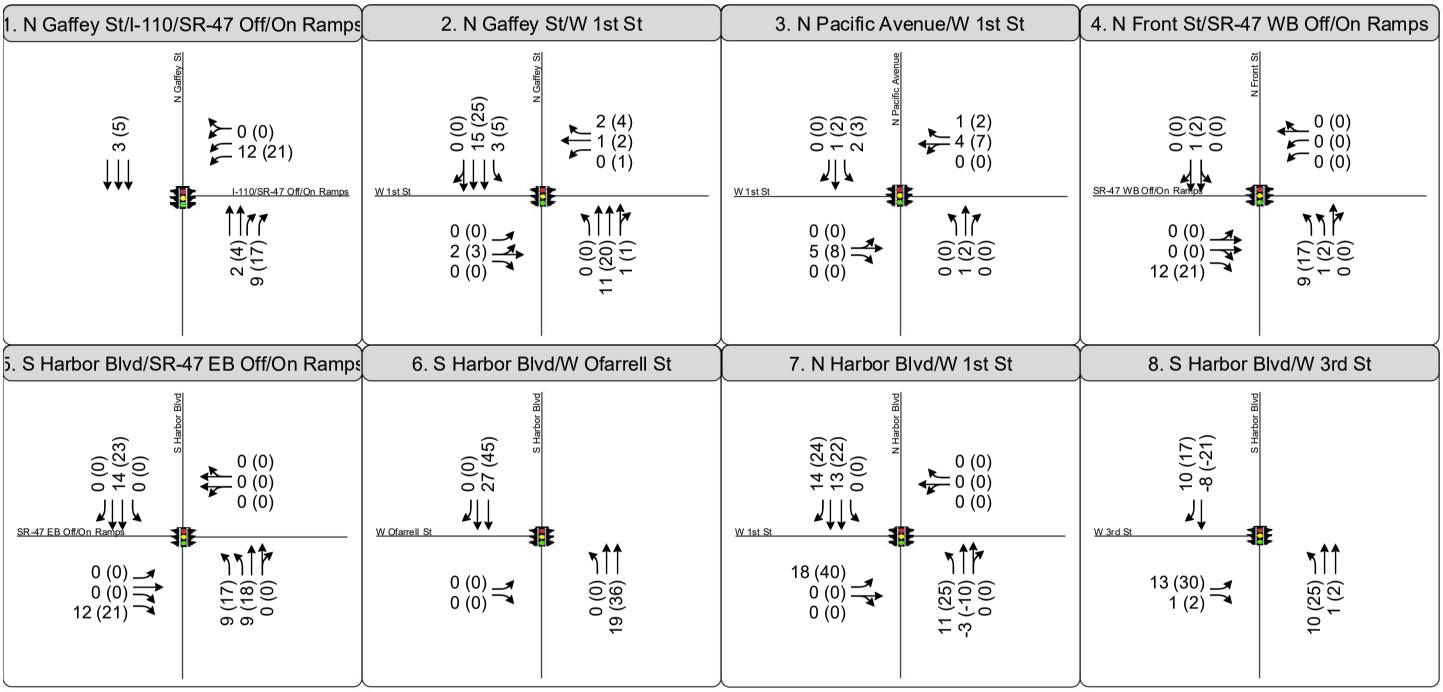
Attachment 8F

Peak Hour Traffic Volumes and Lane Configurations

Project Only, Planning Area A & B & 327 Harbor Site - Residential Trips

One San Pedro Specific Plan Scenario



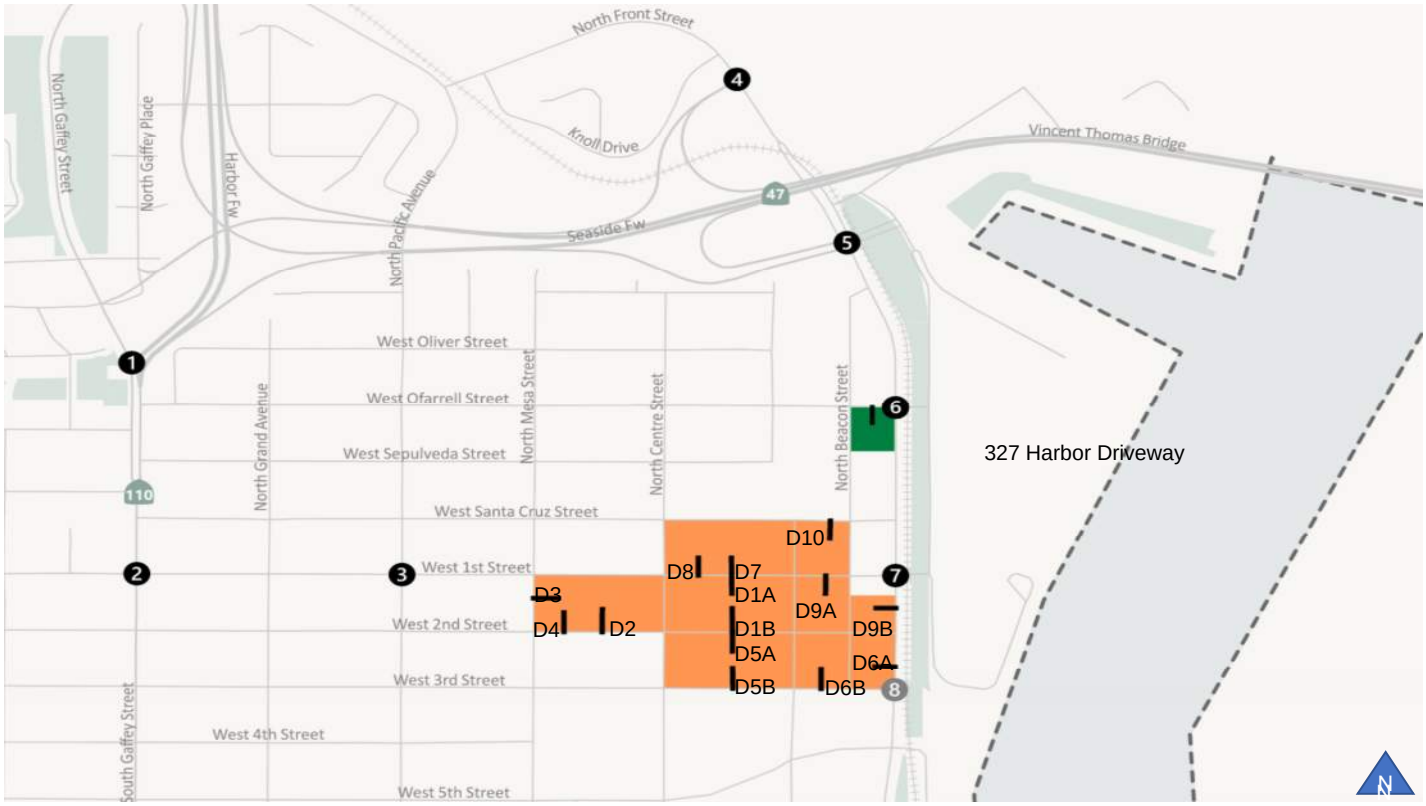


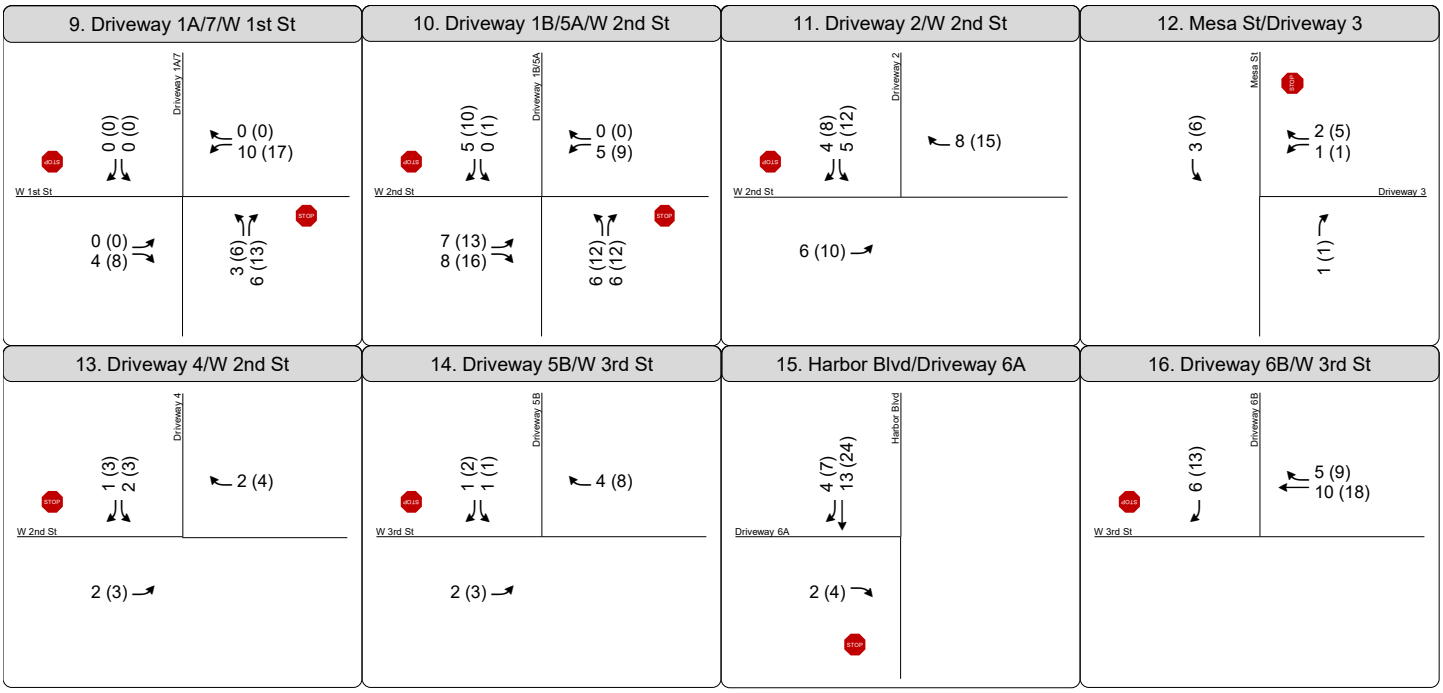
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8G

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Areas A & B & 327 Harbor Site - Retail Trips
One San Pedro Specific Plan Scenario



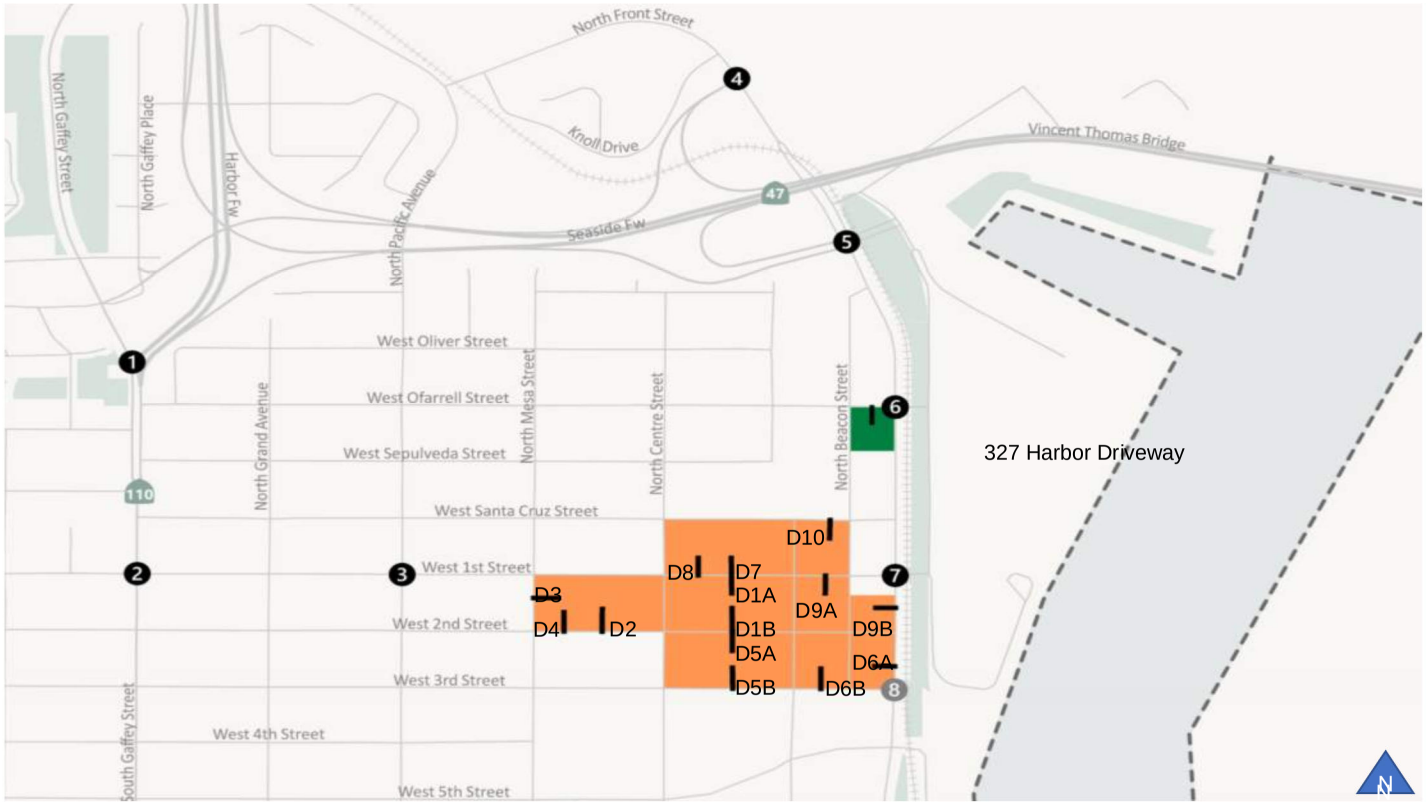


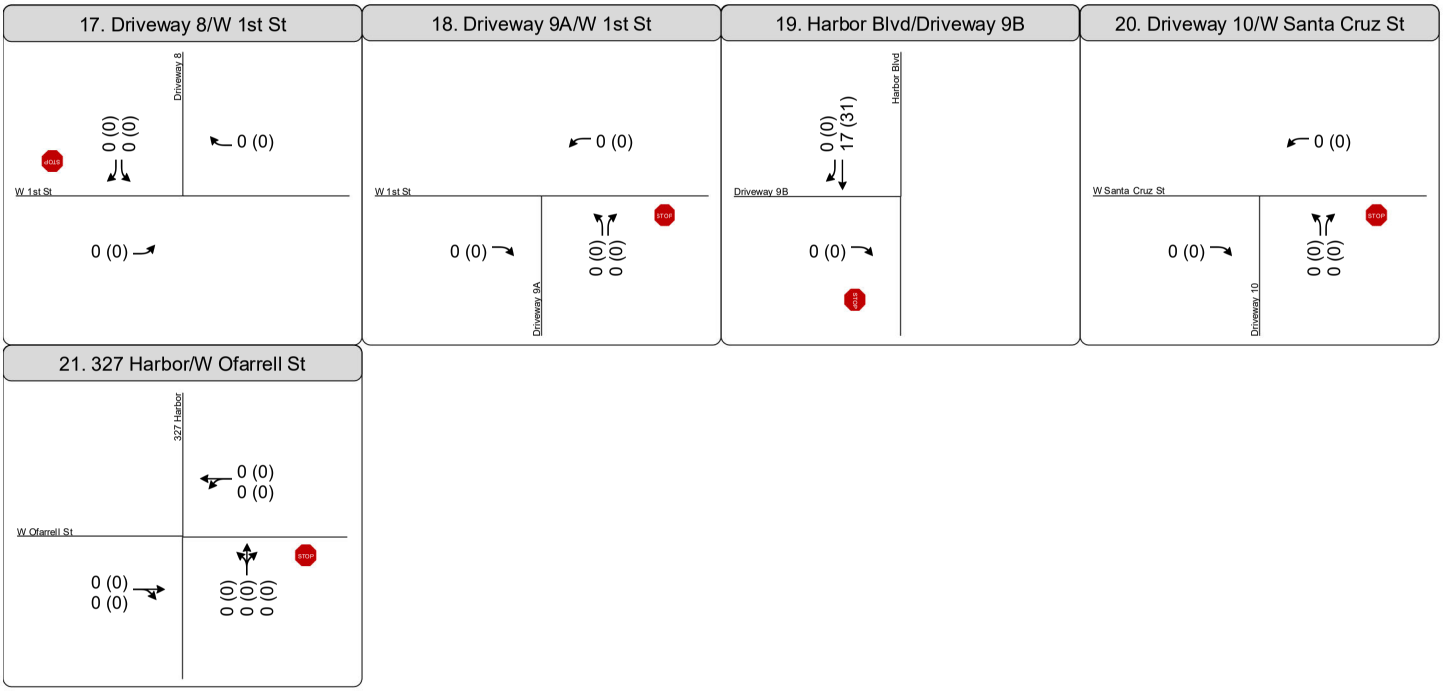
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8G

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Areas A & B & 327 Harbor Site - Retail Trips
One San Pedro Specific Plan Scenario





LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8G

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Areas A & B & 327 Harbor Site - Retail Trips
One San Pedro Specific Plan Scenario

327 Harbor Driveway

D10

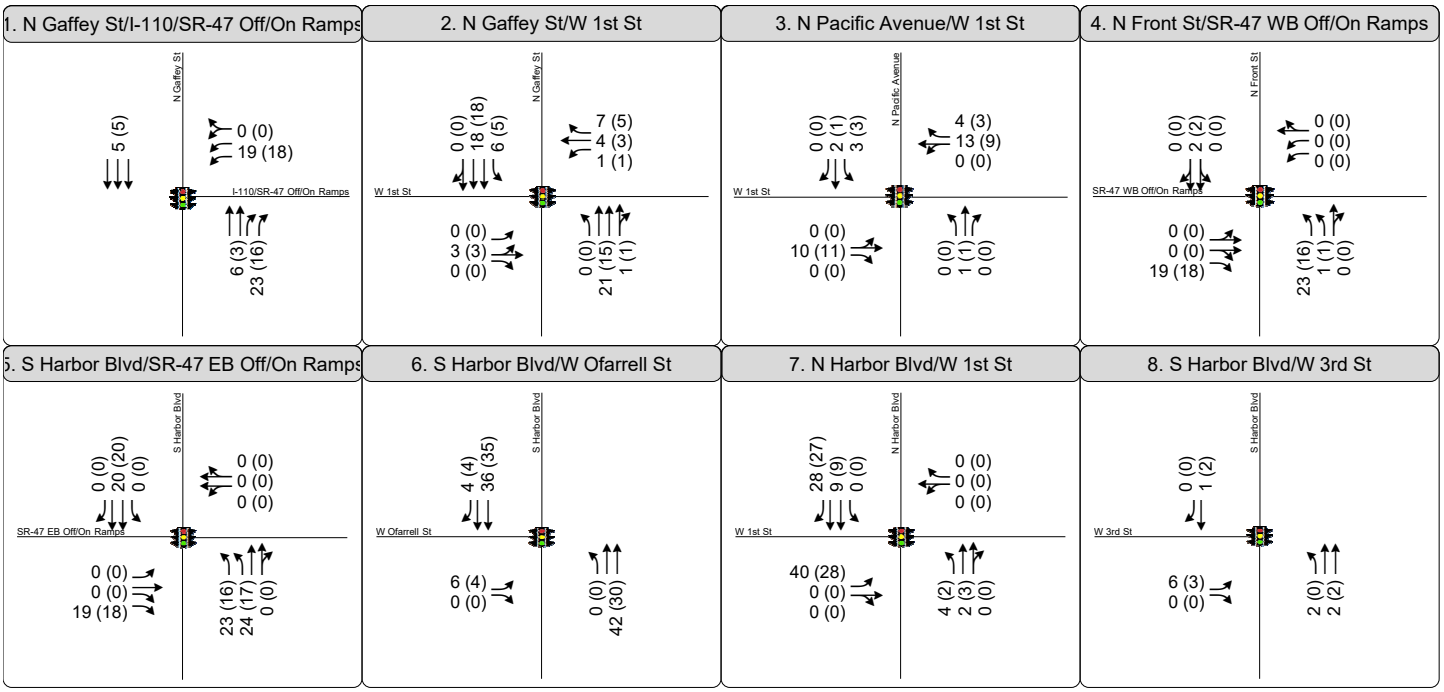
D8 D7

D3 D1A D9A

D4 D2 D1B D9B

D5A D6A

D5B D6B



LEGEND

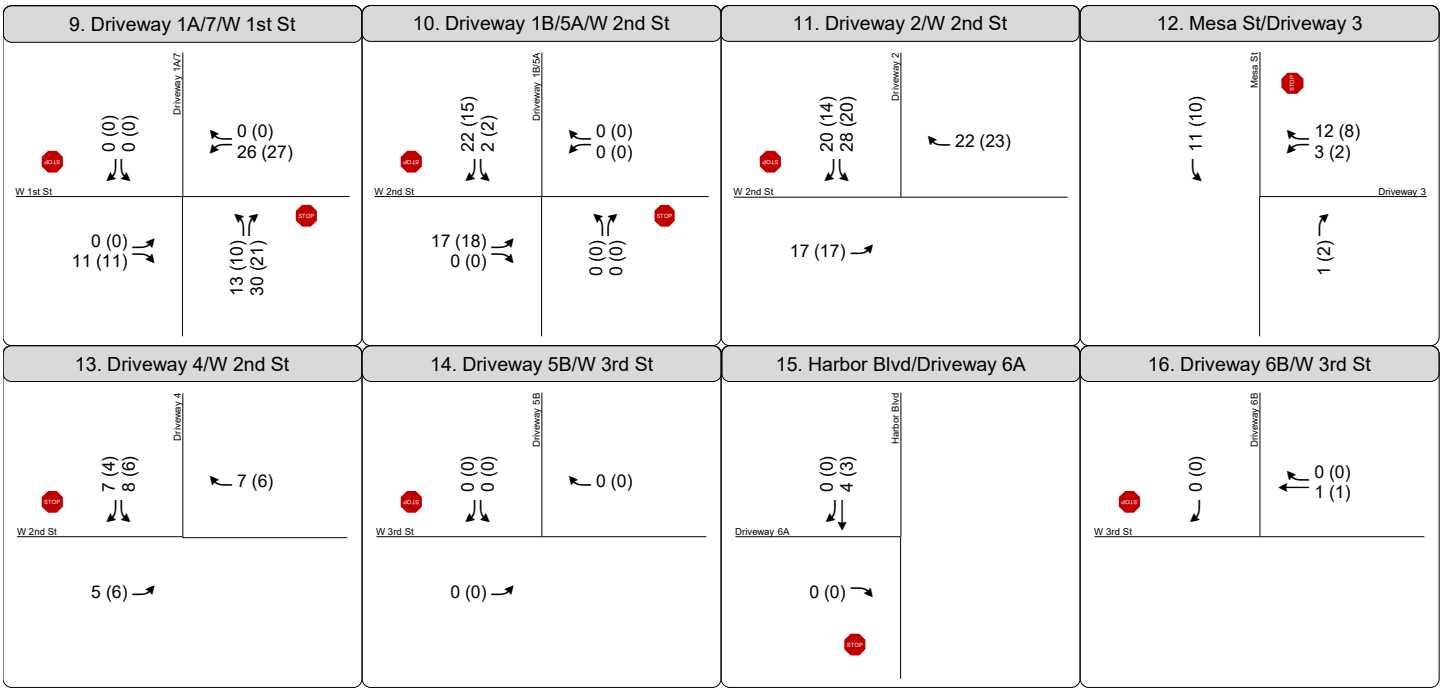
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8H

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - All Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

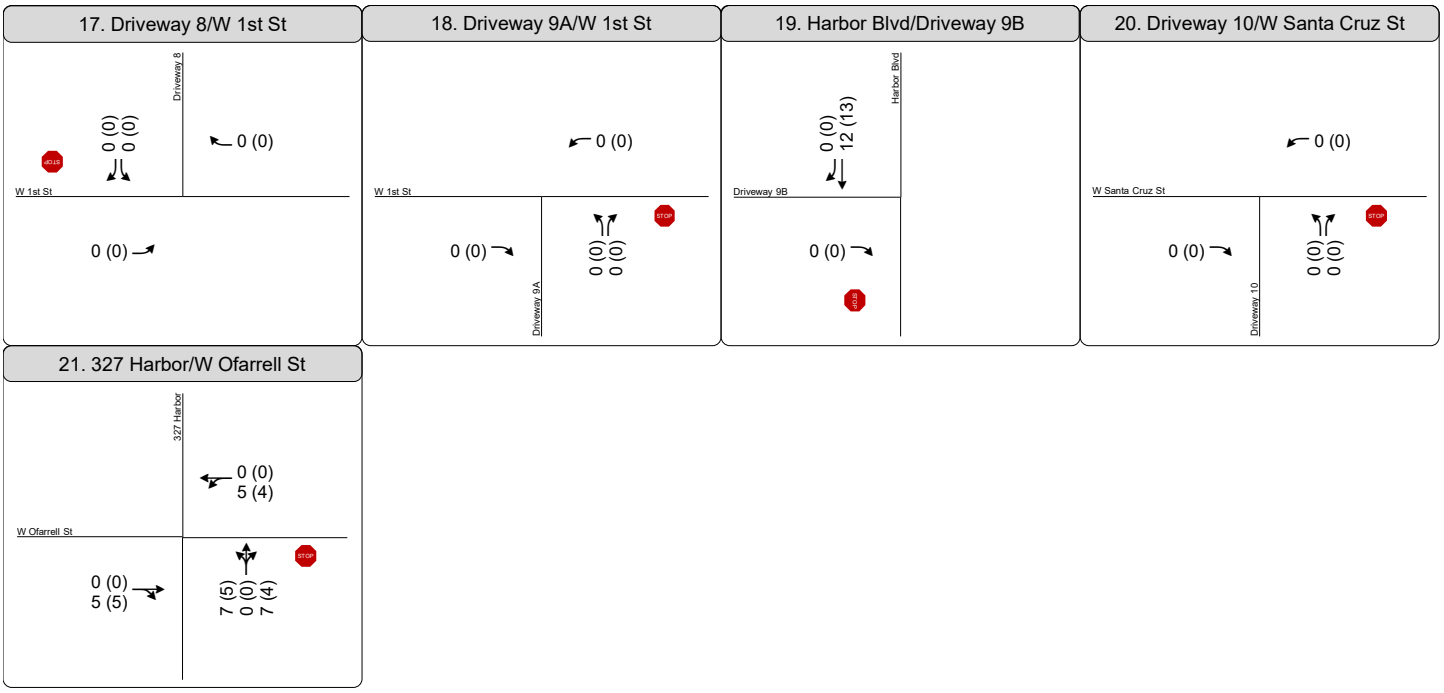
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8H

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - All Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8H

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - All Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10

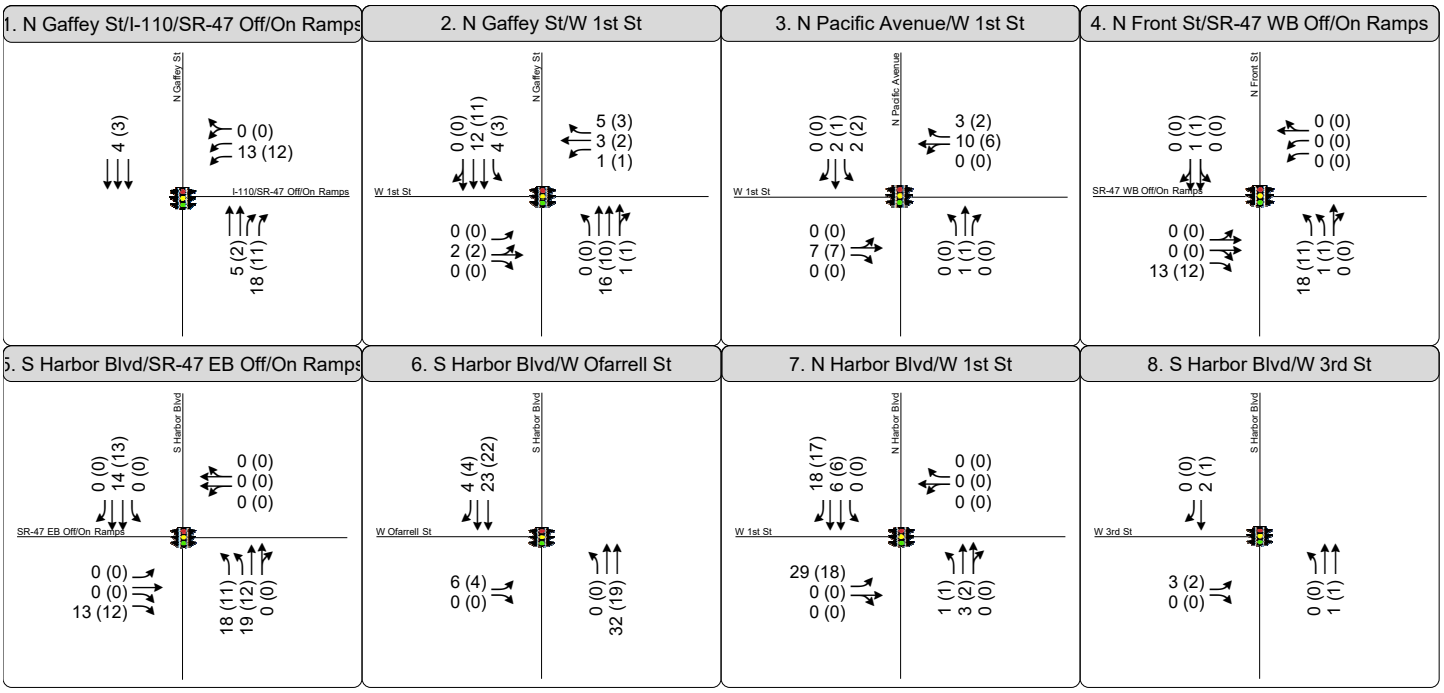
D8 D7

D3 D1A D9A

D4 D2 D1B D9B

D5A D6A

D5B D6B



LEGEND

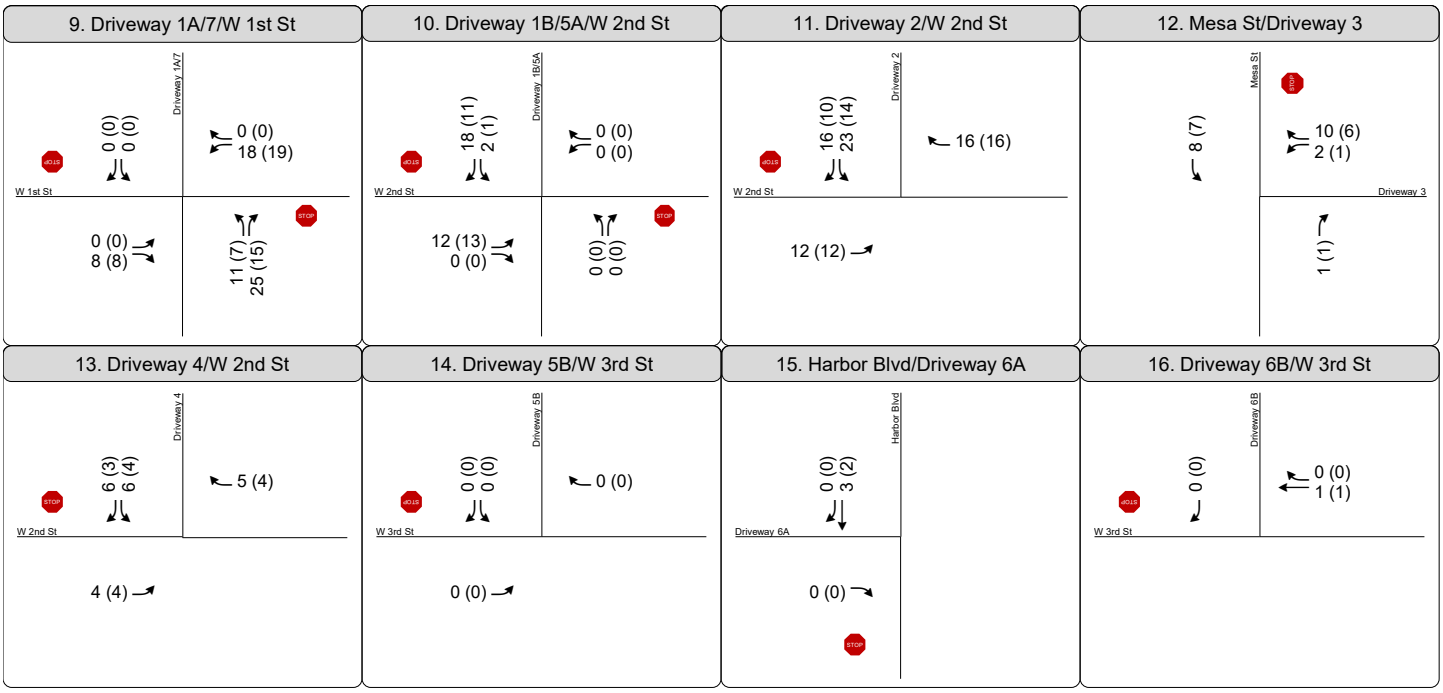
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8I

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Residential Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

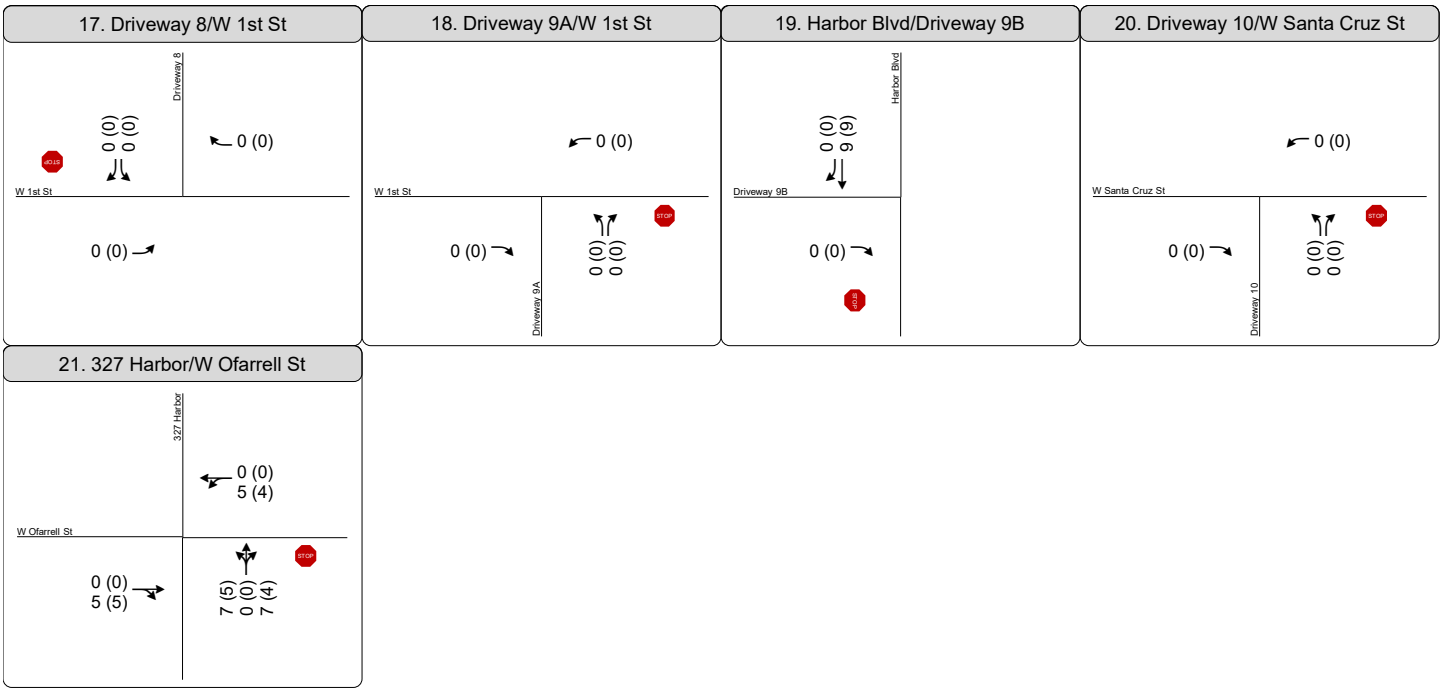
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8I

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Residential Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

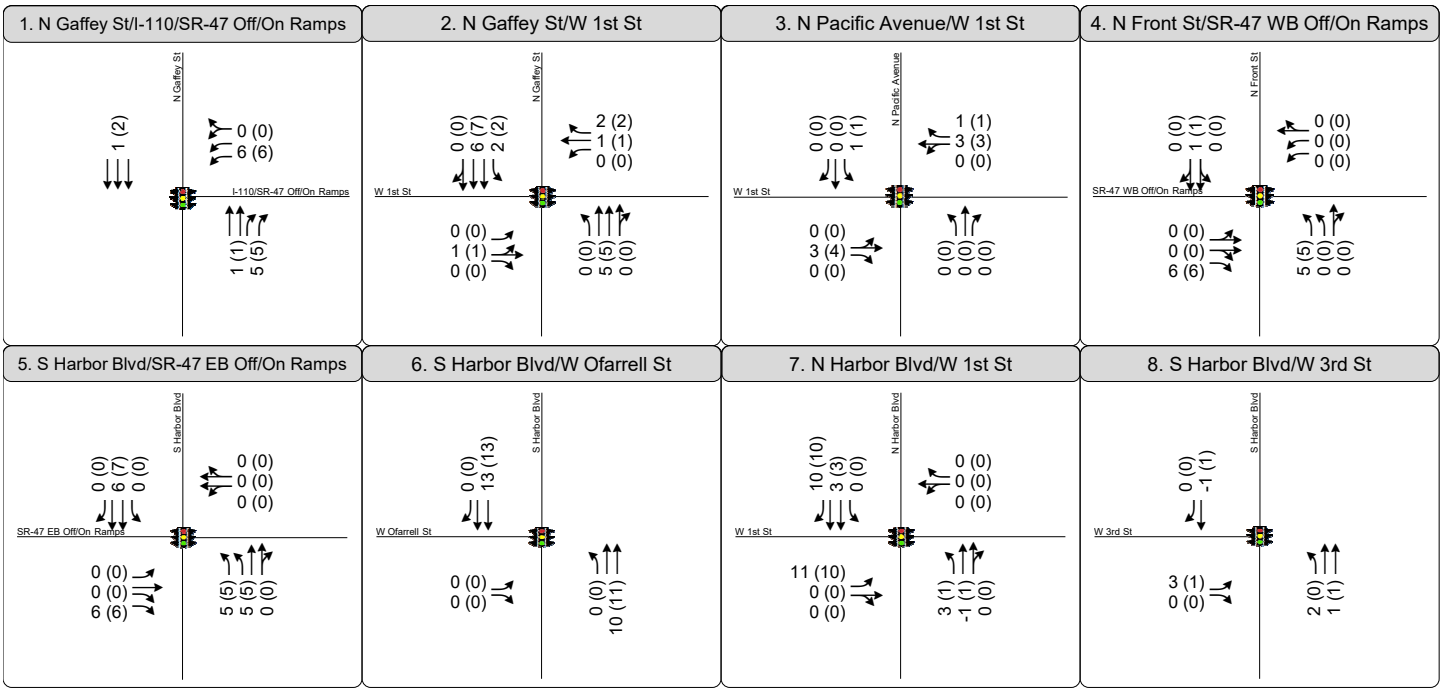
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8I

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Residential Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8J

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Retail Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10

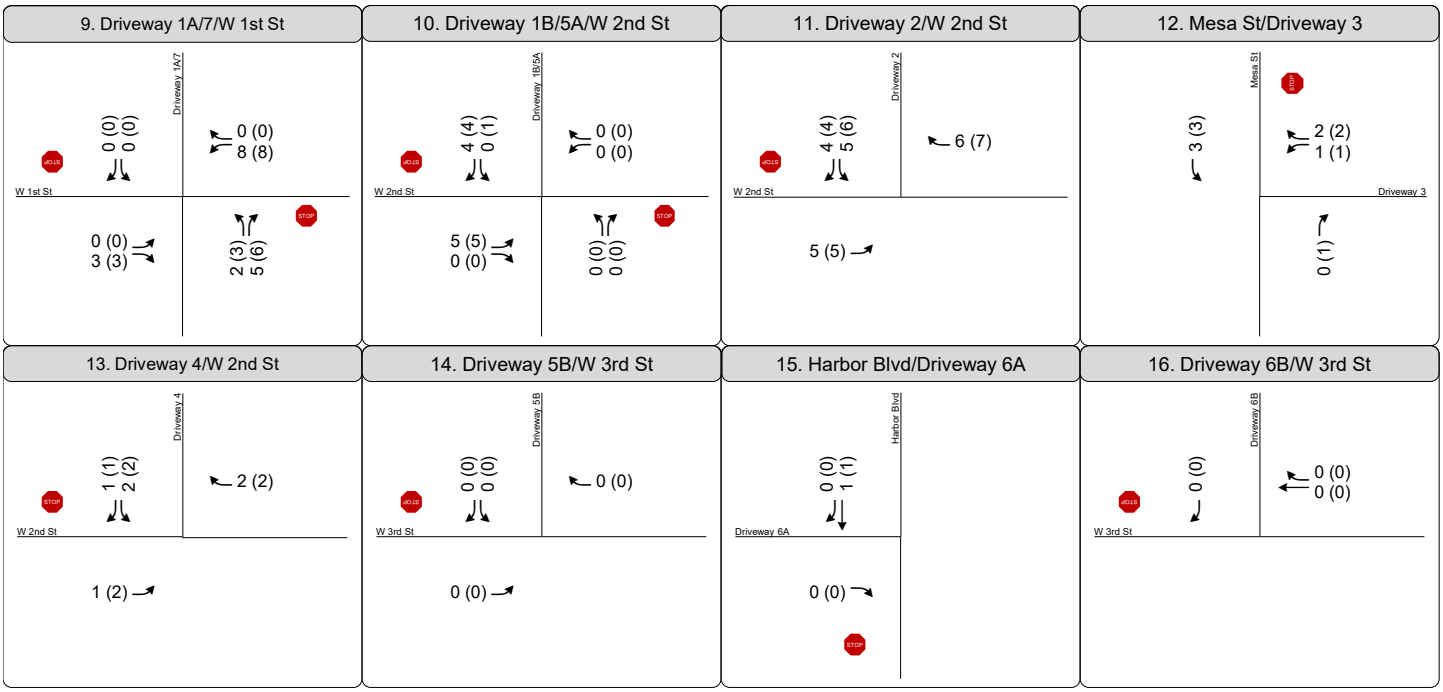
D8 D7

D3 D1A D9A

D4 D2 D1B D9B

D5A D6A

D5B D6B



LEGEND

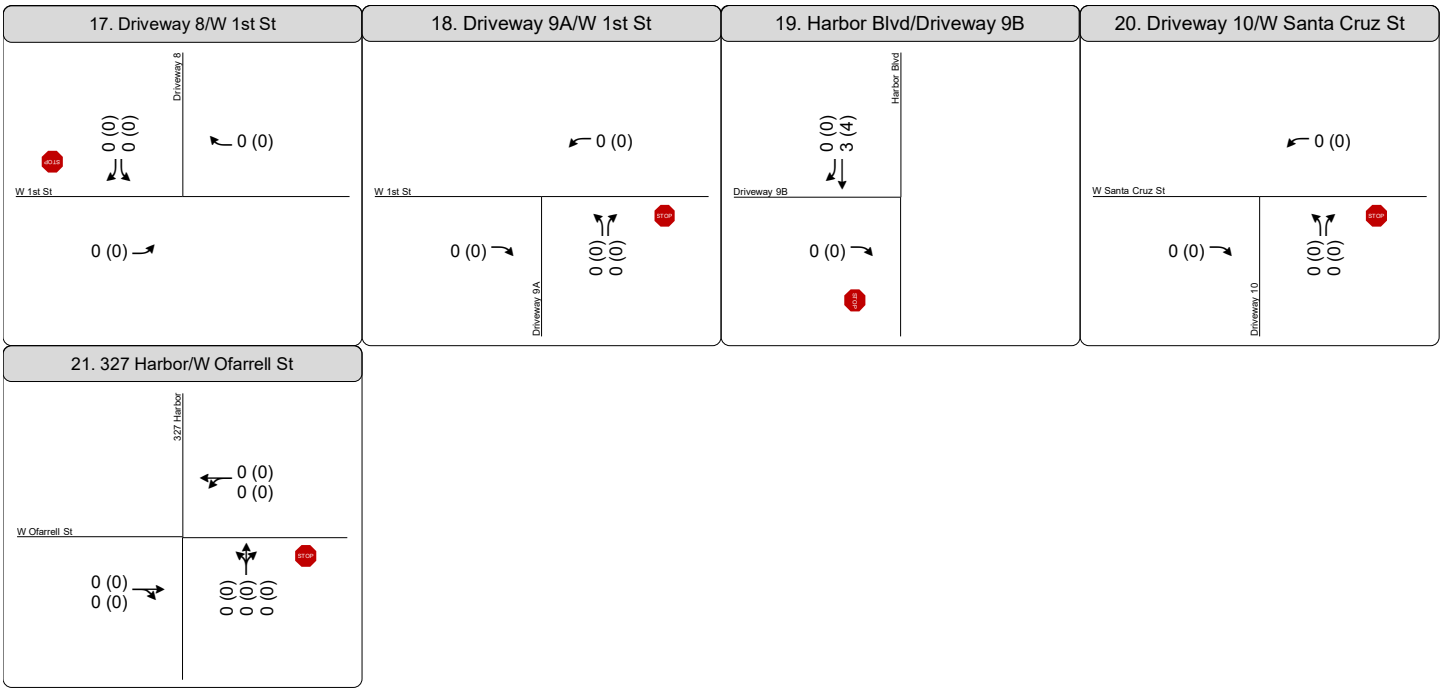
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AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8J

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Retail Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8J

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & 327 Harbor Site - Retail Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10

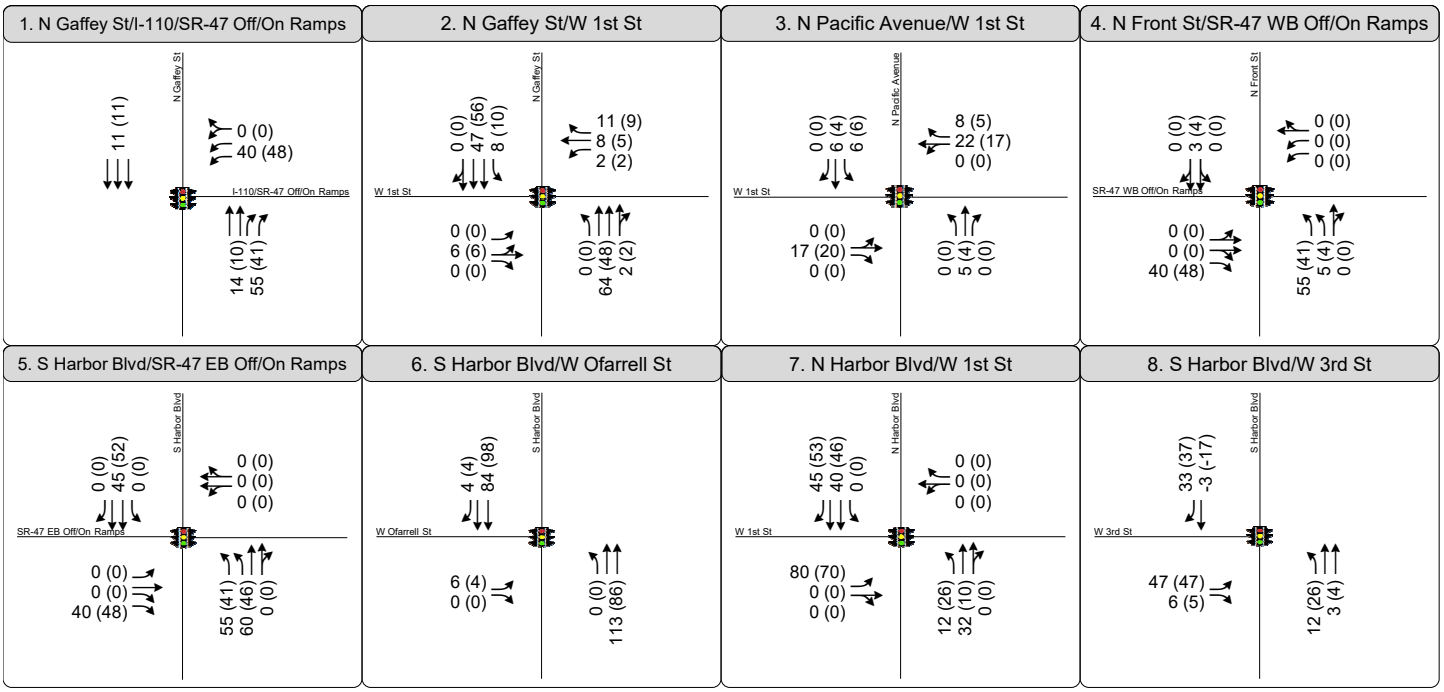
D8 D7

D3 D1A D9A

D4 D2 D1B D9B

D5A D6A

D5B D6B



LEGEND

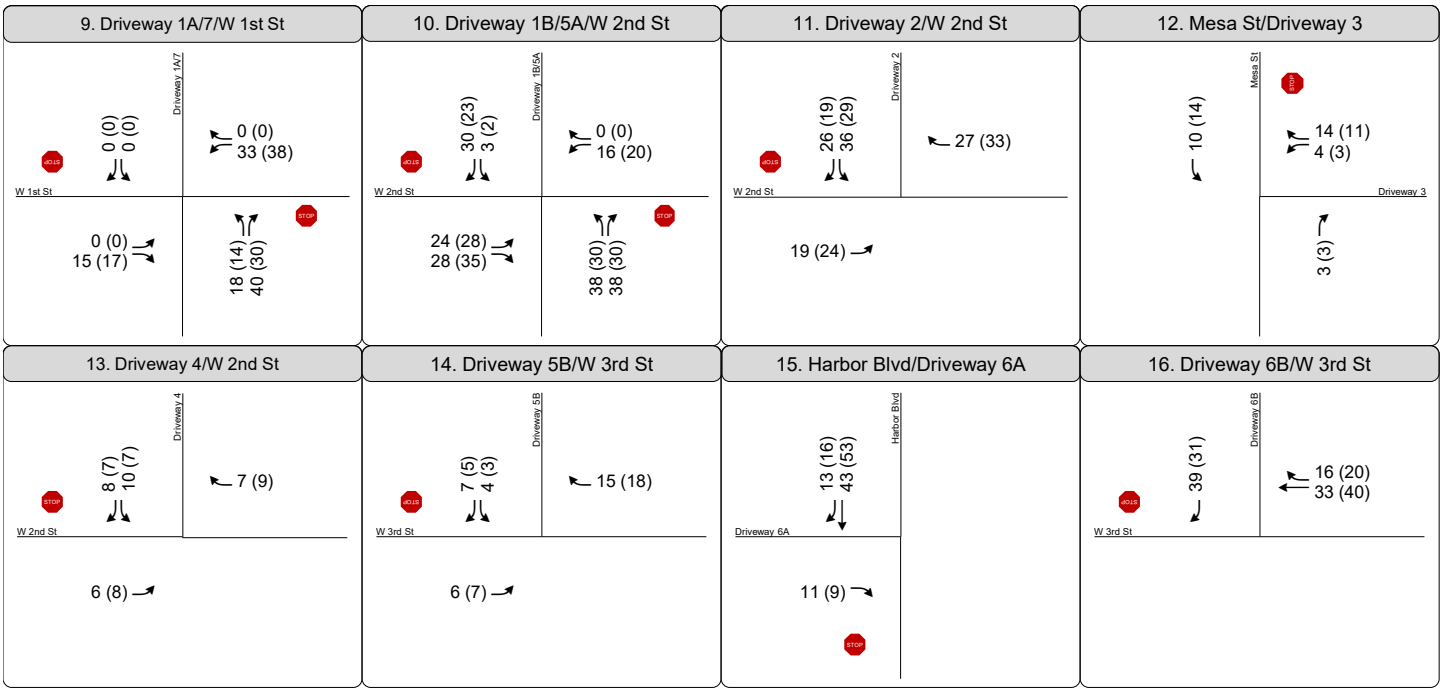
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8K

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & B & 327 Harbor Site - All Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8K

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & B & 327 Harbor Site - All Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10

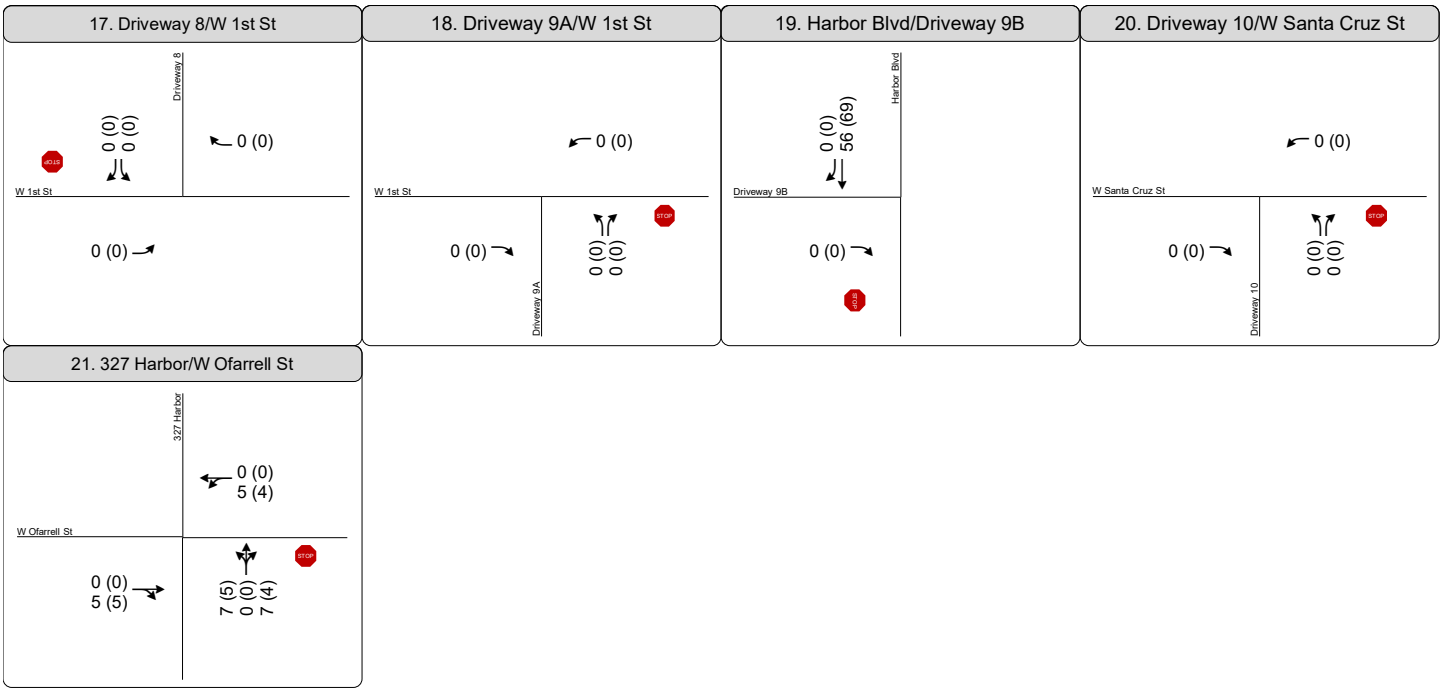
D8 D7

D3 D1A D9A

D4 D2 D1B D9B

D5A D6A

D5B D6B



LEGEND

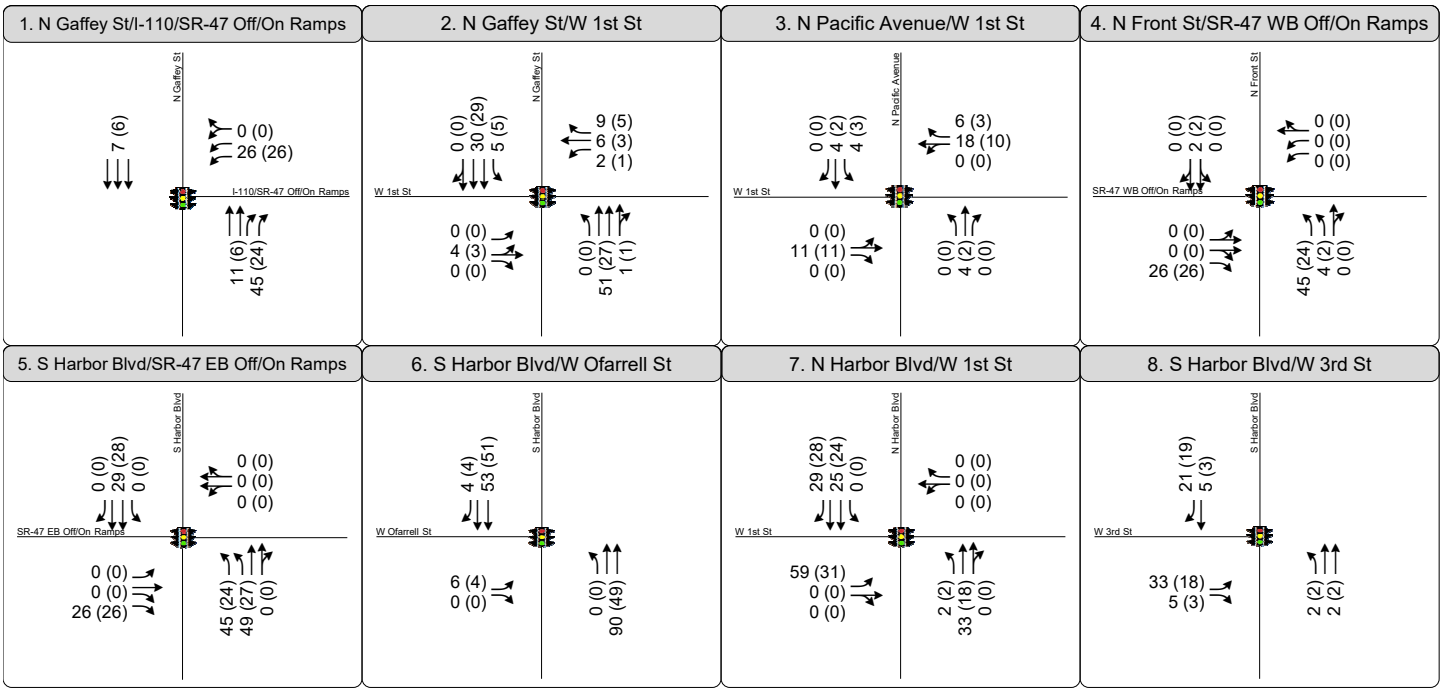
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8K

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & B & 327 Harbor Site - All Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8L

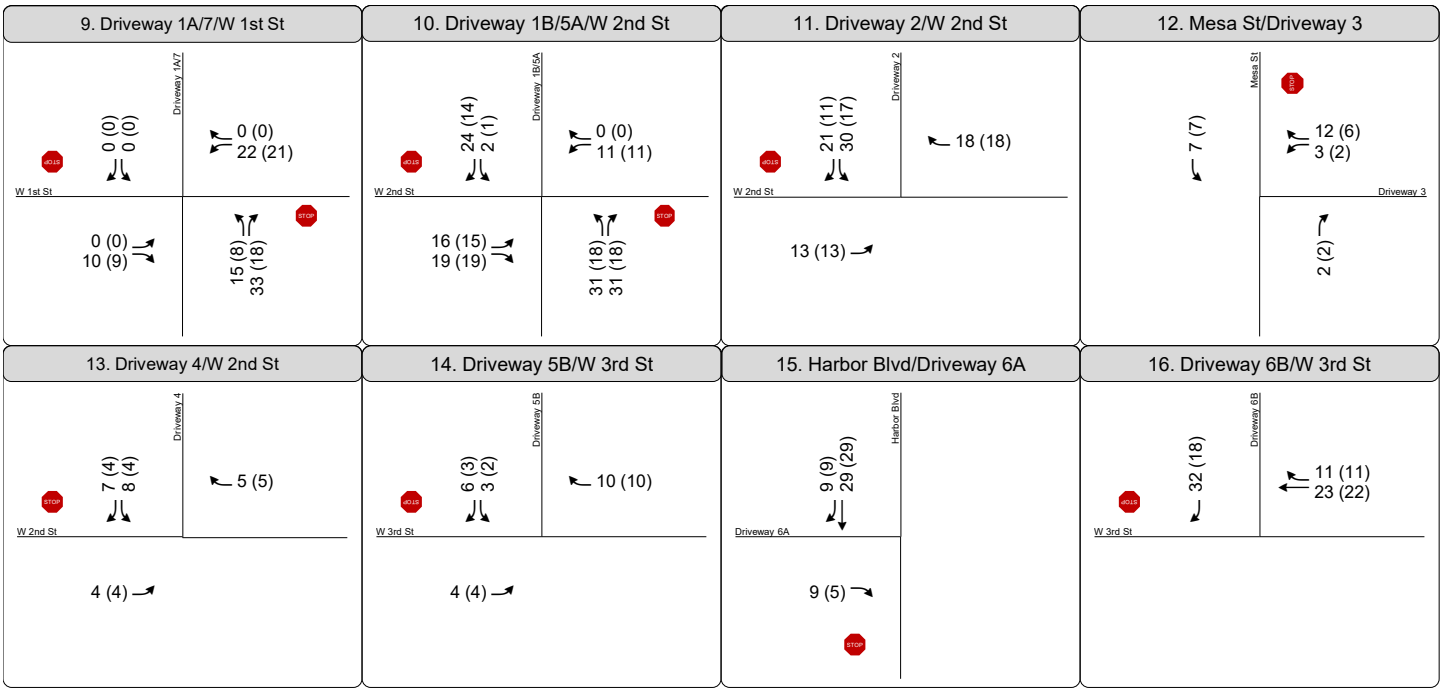
Peak Hour Traffic Volumes and Lane Configurations

Project Only, Planning Area A & B & 327 Harbor Site - Residential Trips

One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

- # Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8L

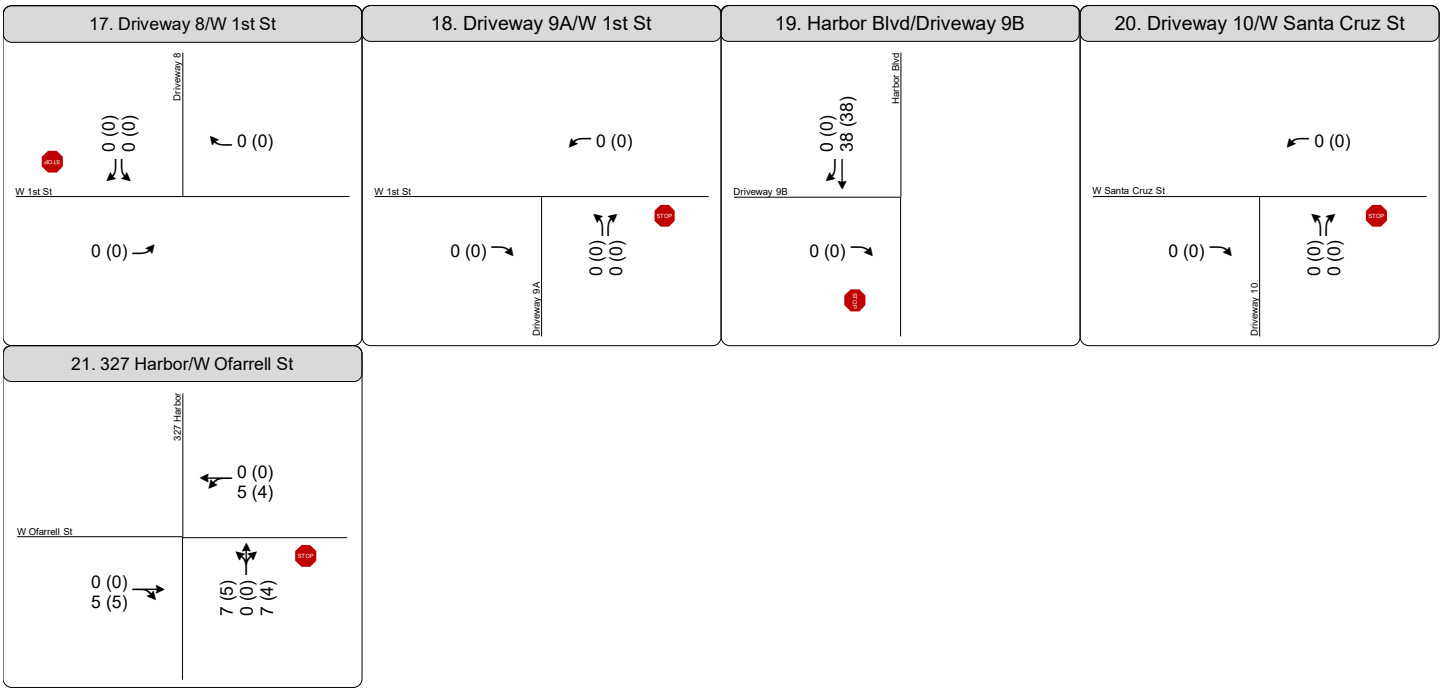
Peak Hour Traffic Volumes and Lane Configurations

Project Only, Planning Area A & B & 327 Harbor Site - Residential Trips

One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10
D8 D7
D3 D1A D9A
D4 D2 D1B D9B
D5A D6A
D5B D6B



LEGEND

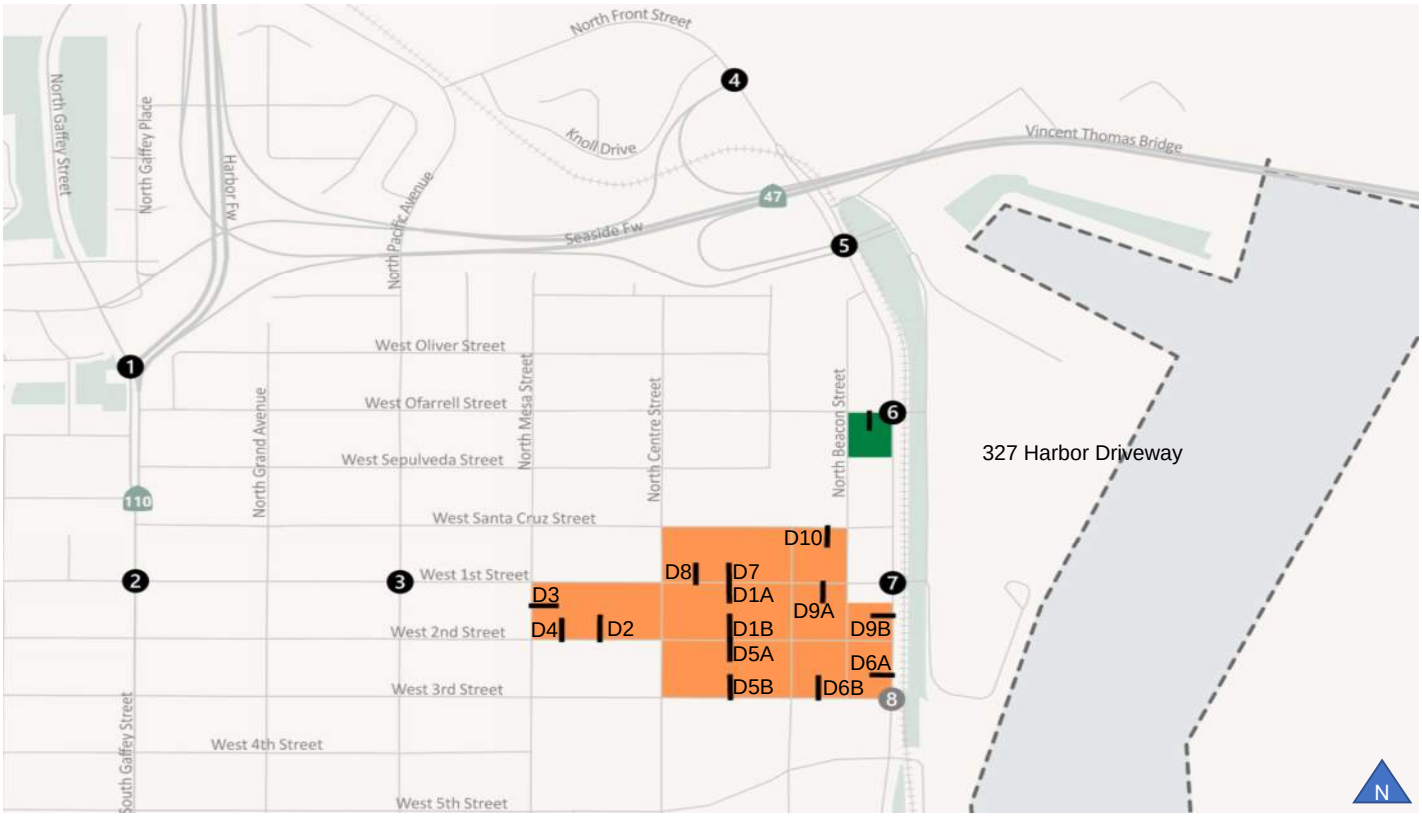
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

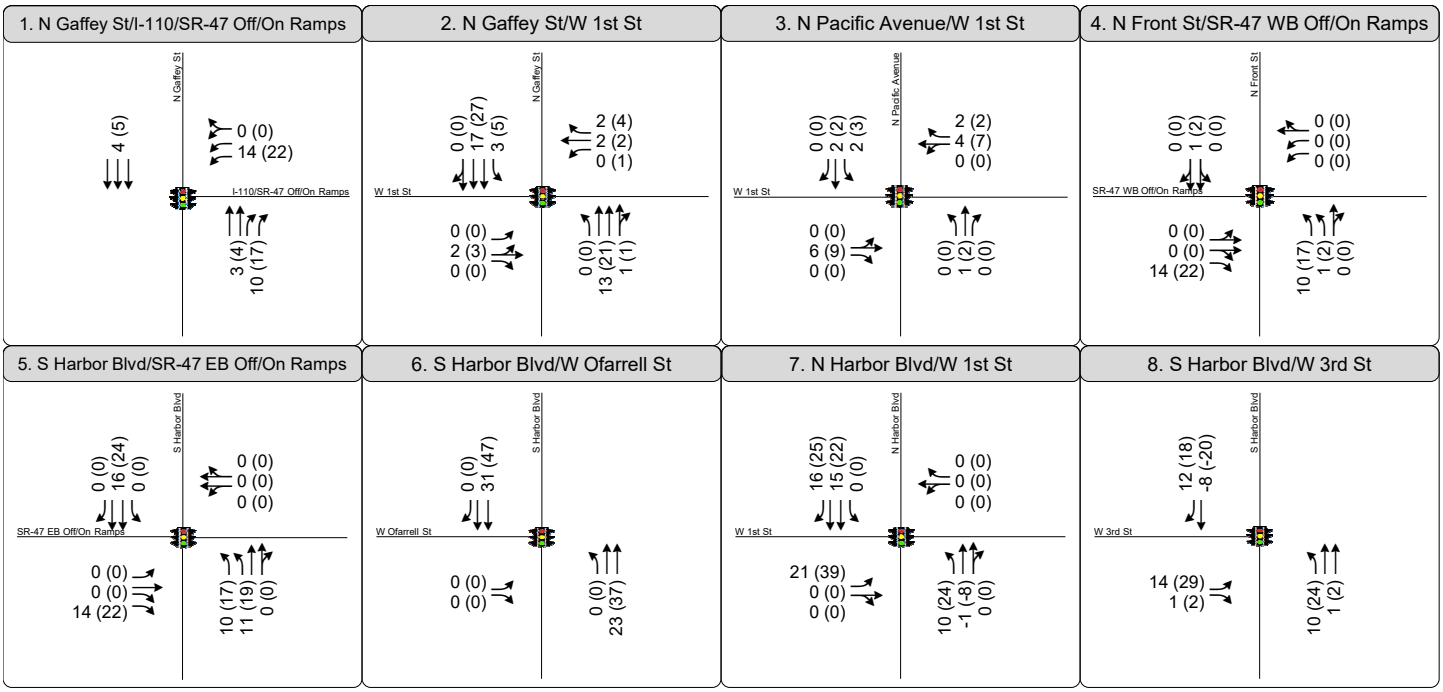
Attachment 8L

Peak Hour Traffic Volumes and Lane Configurations

Project Only, Planning Area A & B & 327 Harbor Site - Residential Trips

One San Pedro Front-Loaded Scenario



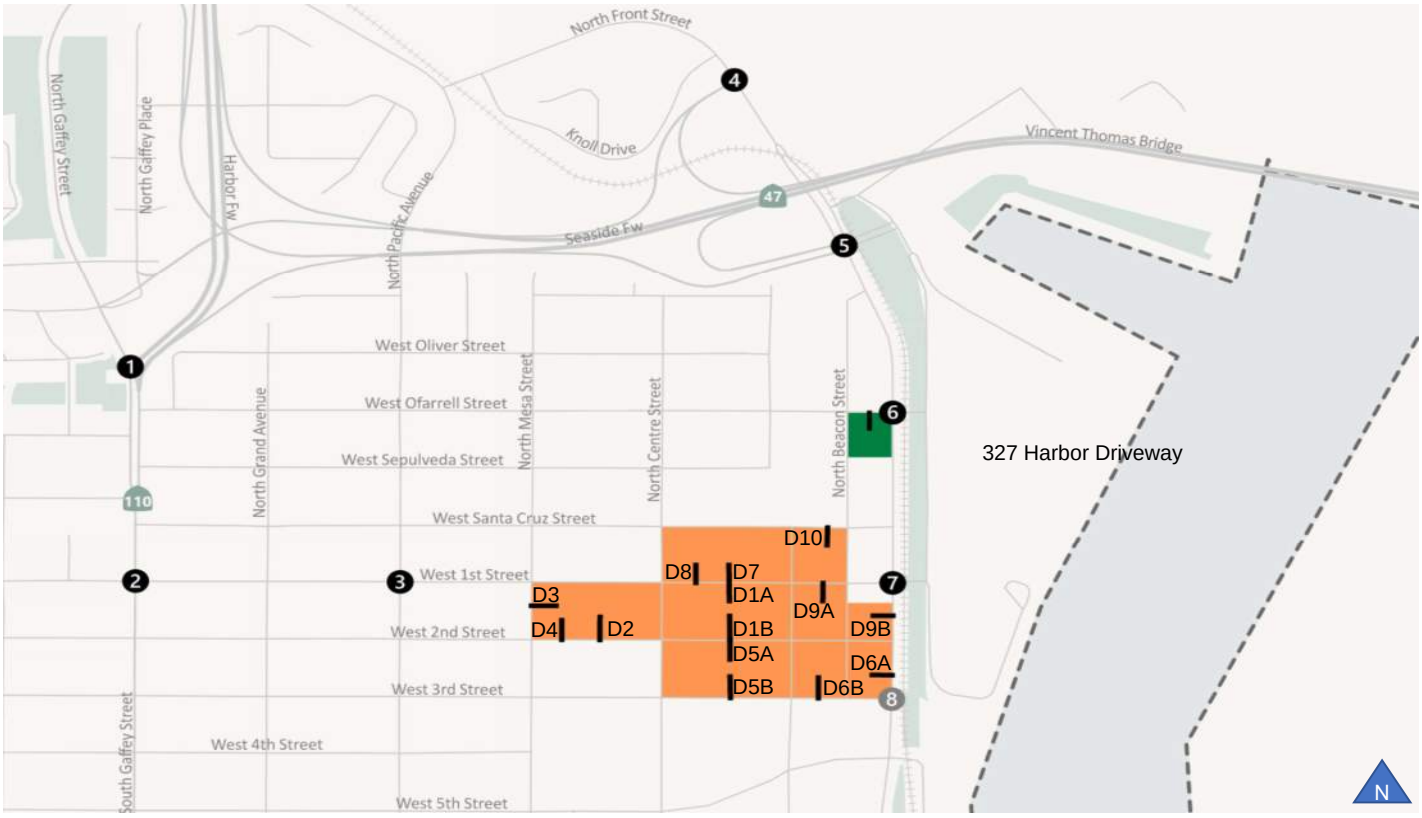


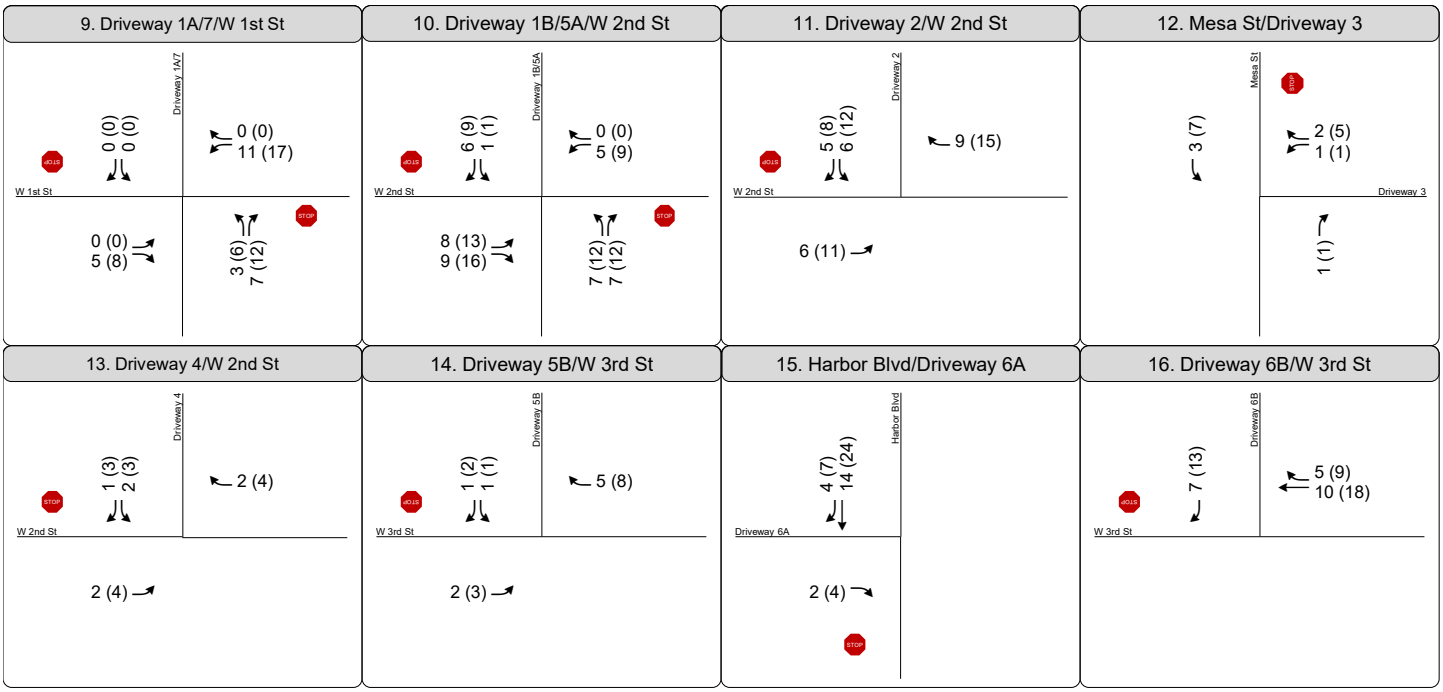
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8M

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & B & 327 Harbor Site - Retail Trips
One San Pedro Front-Loaded Scenario





LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8M

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & B & 327 Harbor Site - Retail Trips
One San Pedro Front-Loaded Scenario

327 Harbor Driveway

D10

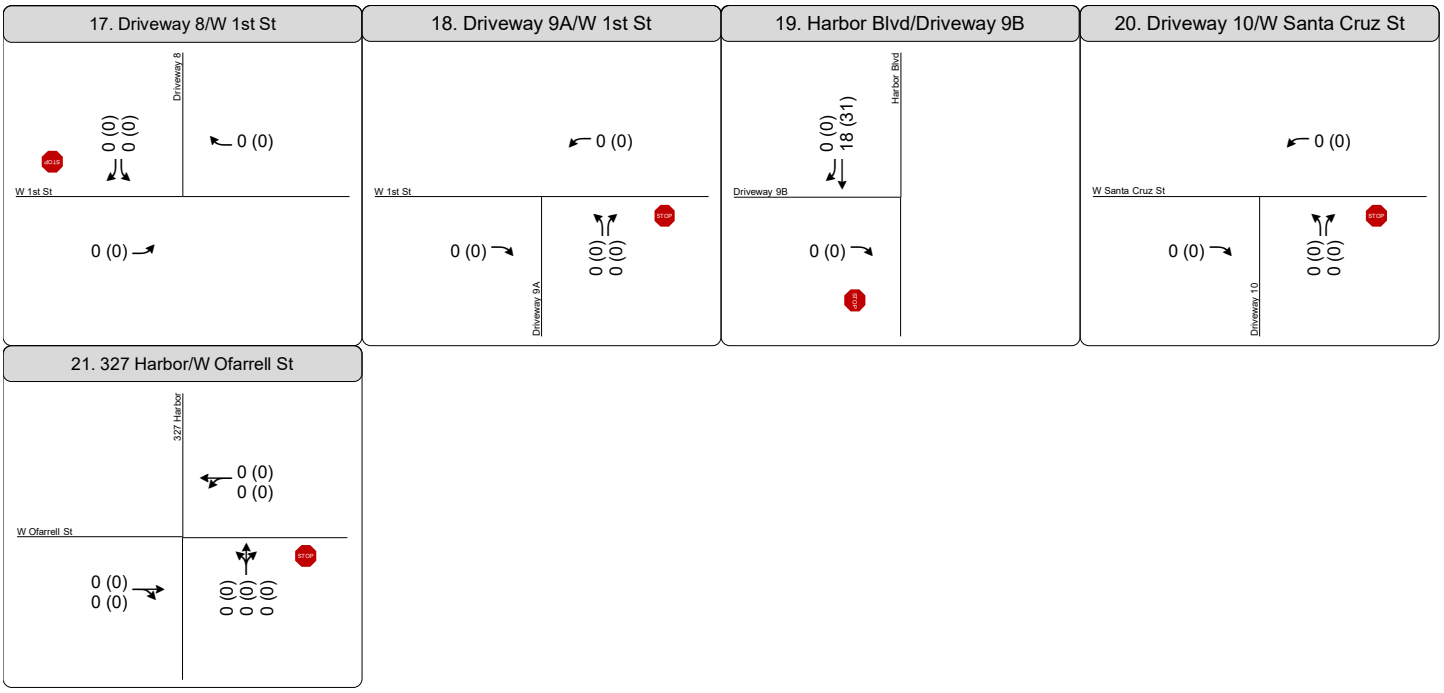
D8 D7

D3 D1A D9A

D4 D2 D1B D9B

D5A D6A

D5B D6B

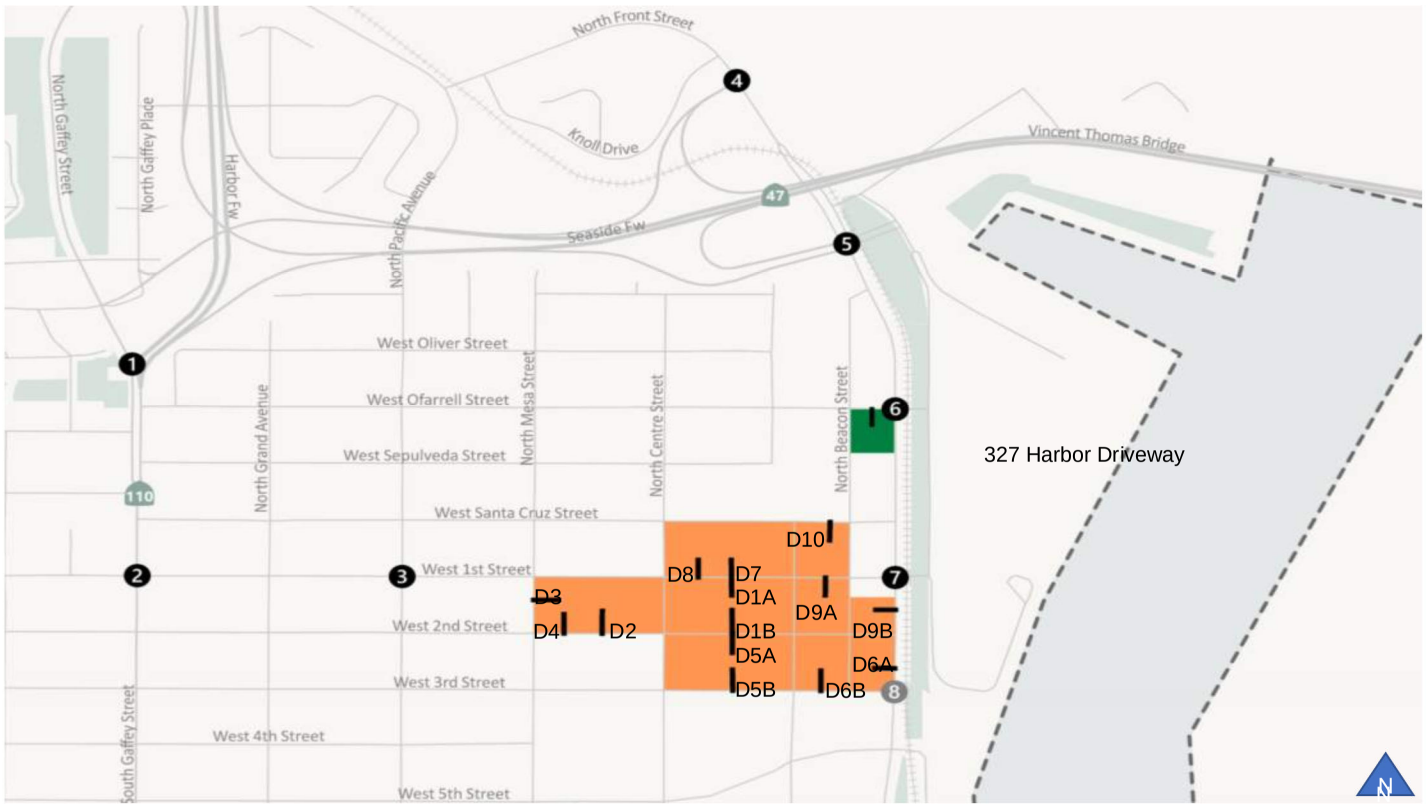


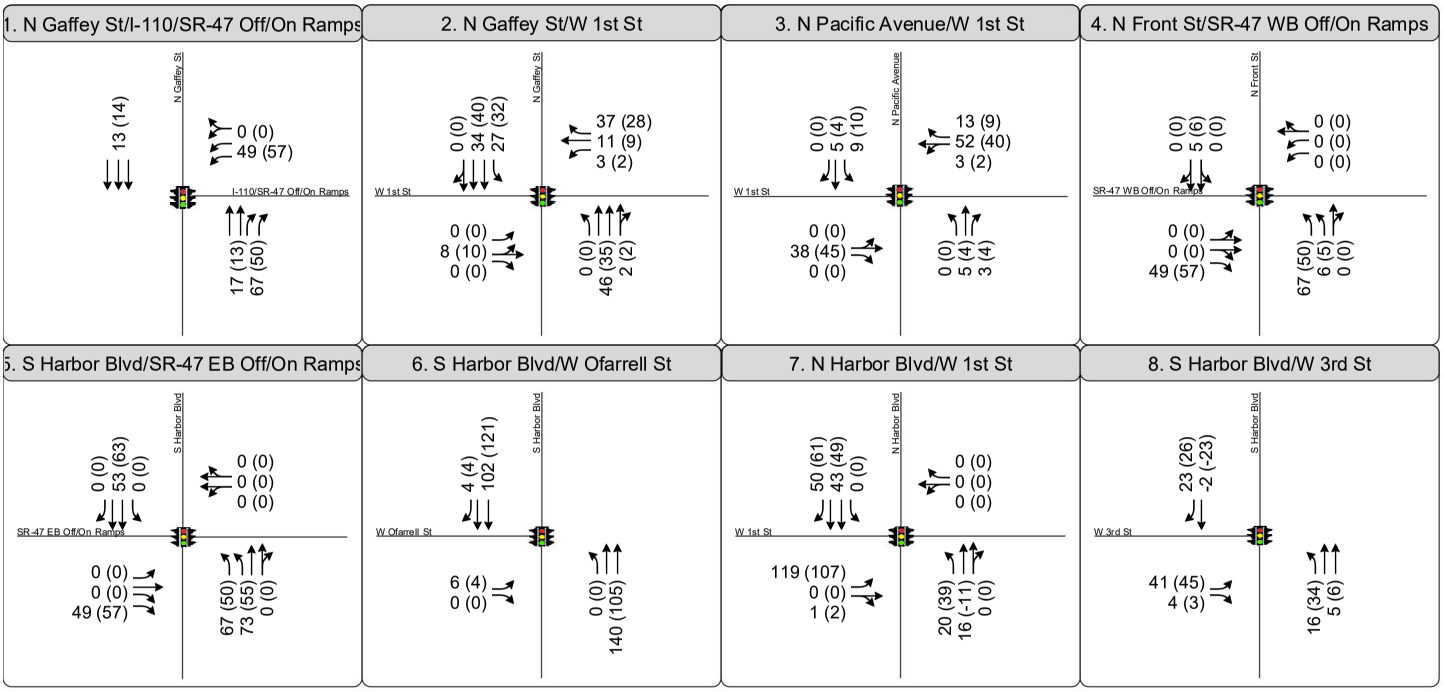
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#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8M

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Planning Area A & B & 327 Harbor Site - Retail Trips
One San Pedro Front-Loaded Scenario



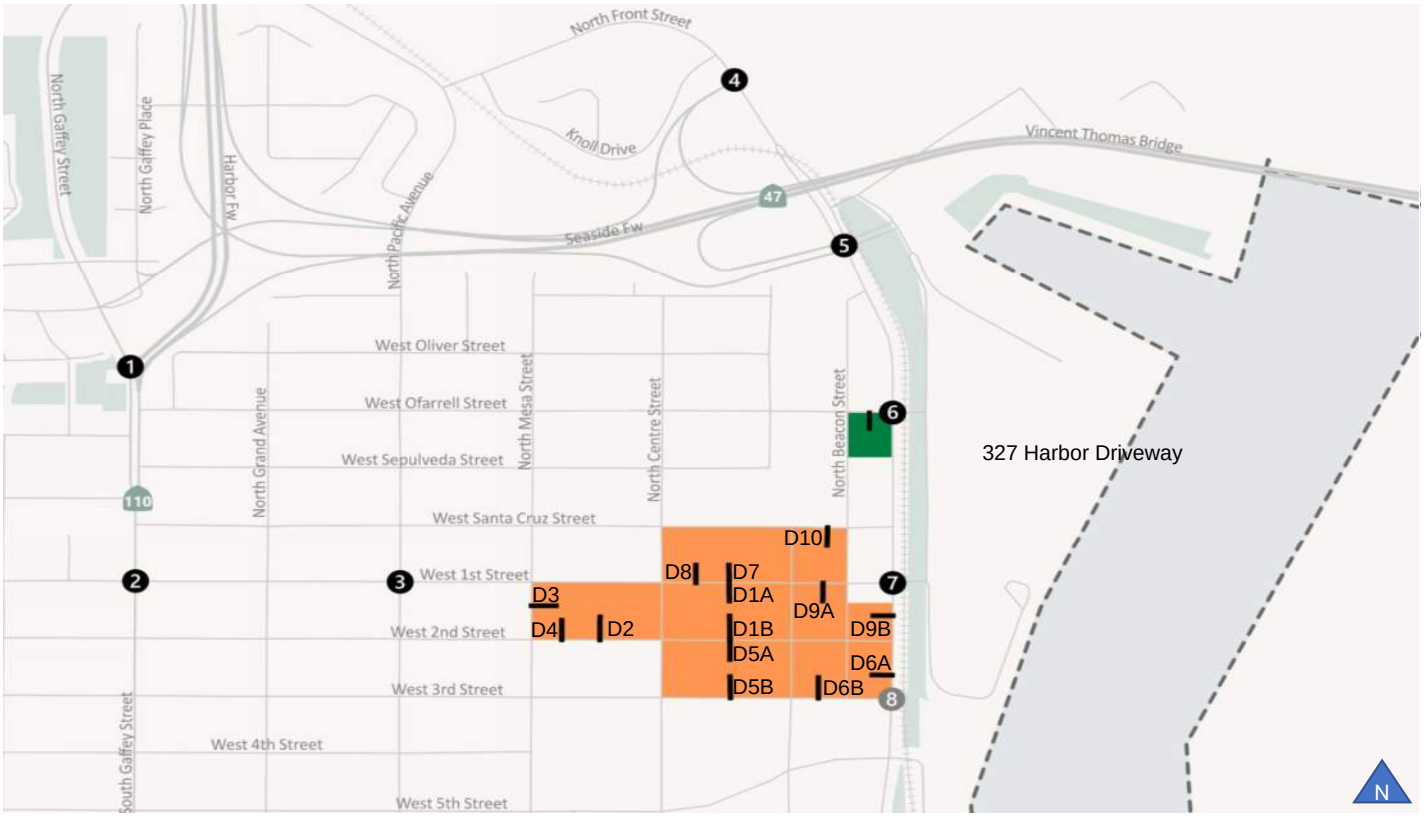


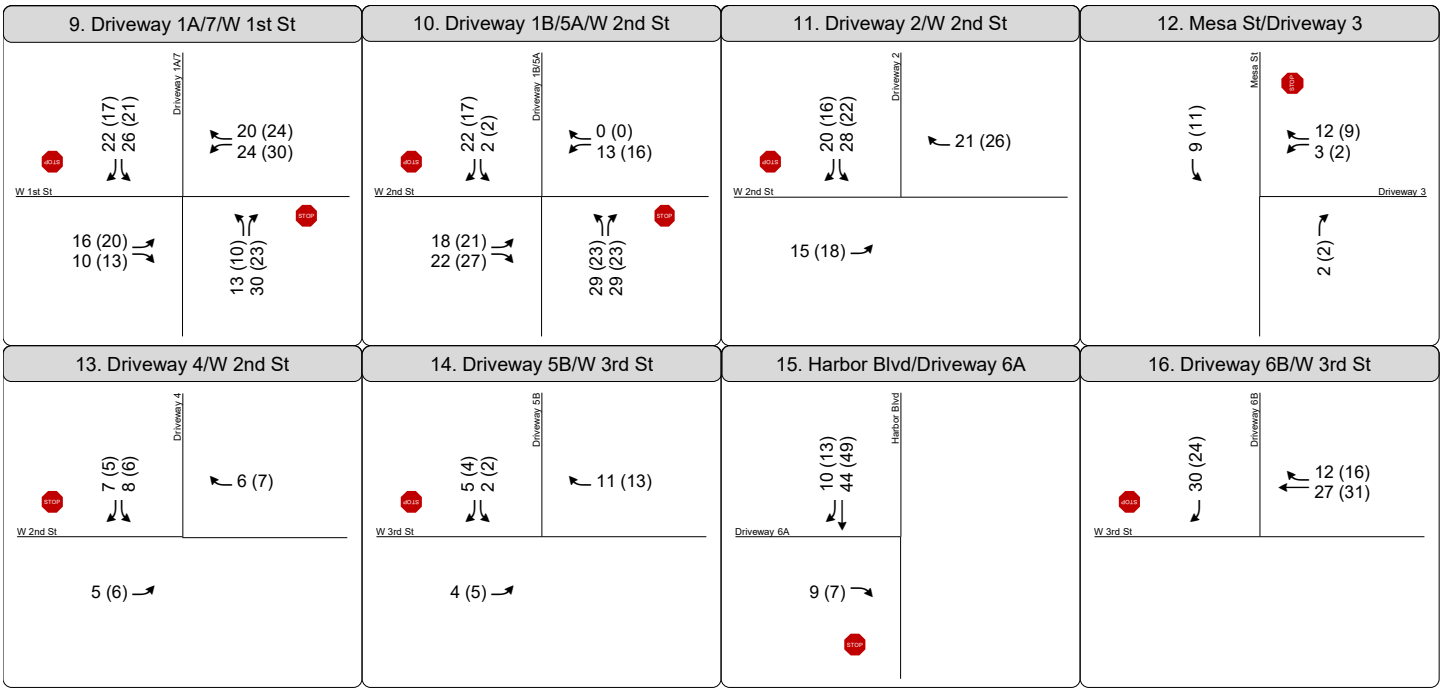
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#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8N

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - All Trips
One San Pedro Both Scenarios



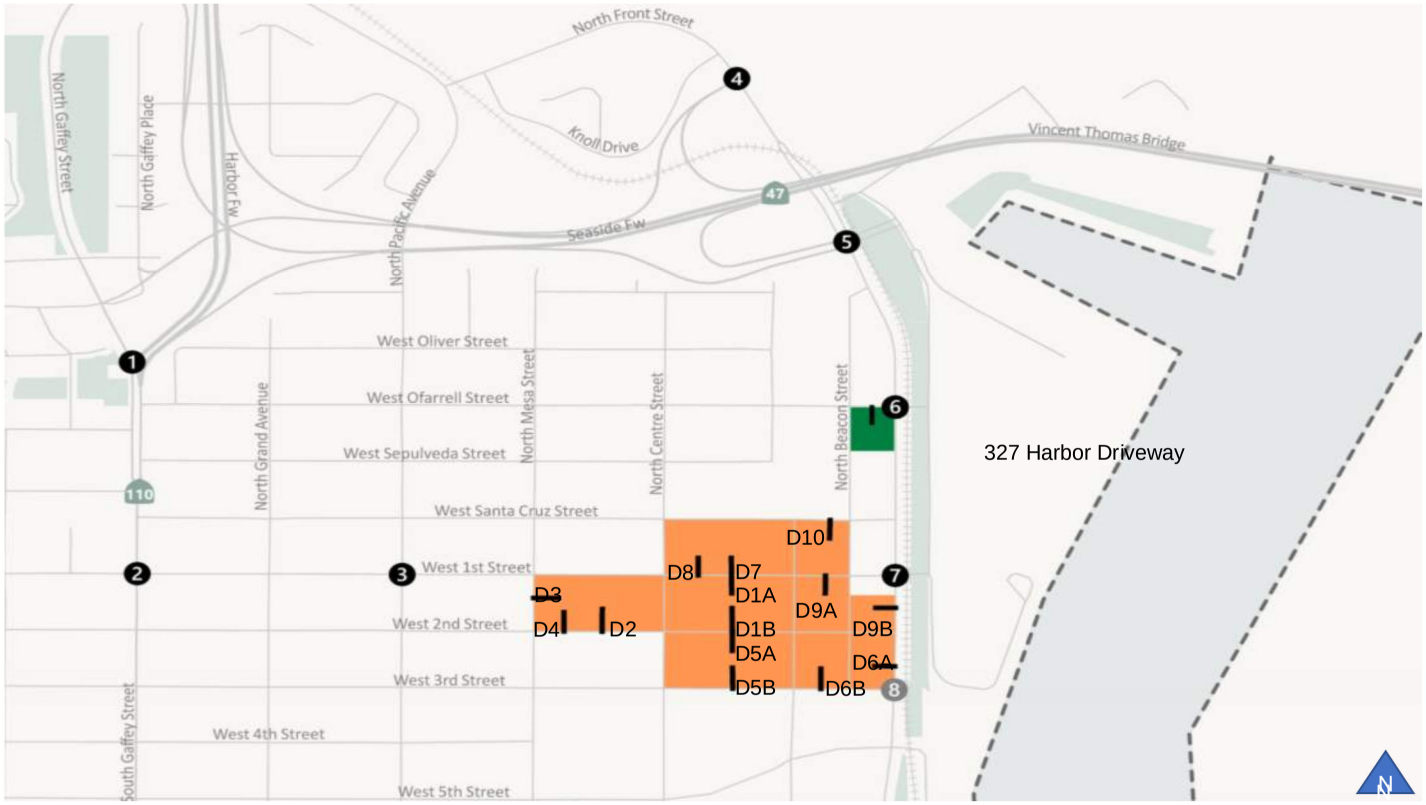


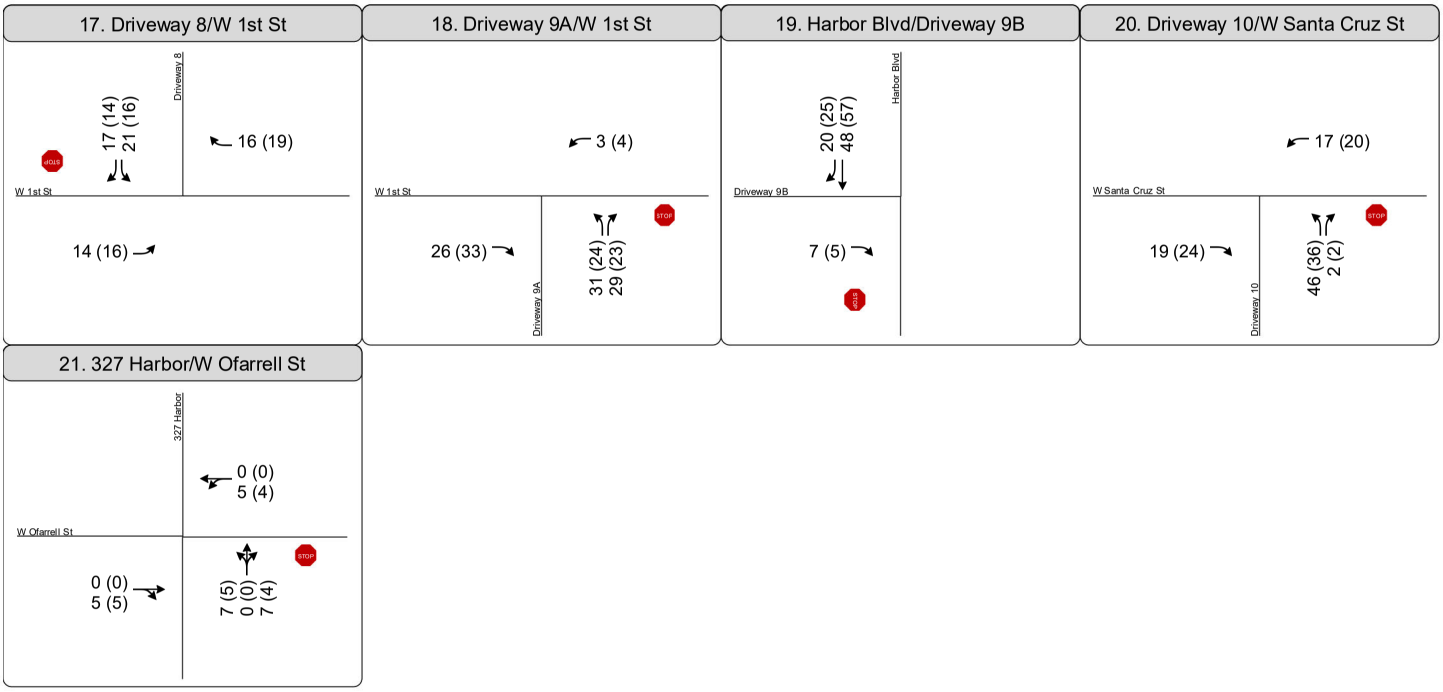
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- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8N

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - All Trips
One San Pedro Both Scenarios



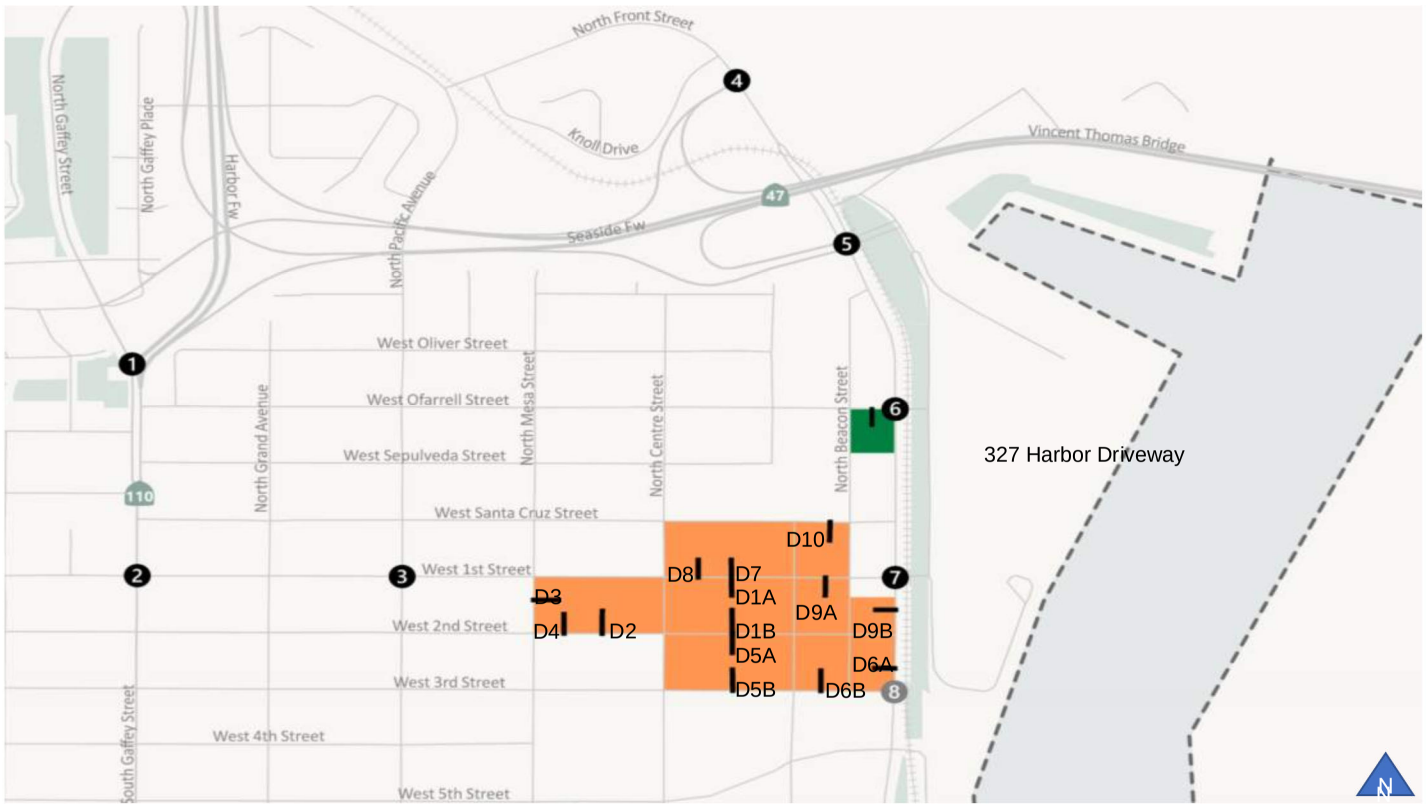


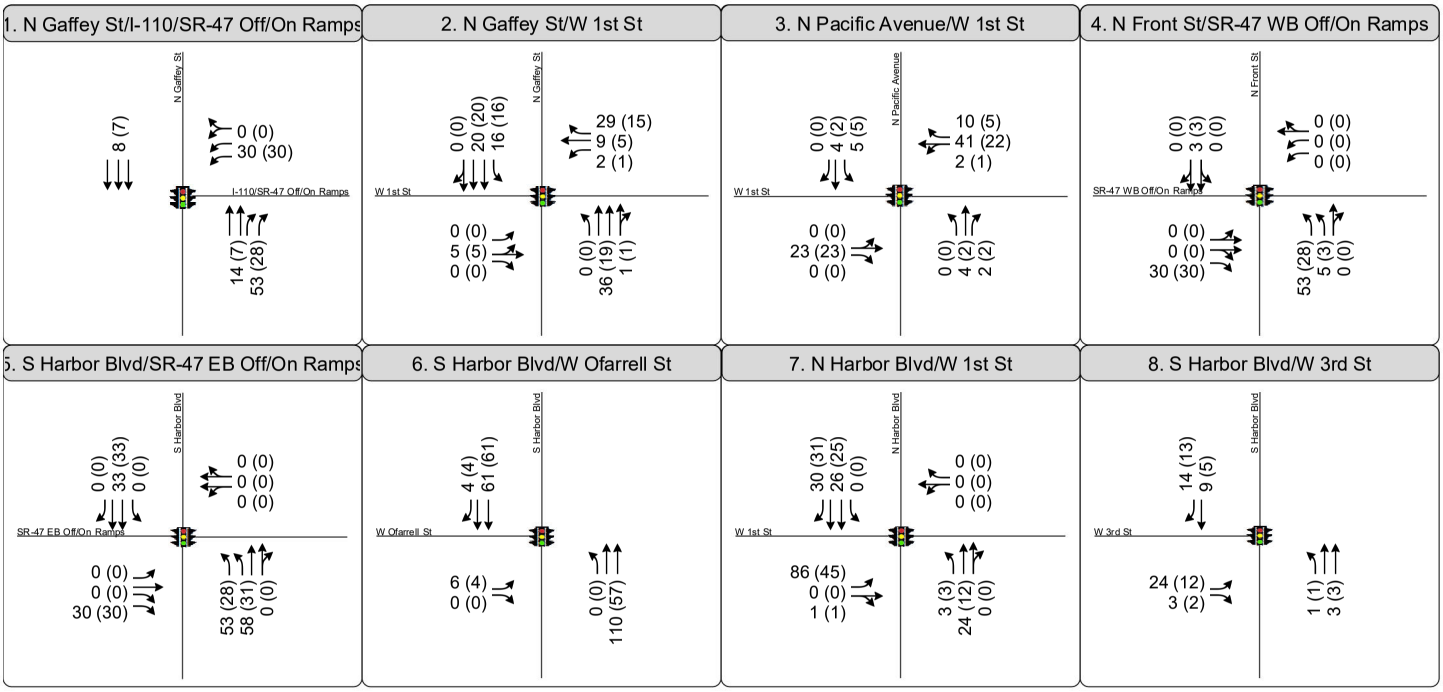
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#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8N

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - All Trips
One San Pedro Both Scenarios



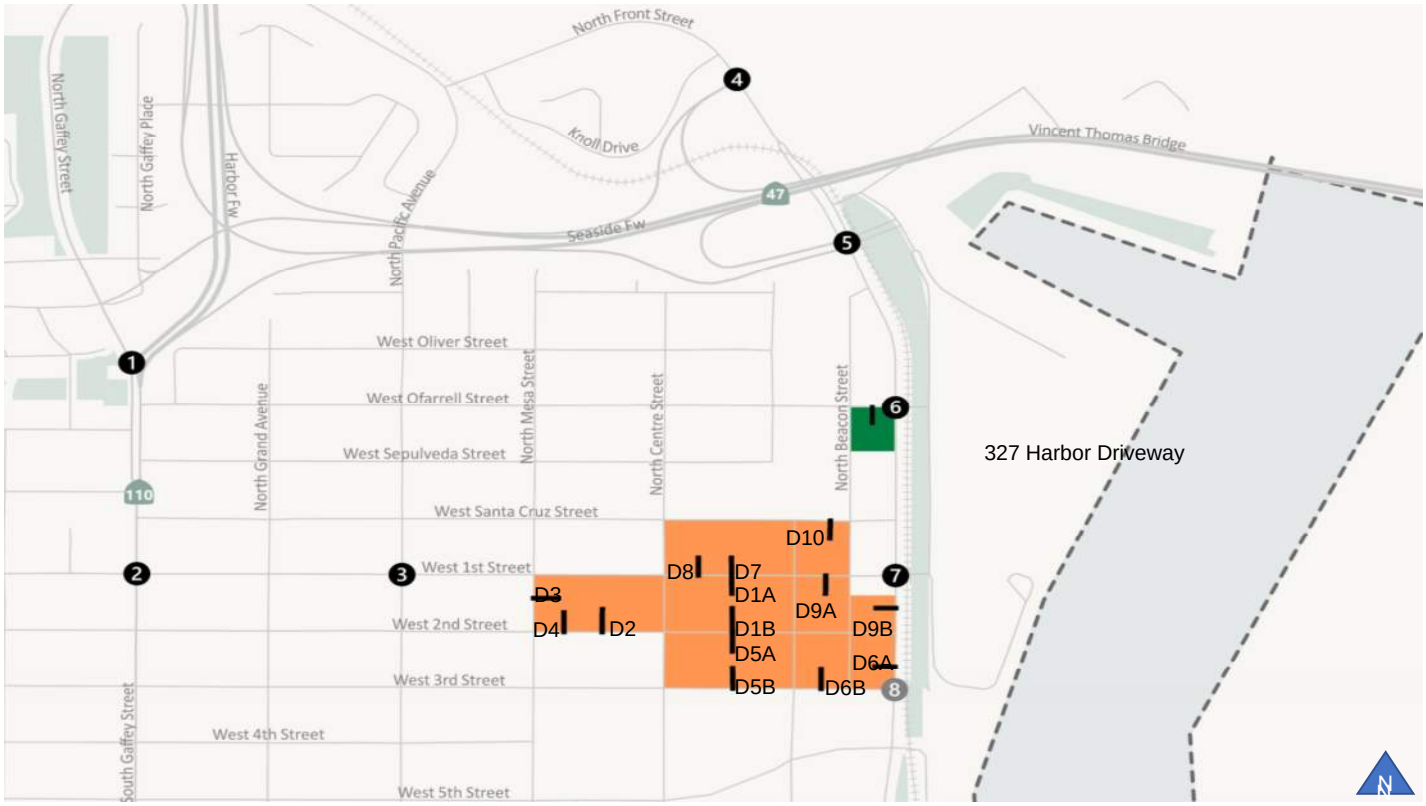


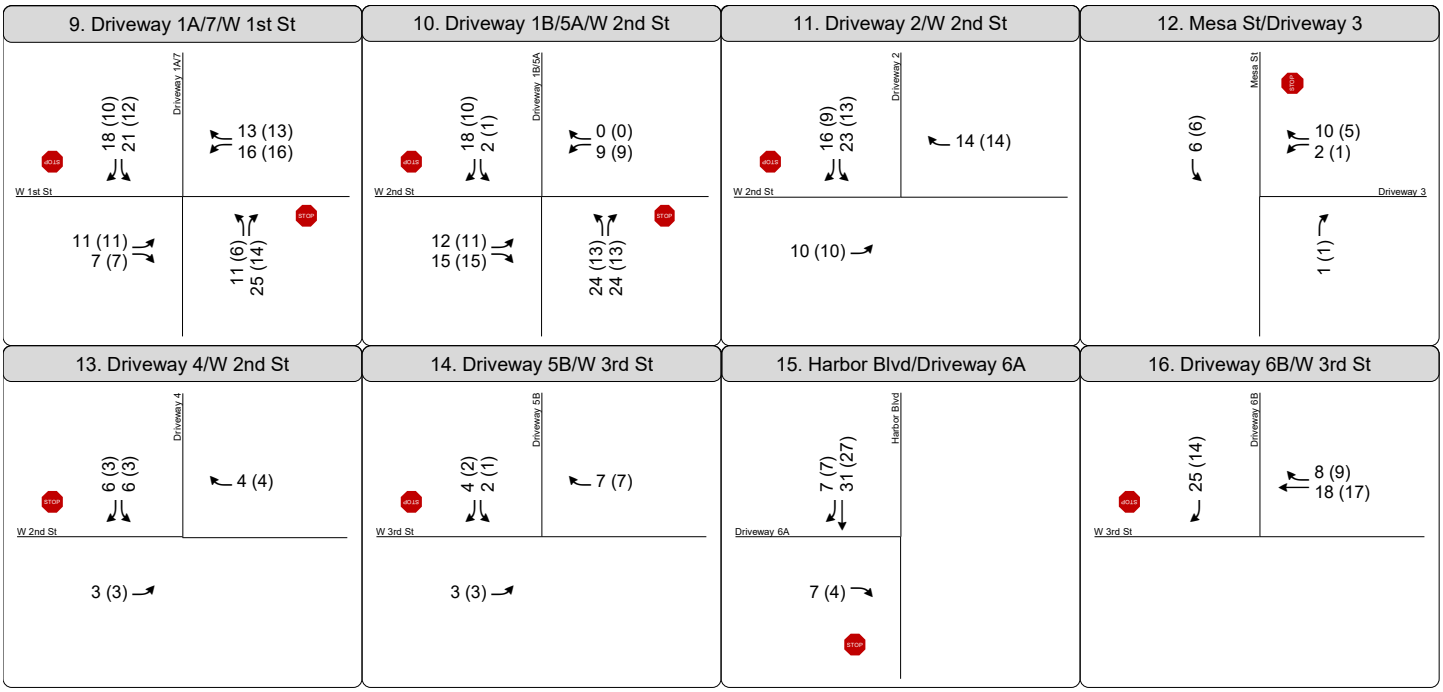
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8O

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - Residential Trips
One San Pedro Both Scenarios



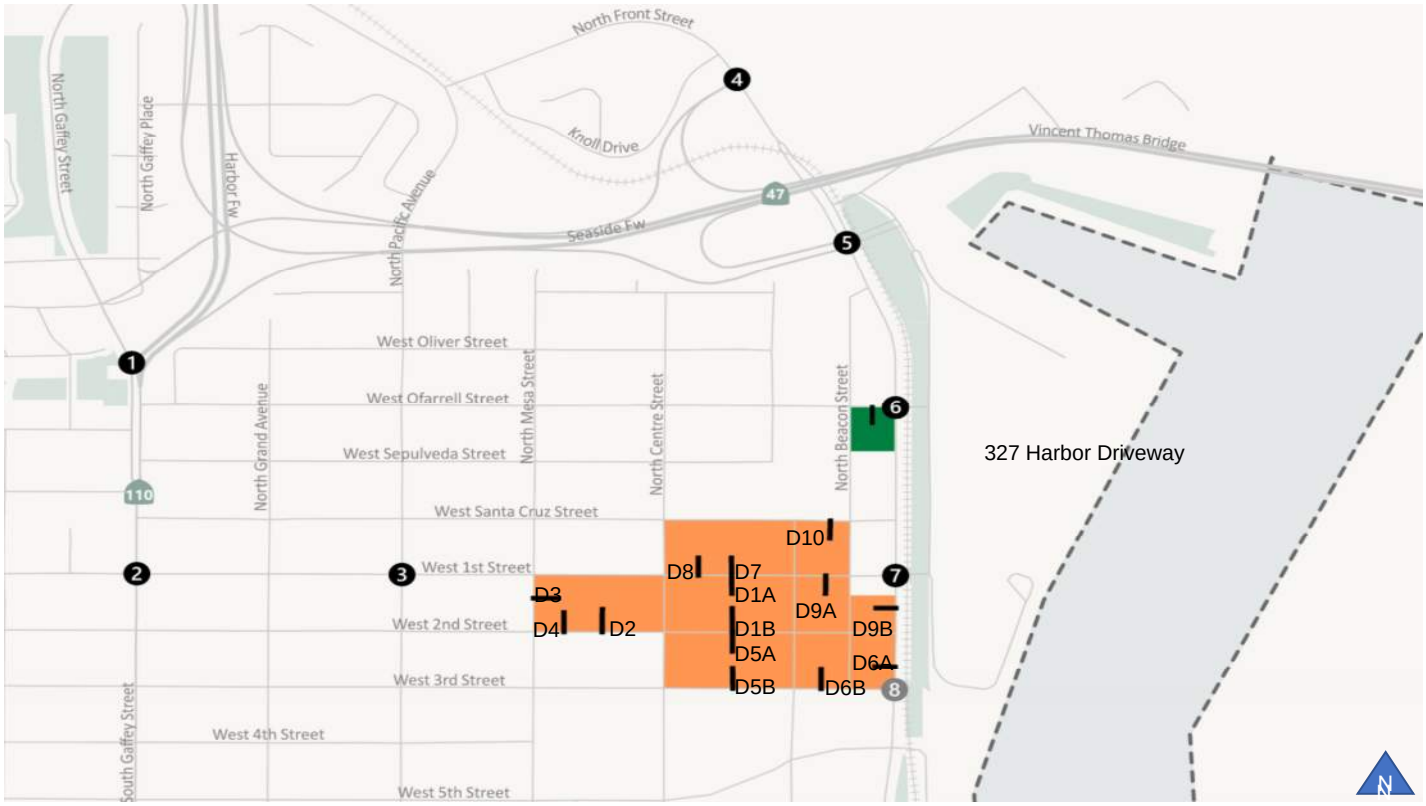


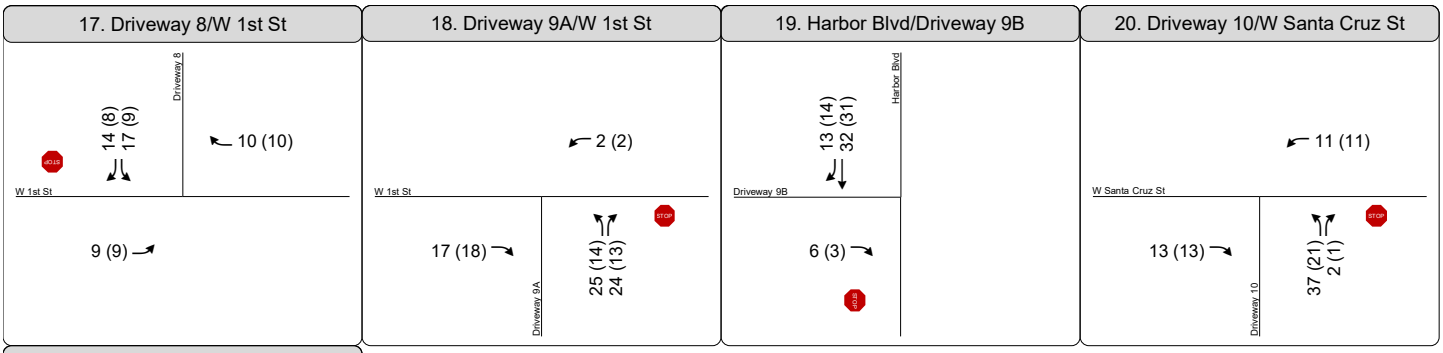
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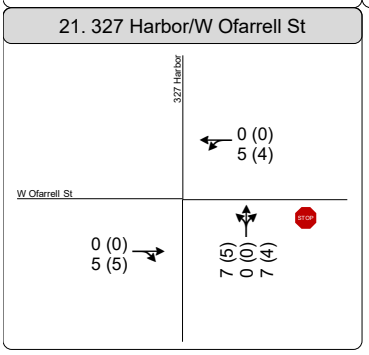
#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8O

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - Residential Trips
One San Pedro Both Scenarios





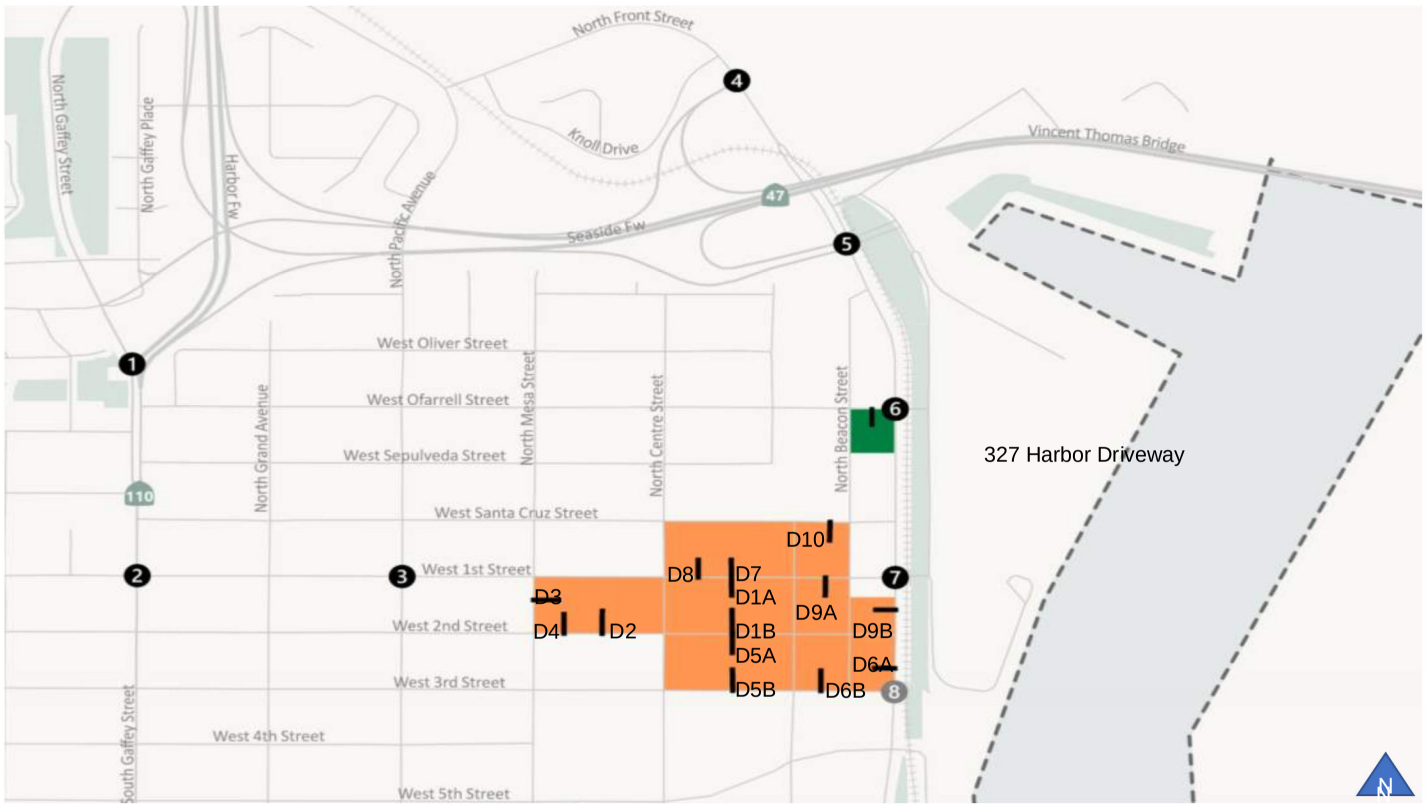


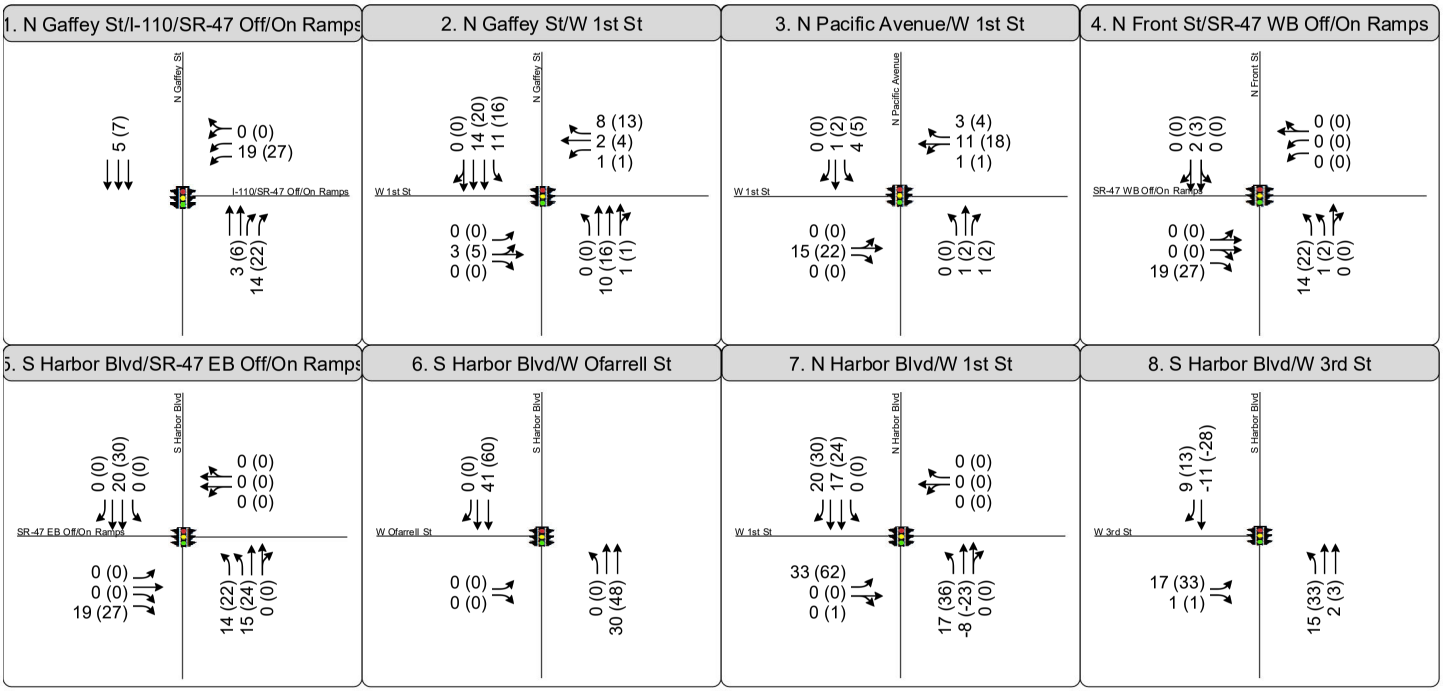
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8O

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - Residential Trips
One San Pedro Both Scenarios



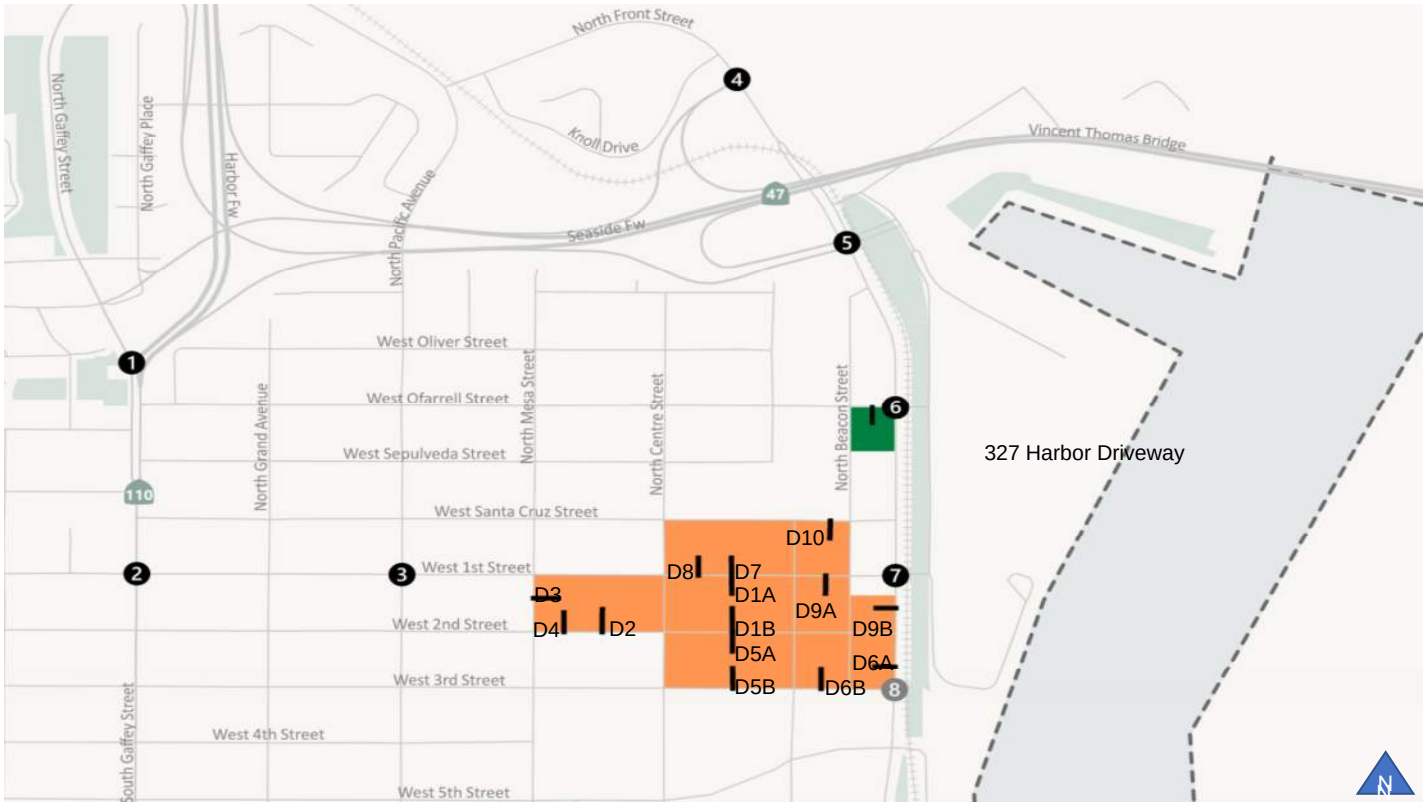


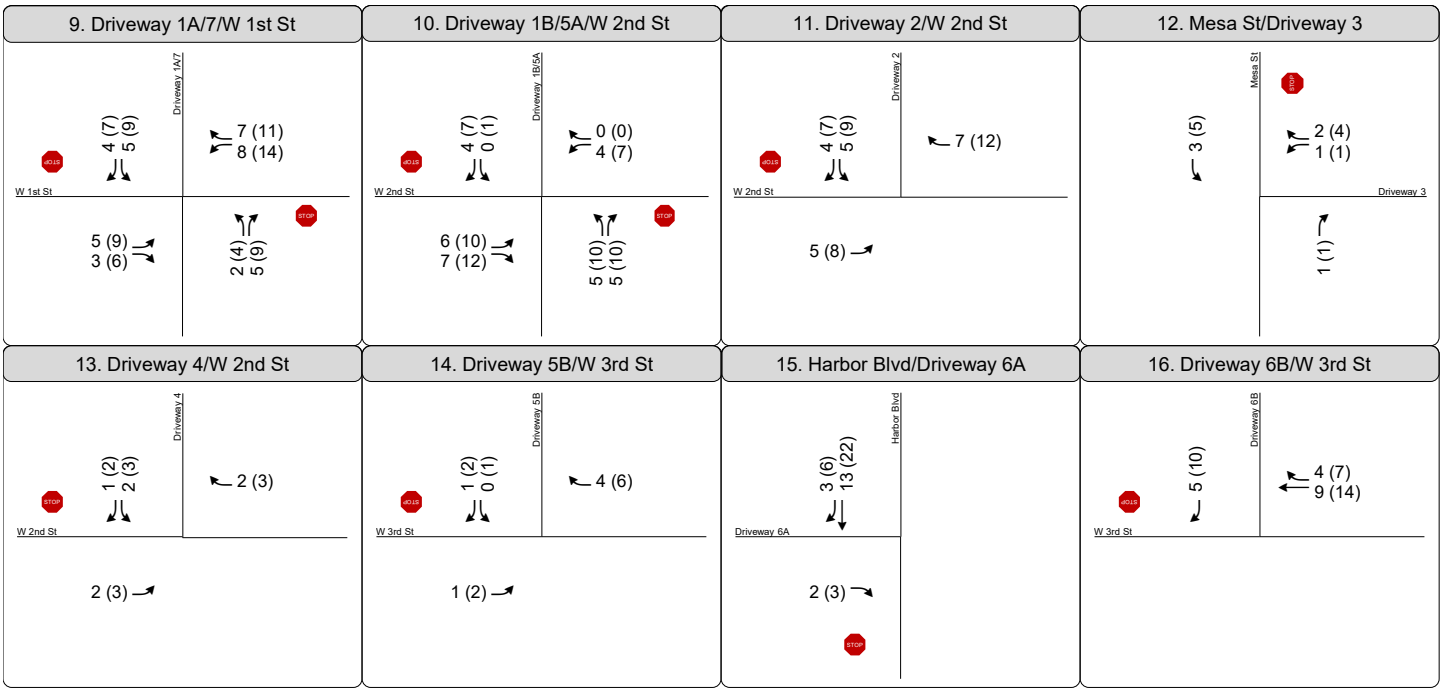
LEGEND

- (#) Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8P

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - Retail Trips
One San Pedro Both Scenarios



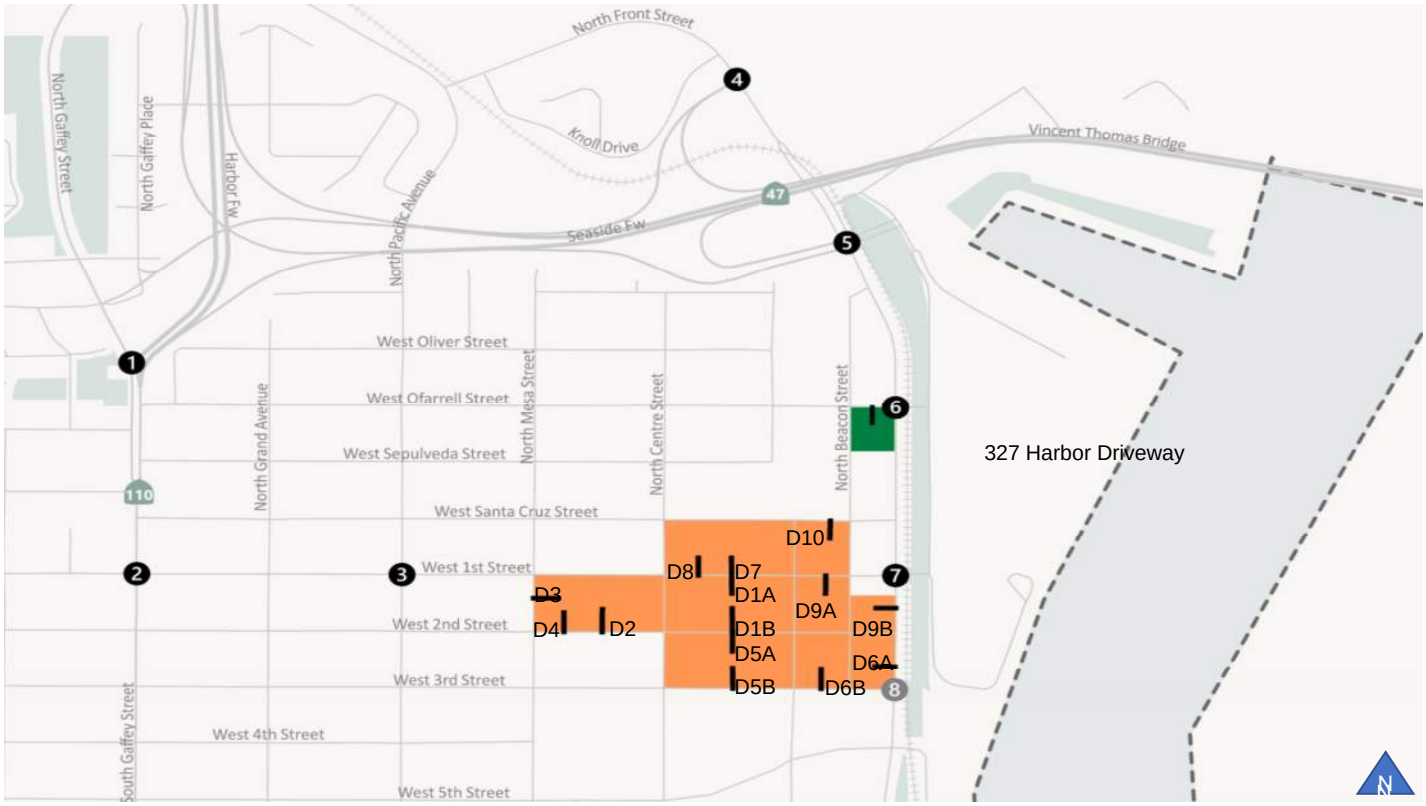


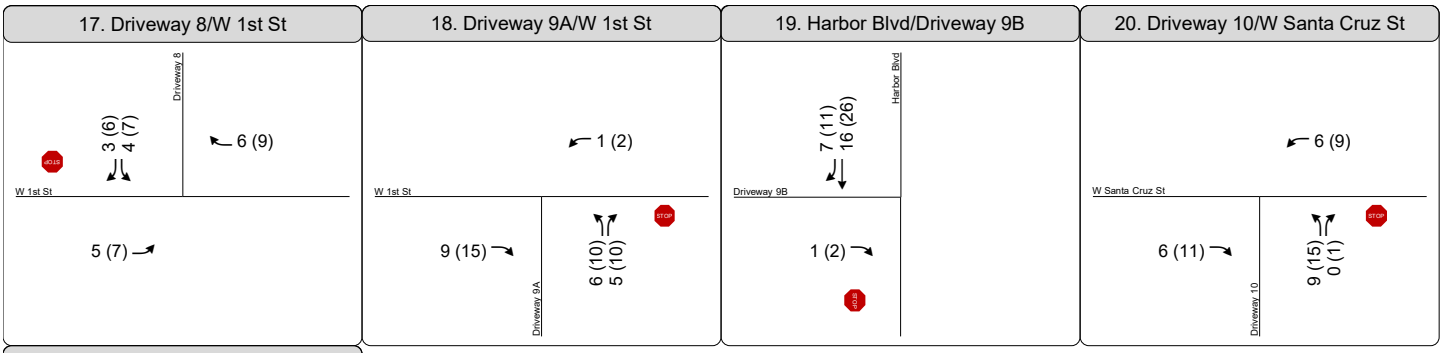
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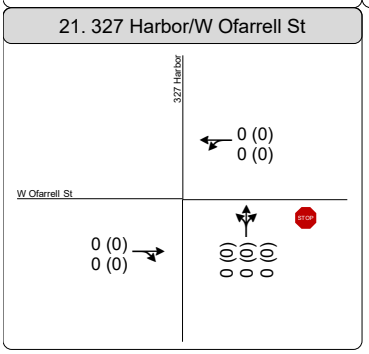
- (#) Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Attachment 8P

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - Retail Trips
One San Pedro Both Scenarios





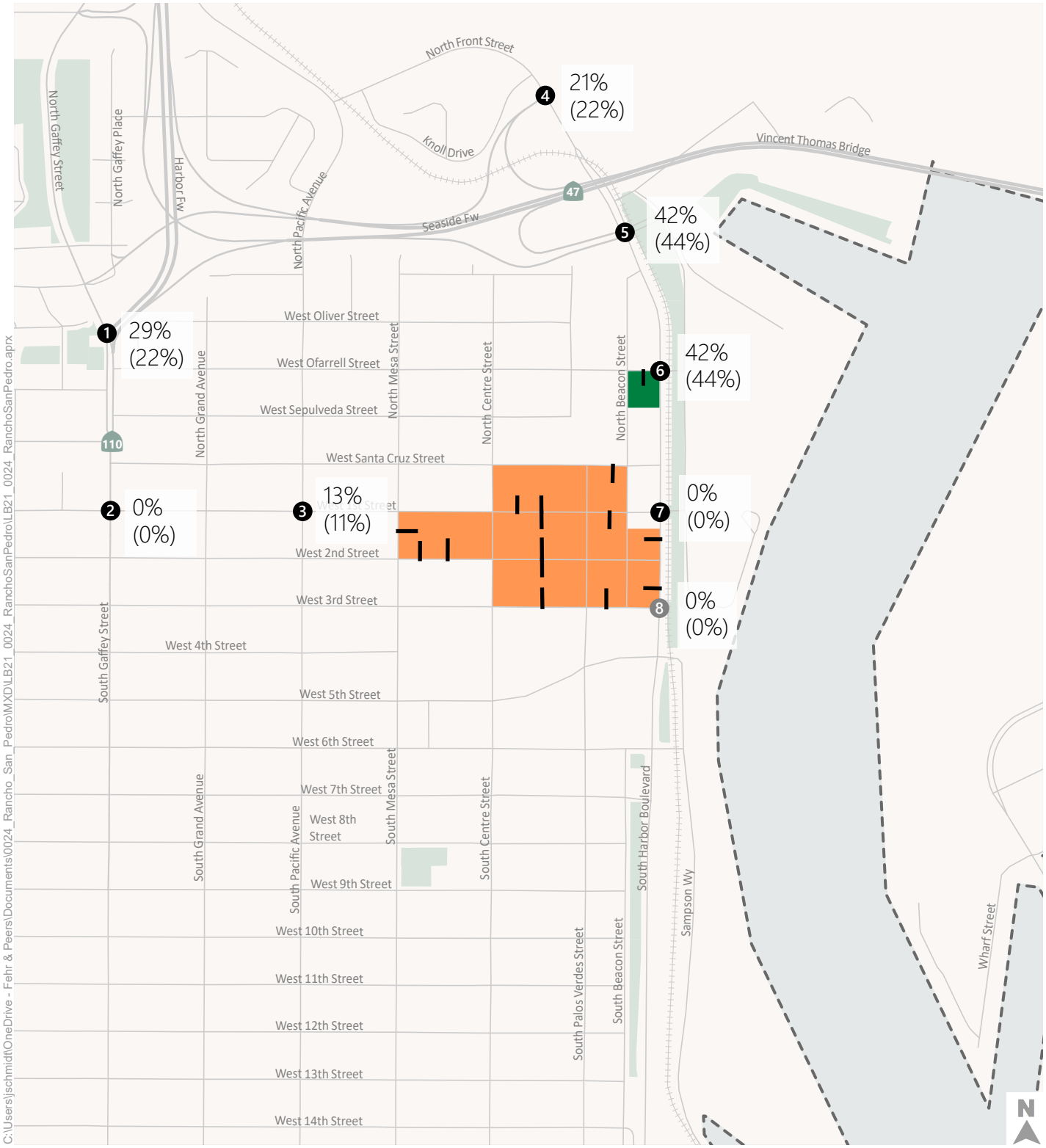


LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Attachment 8P

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout & 327 Harbor Site - Retail Trips
One San Pedro Both Scenarios



Main Project Site

327 Harbor Site

Signalized Study Intersection

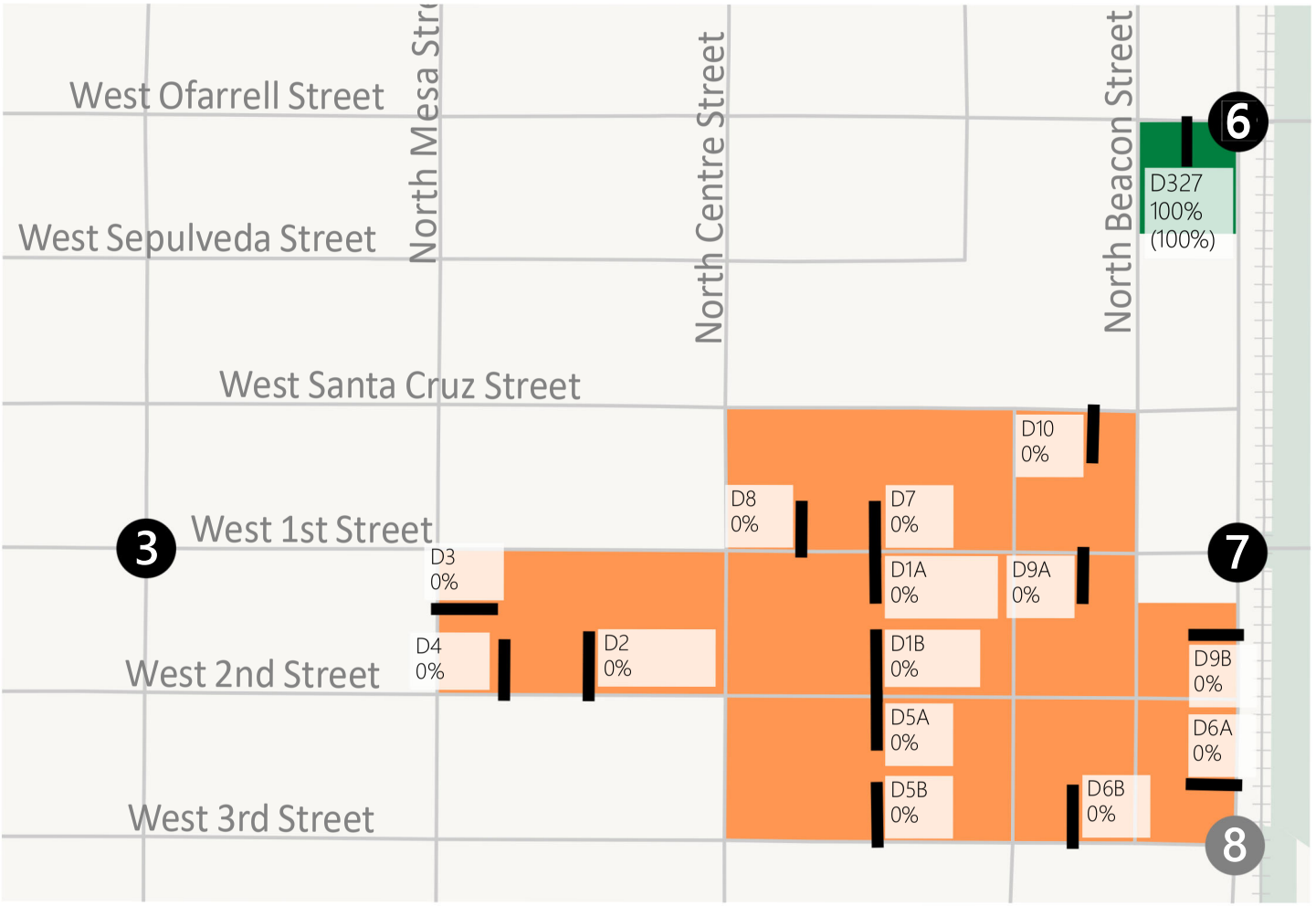
Unsignalized Study Intersection

Project Driveways

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.

Attachment 9A

Trip Distribution, 327 Harbor Site
Study Intersections
One San Pedro Both Scenarios



Main Project Site

327 Harbor Site

Signalized Study Intersection

Unsignalized Study Intersection

Project Driveways

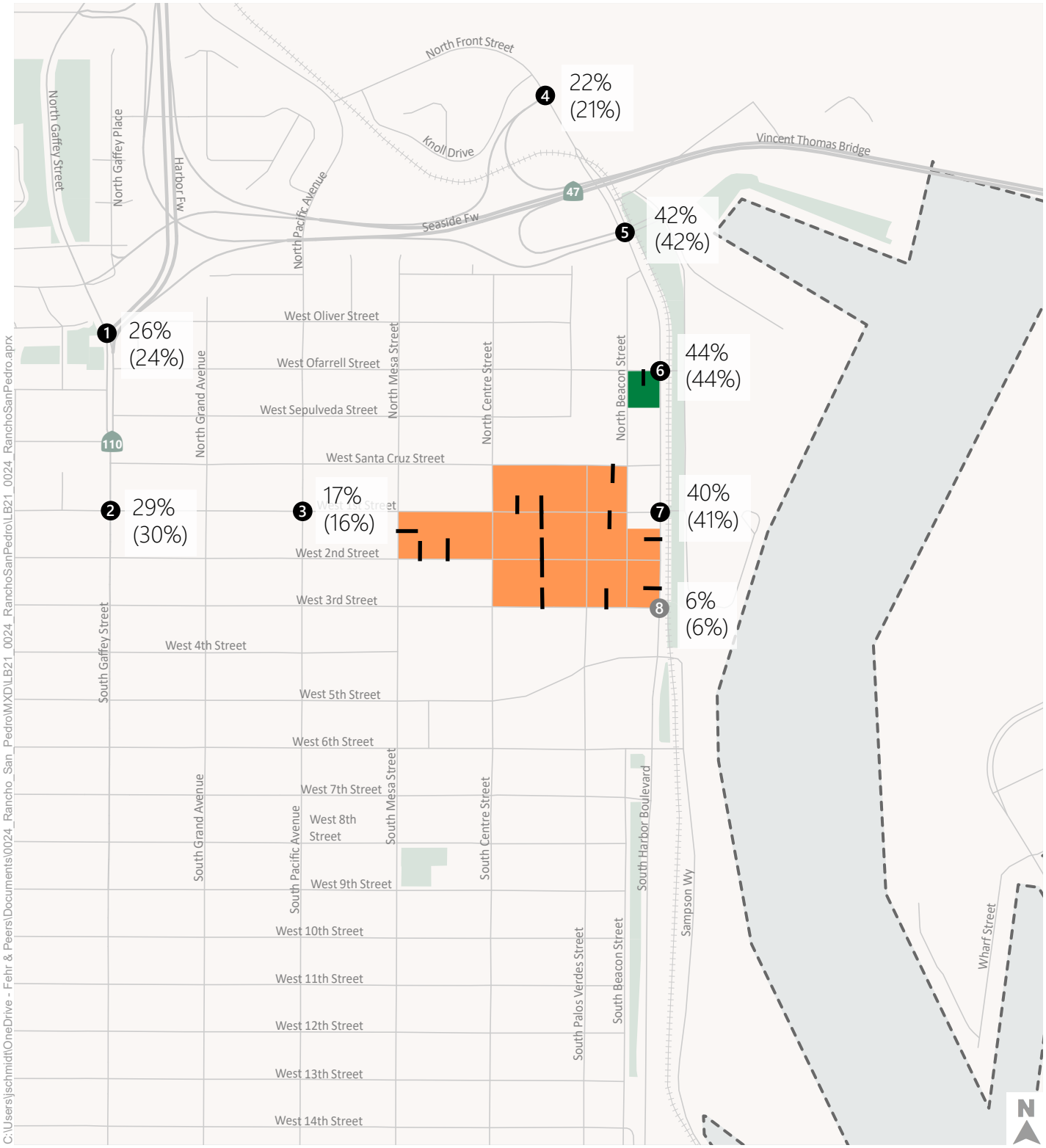
AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.
Also Note the percentages on the driveway figure only include in/out volumes at each driveway, and not project trips from other driveways passing by.

Attachment 9A

Figure 4

Trip Distribution, 327 Harbor Site
One San Pedro – Both Scenarios

Study Intersections
One San Pedro



Main Project Site

327 Harbor Site

Signalized Study Intersection

Unsignalized Study Intersection

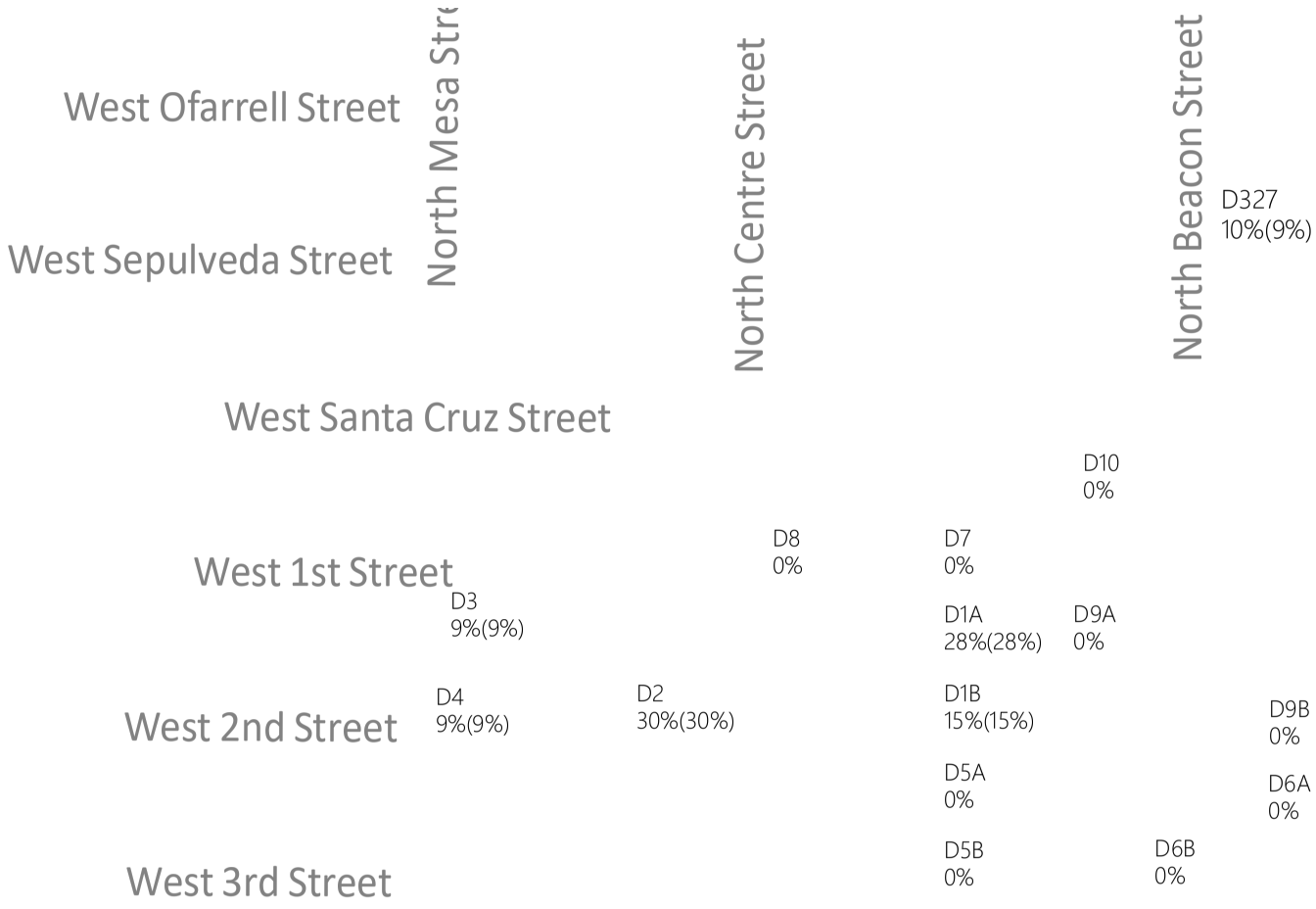
Project Driveways

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.

Attachment 9B

Trip Distribution, Planning Area A & 327 Harbor Site
One San Pedro Specific Plan Scenario

Study Intersections



Main Project Site | Signalized Study Intersection | Unsignalized Study Intersection | Project Driveways

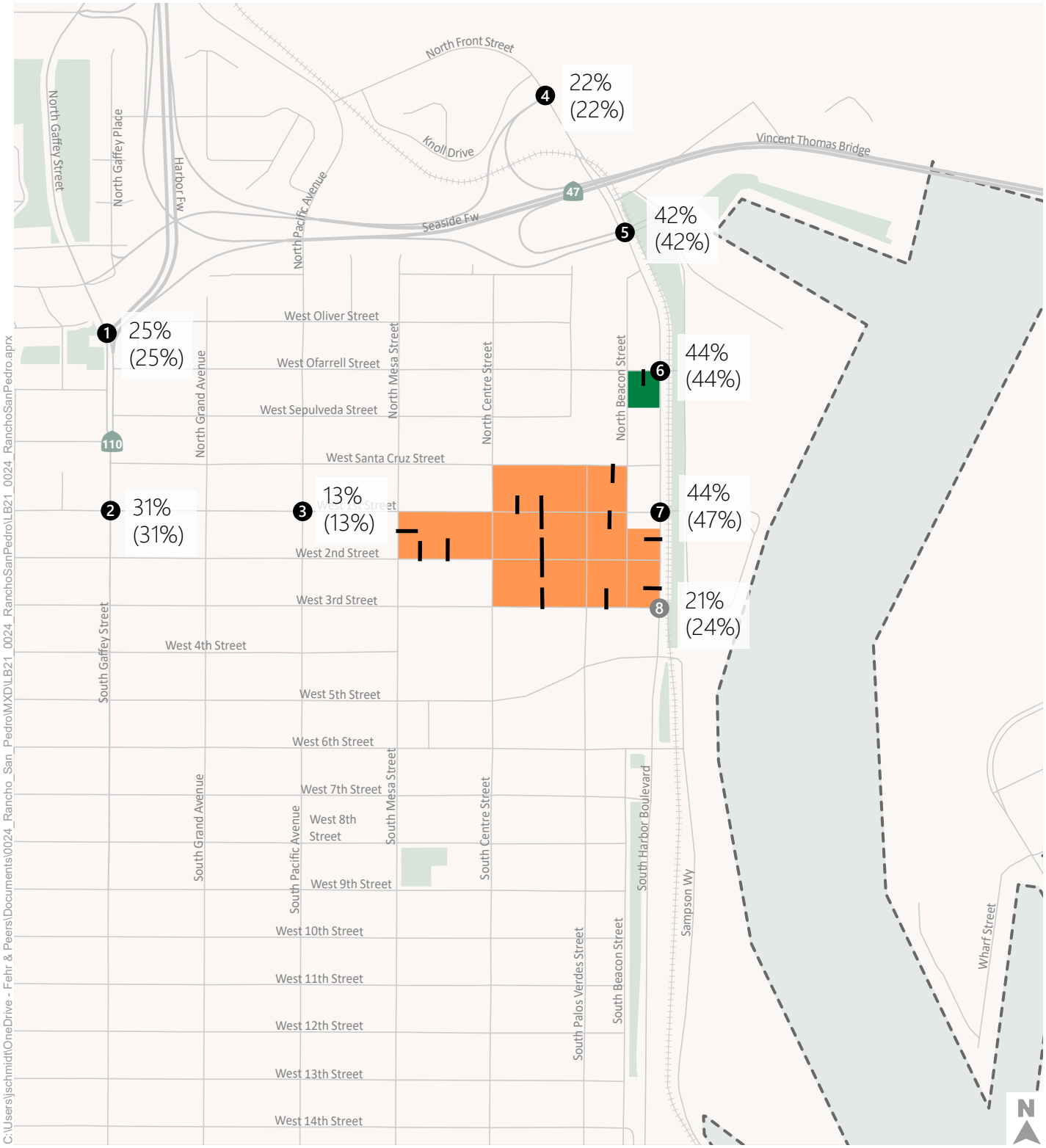
327 Harbor Site

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.
Also Note the percentages on the driveway figure only include in/out volumes at each driveway, and not project trips from other driveways passing by.

Attachment 9B
Figure 1

Trip Distribution, Planning Area A & 327 Harbor Site
One San Pedro Specific Plan Scenario

Study Intersections
One San Pedro



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Main Project Site

327 Harbor Site

Signalized Study Intersection

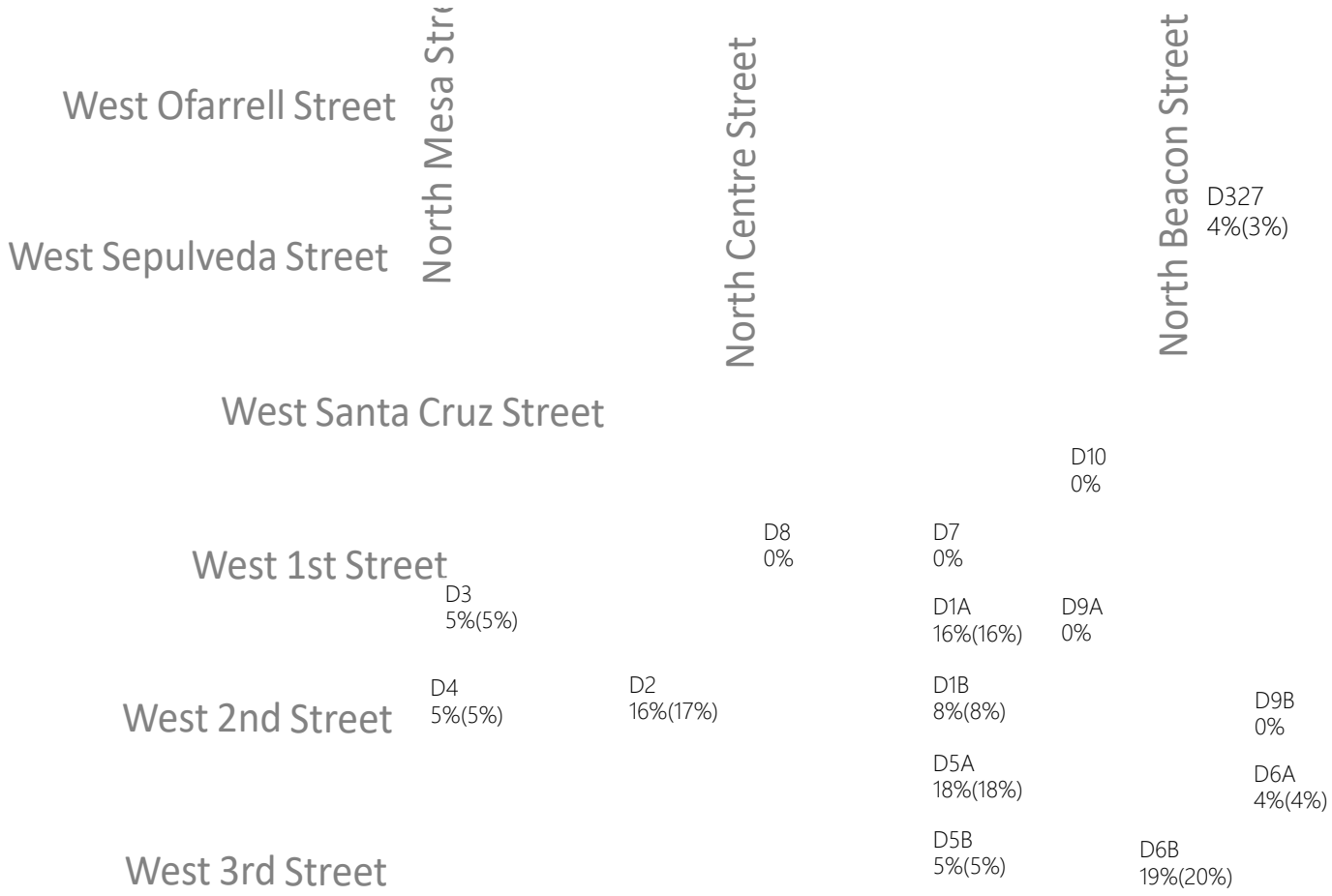
Unsignalized Study Intersection

Project Driveways

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.

Attachment 9C

Trip Distribution, Planning Areas A & B & 327 Harbor Site
One San Pedro Specific Plan Scenario



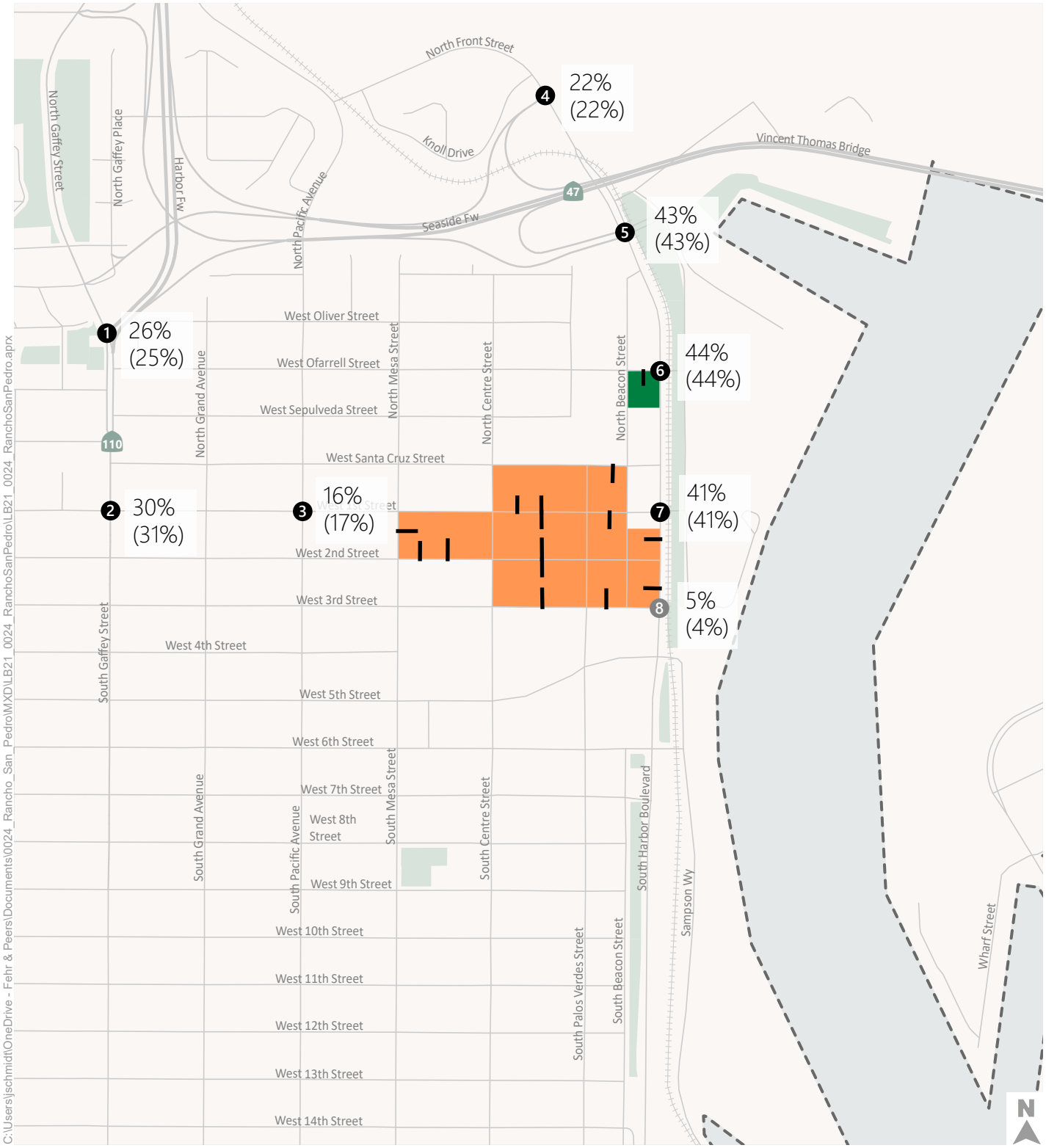
Main Project Site | Signalized Study Intersection | Unsignalized Study Intersection | Project Driveways

327 Harbor Site

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.
Also Note the percentages on the driveway figure only include in/out volumes at each driveway, and not project trips from other driveways passing by.

Attachment 9C

Trip Distribution, Planning Areas A & B & 327 Harbor Site
One San Pedro Specific Plan Scenario



Main Project Site

327 Harbor Site

Signalized Study Intersection

Unsignalized Study Intersection

Project Driveways

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.

Attachment 9D

Trip Distribution, Planning Area A & 327 Harbor Site
One San Pedro Front-Loaded Scenario

Study Intersections



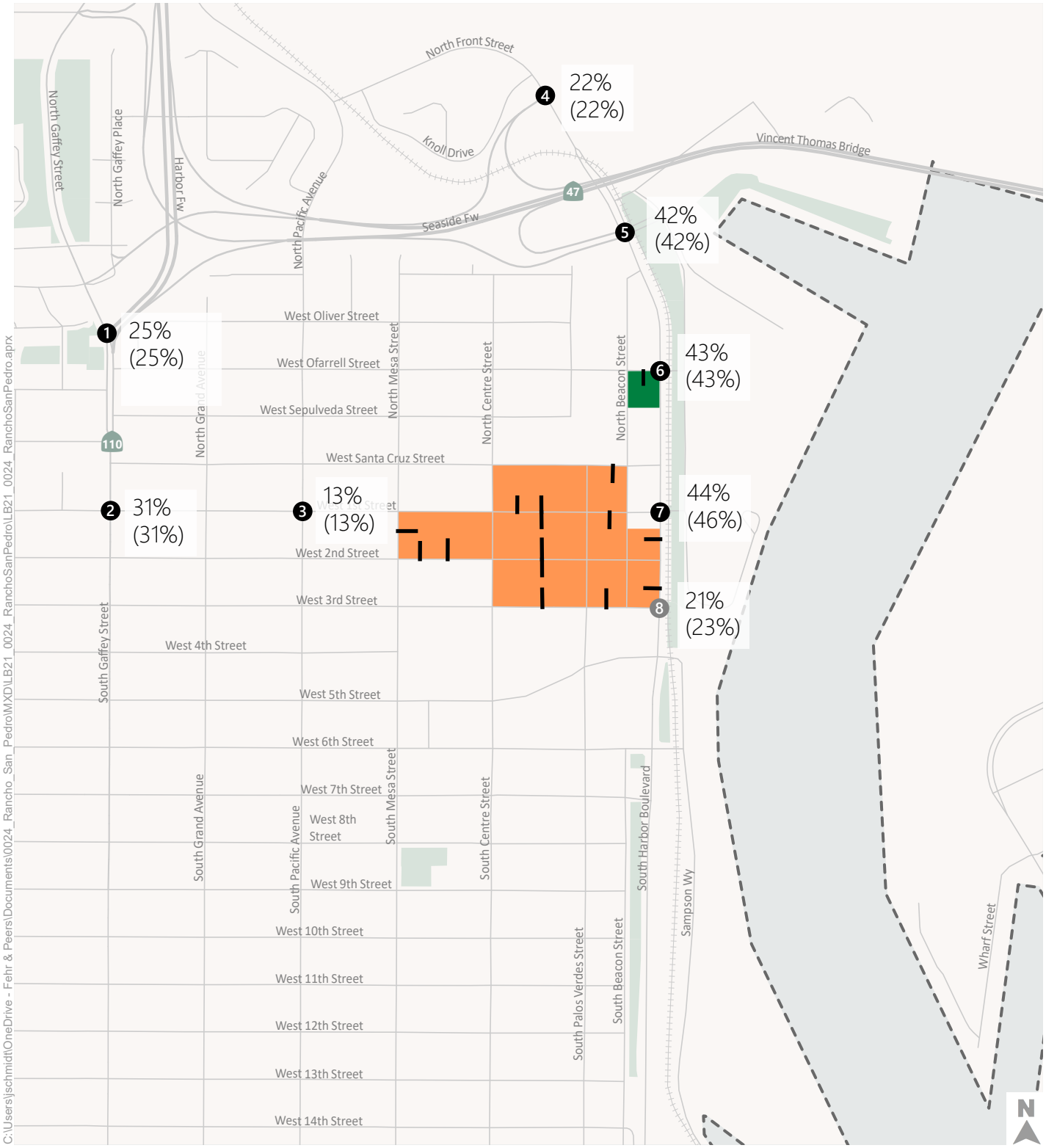
Main Project Site | Signalized Study Intersection | Unsignalized Study Intersection | Project Driveways

327 Harbor Site

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.
Also Note the percentages on the driveway figure only include in/out volumes at each driveway, and not project trips from other driveways passing by.

Attachment 9D

Trip Distribution, Planning Area A & 327 Harbor Site
One San Pedro Front-Loaded Scenario



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Main Project Site

327 Harbor Site

Signalized Study Intersection

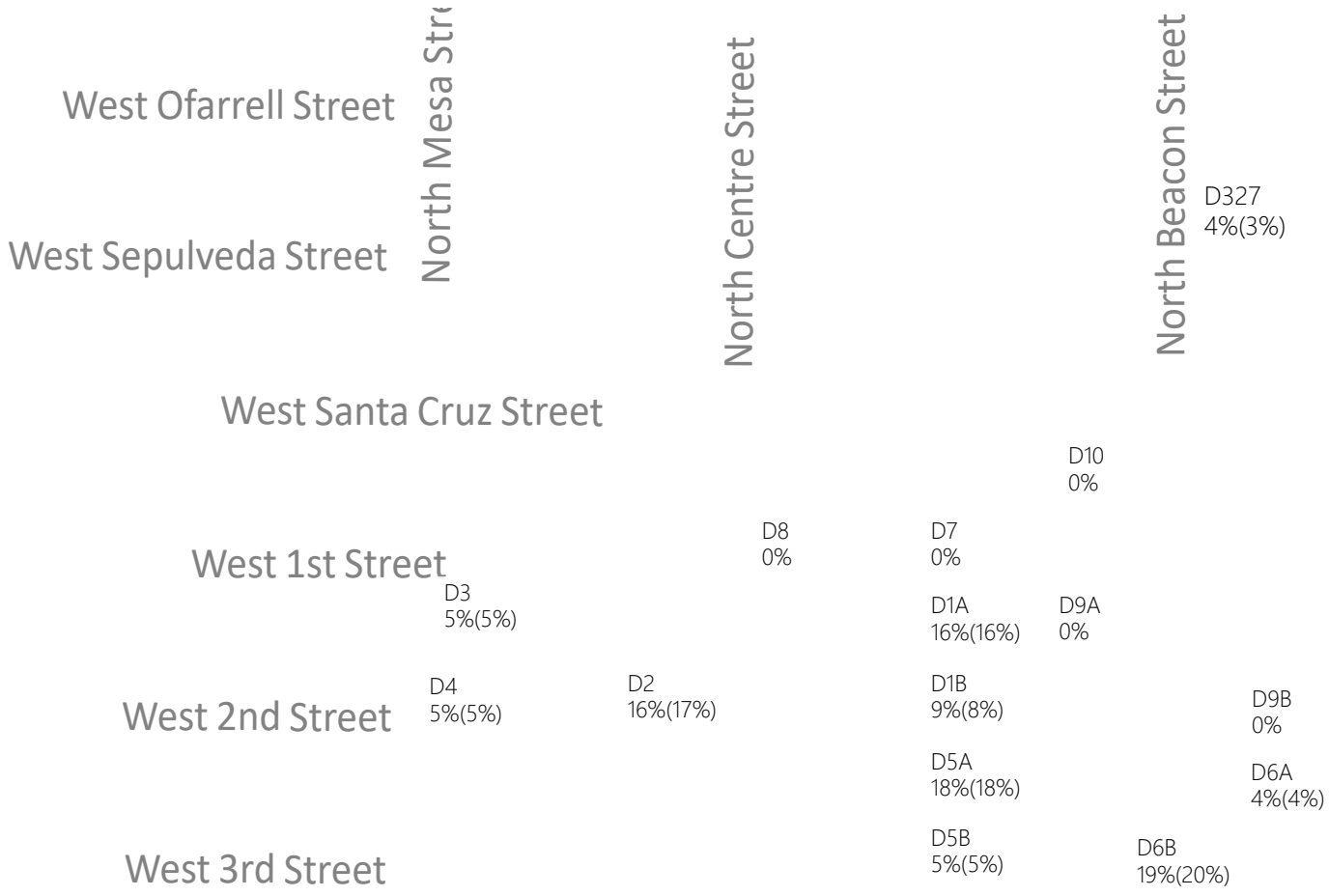
Unsignalized Study Intersection

Project Driveways

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.

Attachment 9E

Trip Distribution, Planning Areas A & B & 327 Harbor Site
One San Pedro Front-Loaded Scenario



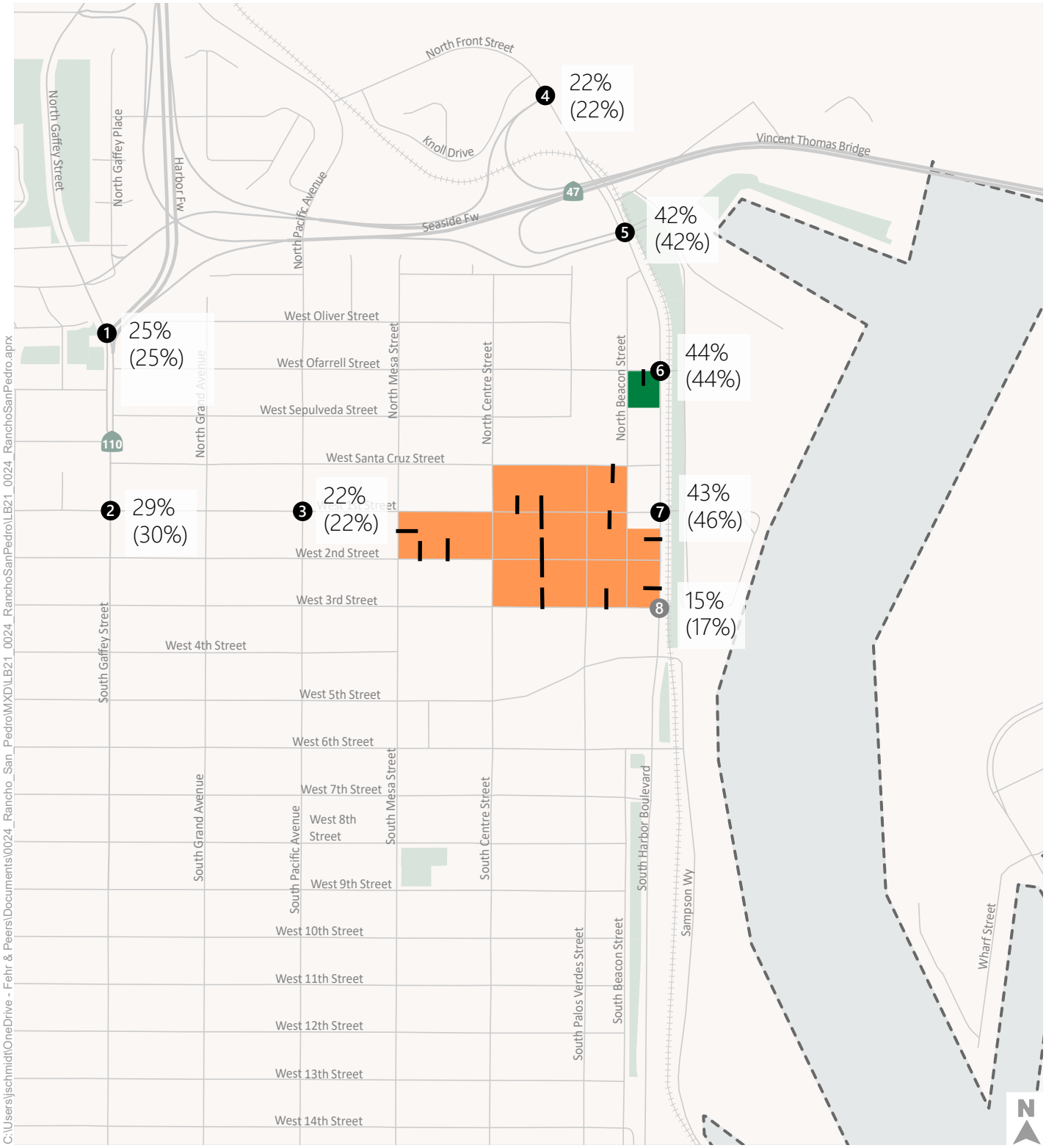
Main Project Site | Signalized Study Intersection | Unsignalized Study Intersection | Project Driveways

327 Harbor Site

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.
Also Note the percentages on the driveway figure only include in/out volumes at each driveway, and not project trips from other driveways passing by.

Attachment 9E

Trip Distribution, Planning Areas A & B & 327 Harbor Site
One San Pedro Front-Loaded Scenario



Main Project Site

327 Harbor Site

Signalized Study Intersection

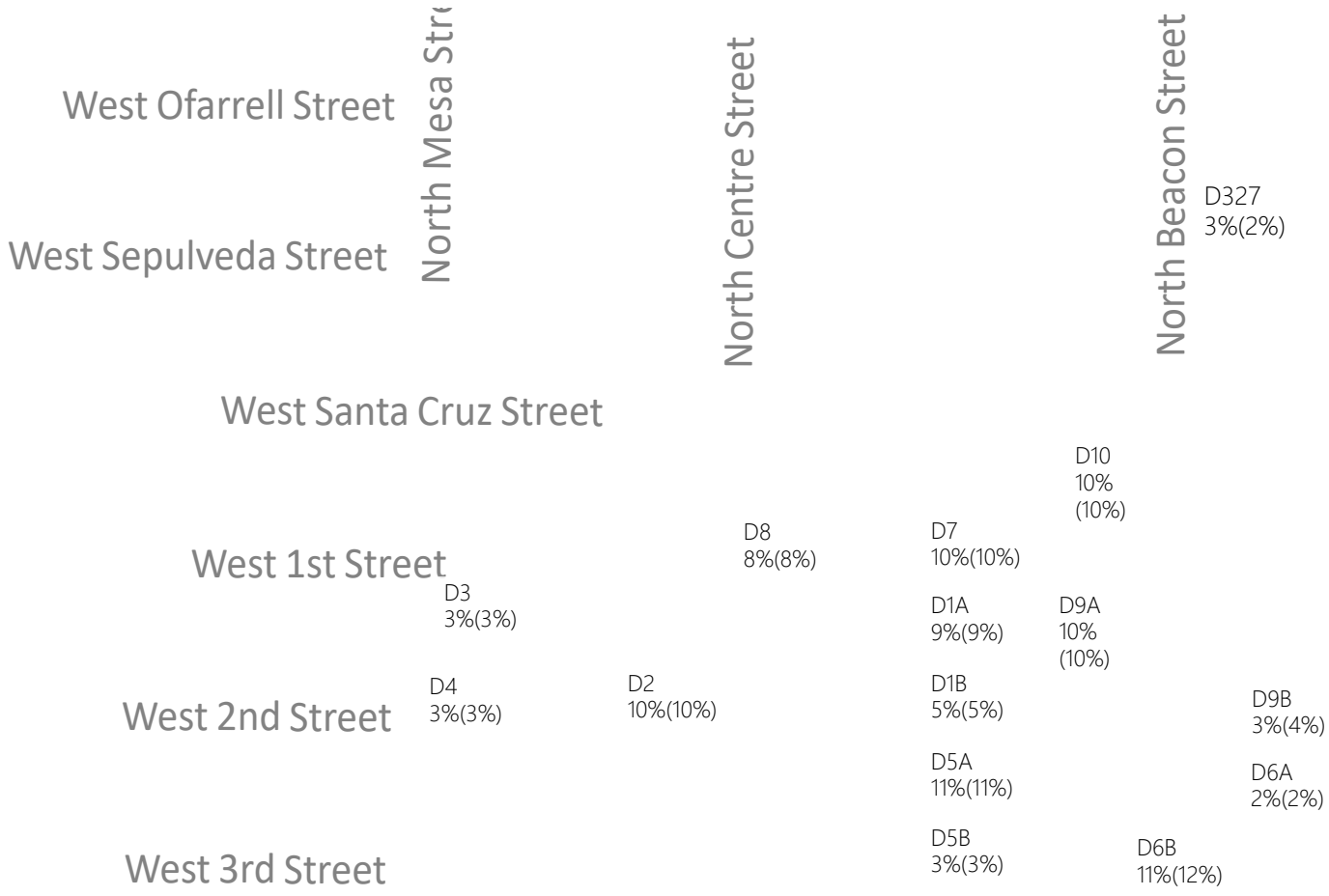
Unsignalized Study Intersection

Project Driveways

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.

Attachment 9F

Trip Distribution, Full Buildout & 327 Harbor Site
One San Pedro Both Scenarios



Main Project Site

Signalized Study Intersection

Unsignalized Study Intersection

Project Driveways

327 Harbor Site

AM Percent of Total Trips
(PM Percent of Total Trips)
*Note: Residential and retail trips share the same distribution.
Also Note the percentages on the driveway figure only include in/out volumes at each driveway, and not project trips from other driveways passing by.

Attachment 9F

Trip Distribution, Full Buildout & 327 Harbor Site
One San Pedro Both Scenarios

ATTACHMENT 10
FULL BUILD-OUT BOTH SCENARIOS
PEDESTRIAN/PERSON TRIP GENERATION

Proposed Land Use	Size/Units	Daily Person Trips
Affordable Multifamily Housing	1,009 du	656
Affordable Senior Housing	71 du	19
Market-Rate Multifamily Housing (Mid-Rise)	520 du	366
Supermarket	15 ksf	190
Shopping Plaza	43 ksf	227
High-Turnover (Sit-Down) Restaurant	12 ksf	127
Other Neighborhood Uses	60 ksf	17
Total		**1602**

Notes:

- A 15% Transit credit was applied to the VMT results for each land use.
- Source of Daily Person Trips from VMT Calculator



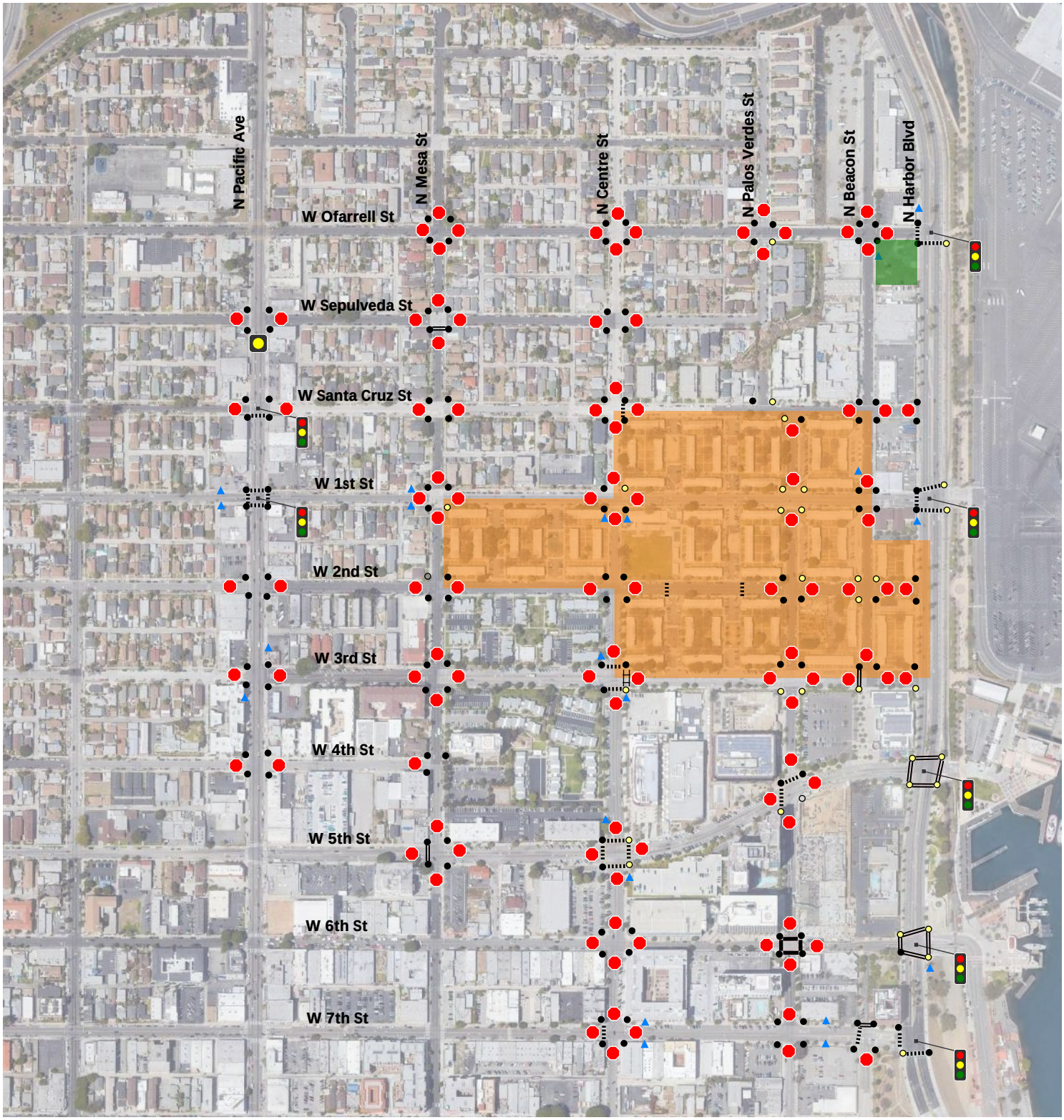
Pedestrian Destinations

- Child Care
- Government Office
- Medical Facility
- Place of Worship
- Recreation Facility/Attraction
- Retail/Restaurant/Bar
- School

- Transit Stop
- Bikeshare Station
- Main Project Site
- 327 Harbor Site

Attachment 11

Pedestrian Destinations



Curb Ramp with Tactile Warning

Curb Ramp without Tactile Warning

Missing Curb Ramp

Transit Stop

Signalized Intersection

Stop-Controlled

Continental Crosswalk

Standard Crosswalk

Ladder Crosswalk

Decorative Crosswalk

Flashing Pedestrian Beacon

Main Project Site

327 Harbor Site

Attachment 12

Pedestrian Facilities Map

Appendix B: Transportation Analysis Guidelines Screening Responses and Supporting Analysis

Transportation Analysis Guidelines Screening Responses and Supporting Analysis

Adapted from Transportation Analysis Guidelines, LADOT, August 2022

Screening Criteria	Screening Evaluation	Analysis Required?
2.1 CONFLICTING WITH PLANS, PROGRAMS, ORDINANCES, OR POLICIES		
If the project requires a discretionary action, and the answer is yes to any of the following questions, further analysis will be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies: 1. Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan? 2. Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety? 3. Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?	1. Yes 2. No 3. Yes	Yes, see Chapter 3.1

2.2 CAUSING SUBSTANTIAL VEHICLE MILES TRAVELED		
If the project requires a discretionary action, and the answer is no to either T-2.1-1 or T-2.1-2, further analysis will not be required for Threshold T-2.1, and a "no impact" determination can be made for that threshold: 1. T-2.1-1: Would the land use project generate a net increase of 250 or more daily vehicle trips? 2. T-2.1-2: Would the project generate a net increase in daily VMT? In addition to the above screening criteria, the portion of, or the entirety of a project that contains small-scale or local serving retail uses are assumed to have less than significant VMT impacts. If the answer to the following question is no, then that portion of the project meets the screening criteria and a no impact determination can be made for the portion of the project that contains retail uses. However, if the retail project is part of a larger mixed-use project, then the remaining portion of the project may be subject to further analysis in accordance with the above screening criteria. Projects that include retail uses in excess of the screening criteria would need to evaluate the entirety of the project's vehicle miles traveled, as specified in Section 2.2.4. 3. If the project includes retail uses, does the portion of the project that contain retail uses exceed a net 50,000 square feet? Independent of the above screening criteria, and the project requires a discretionary action, further analysis will be required if the following statement is true: 4. Would the Project or Plan located within a one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units?	1. Yes 2. Yes 3. N/A 4. No	Yes, see Chapter 3.2
2.3 SUBSTANTIALLY INDUCING ADDITIONAL AUTOMOBILE TRAVEL		
If the answer is no to the following question, further analysis will not be required for Threshold T-2.2, and a no impact determination can be made for that threshold: 1. T-2.2: Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?	1. No	No

2.4 SUBSTANTIALLY INCREASING HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE		
If the project requires a discretionary action, and the answer is "yes" to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses: 1. Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way? 2. Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?	1. Yes 2. Yes	Yes, see Chapter 3.3
3.2 PEDESTRIAN, BICYCLE, AND TRANSIT ACCESS ASSESSMENT		
If the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect existing pedestrian, bicycle, or transit facilities: 1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 2. Does the land use project include the construction, or addition of: a. 50 dwelling units or guest rooms or combination thereof, or b. 50,000 square feet of non-residential space? 3. Would the project generate a net increase of 1,000 or more daily vehicle trips, or is the project's frontage along an Avenue or Boulevard (as designated in the City's General Plan) 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)?	1. Yes 2. Yes 3. Yes	Yes, see Chapter 4.1
3.3 PROJECT ACCESS, SAFETY, AND CIRCULATION EVALUATION		
Land Use Development Projects: For land use projects, if the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect project access and circulation: 1. Does the land use project involve a discretionary action that would be under review by the Department of City Planning? 2. Would the land use project generate a net increase of 250 or more daily vehicle trips?	1. Yes 2. Yes	Yes, see Chapter 4.2

3.4 PROJECT CONSTRUCTION		
If the answer is yes to any of the following questions, further analysis will be required to assess if the project could negatively affect existing pedestrian, bicycle, transit, or vehicle circulation: 1. Would a project that requires construction activities to take place within the right-of-way of a Boulevard or Avenue (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on a residential street?) 2. Would a project require construction activities to take place within the right-of-way of a Collector or Local Street (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than seven days (including day and evening hours, and including overnight closures if on a residential street)? 3. Would in-street construction activities result in the loss of regular vehicle, bicycle, or pedestrian access, including loss of existing bicycle parking to an existing land use for more than one day, including day and evening hours and overnight closures if access is lost to residential units? 4. Would in-street construction activities result in the loss of regular ADA pedestrian access to an existing transit station, stop, or facility (e.g., layover zone) during revenue hours? 5. Would in-street construction activities result in the temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site? 6. Would construction activities result in the temporary removal and/or loss of on-street metered parking for more than 30 days? 7. Would the project involve a discretionary action to construct new buildings or additions of more than 1,000 square feet that require access for hauling construction materials and equipment from streets of less than 24-feet wide in a hillside area?	1. Yes 2. No 3. No 4. No 5. No 6. No 7. No	Yes, see Chapter 4.3

3.5 RESIDENTIAL STREET CUT-THROUGH ANALYSIS		
Land Use Development Projects: If the answer is yes to all of the following questions, further analysis may be required to assess whether the project would negatively affect residential streets: 1. Would the project generate a net increase of 250 or more daily vehicle trips? 2. Does the land use project include a discretionary action that would be under review by the Department of City Planning? In addition, for development projects, when selecting residential street segments for analyses during the transportation assessment scoping process, all of the following conditions must be present: 3. The project is located along a currently congested Boulevard or Avenue and adds trips that may lead to trip diversion to parallel routes along residential Local Streets. The congestion level of the Boulevard or Avenue can be determined based on the estimated peak hour LOS under project conditions of the study intersection(s) (as determined in Section 3.3). LOS E and F are considered to represent congested conditions; 4. The project is projected to add a substantial amount of automobile traffic to the congested Boulevard(s), Avenue(s), or Collector(s) that could potentially cause a shift to alternative route(s); and 5. Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc.	1. Yes 2. Yes 3. No 4. No 5. Yes	No, see Chapter 4.4. While the Project is not required to analyze residential cut-through streets per the screening, this analysis was still conducted due to the location of the Project adjacent to a residential area and due to the possibility, that the routes to and from the Project may go through these areas.

Appendix C: Plans, Programs, Ordinances and Policies Review

Detailed Responses in Support of Determining Plans, Programs, Ordinances, or Policies Applicability

Adapted from Attachment D: Plan Consistency Workshop in Transportation Analysis Guidelines, LADOT, August 2022

Question	Guiding Questions	Relevant Plans, Policies, and Programs	Evaluation
A. MOBILITY Plan 2035 PROW Classification Standards for Dedications and Improvements			
A.1	Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone?	MP [15] 2.1, 2.3, 3.2, and Mobility Plan 2035 Street Designations and Standard Roadway Dimensions	Yes, the Project includes the construction of new residential units, as well as local-serving retail and community amenities. Some of the construction would take place along 1st Street and Harbor Boulevard, which are designated as Avenue II and Avenue I, respectively. The Project is on property that is zoned for RD.
A.2	If A.1 is yes, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation?		Yes, as described in the following answer.
A.3	If A.2 is yes, is the project making the dedications and improvements as necessary to meet the designated dimensions of the fronting street (Boulevard I, and II, or Avenue I, II, or III)?		♦ Along the Project frontages at Santa Cruz Street, the Project proposes a 2' sidewalk easement to widen the sidewalks to 12', with a raised crosswalk between Centre Street and Palos Verdes Street. ♦ Along the Project frontages at 1st Street, the Project proposes to narrow the roadway by 8' to 20', and to widen the sidewalks by 3' to 13', and change the Roadway Classification from

15 MP is the abbreviation of the Mobility Plan 2035.

			Avenue II to Collector. The Project would vacate each side of 1st Street by 2′. Raised crosswalks would also be constructed between 1st Street and Centre Street, and between Centre Street and Palos Verdes Street. ♦ Along the Project frontages at 2nd Street, the Project proposes a 2′ sidewalk easement to widen the sidewalks to 12′. For the portion between Palos Verdes Street and Harbor Boulevard, 2nd Street would be fully closed to vehicles and only open to pedestrians. Raised crosswalks would also be constructed between 1st Street and Centre Street, and between Centre Street and Palos Verdes Street. ♦ Along the Project frontages at 3rd Street, the Project proposes a 2′ sidewalk easement to widen the sidewalks to 13′. A raised crosswalk would also be constructed between Palos Verdes Street and Harbor Boulevard. ♦ Along the Project frontages at Beacon Street, the Project proposes 2′ sidewalk easement to widen the sidewalks to 12′. For the portion between 1st Street and 3rd Street, Beacon Street would be fully closed to vehicles and open only to pedestrians. ♦ Along the Project frontages at Palos Verdes Street, the Project proposes to narrow the road by 2′ to 18′, and a 2′ sidewalk easement to widen the sidewalks to 12′. ♦ Along the Project frontages at Centre Street, the Project proposes to widen the road south of 1st Street by 13′ to 33′, and widen the sidewalks by 3′ to

			13', and the Project would provide a 3' dedication to facilitate this. ♦ Along the Project frontages at Mesa Street, the Project proposes to widen the road by 2' to 20', and a 2' sidewalk easement to widen the sidewalks to 12'. ♦ Along the Project frontages at Harbor Boulevard, the Project proposes a 3' sidewalk easement to widen the sidewalk to 18'.
A.4	If the answer to A.3. is NO, is the project applicant asking to waive from the dedication standards?		N/A
-	If the answer to A.4 is NO, the project is inconsistent with Mobility Plan 2035 street designations and must file for a waiver of street dedication and improvement. If the answer to A.4 is YES, additional analysis is necessary to determine if the dedication and/or improvements are necessary to meet the City's mobility needs for the next 20 years. The following factors may contribute to determine if the dedication or improvement is necessary: Is the project site along any of the following networks identified in the City's Mobility Plan? ● Transit Enhanced Network ● Bicycle Enhanced Network ● Bicycle Lane Network ● Pedestrian Enhanced District	Mobility Plan 2035: Transit Enhanced Network, Bicycle Enhanced Network, Bicycle Lane Network, Pedestrian Enhanced District, Neighborhood Enhanced Network.	N/A

	● Neighborhood Enhanced Network		
B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes			
B.1	Does the project physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that changes how people access a property?	MP 2.3, 3.2, 2.10, and Street Designations and Standard Roadway Dimensions	The Project proposes to change sidewalk widths, primarily through widening, as discussed in detail in **Appendix D**. Curb extensions are planned for most intersections, improving pedestrian and ADA access along new sidewalks and walkways. No sidewalks would be removed, however 2nd Street between Palos Verdes Street and Harbor Boulevard and Beacon Street between 1st Street and 3rd Street would be newly closed to vehicle traffic. The Project would be supportive of and not preclude or conflict with *Mobility Plan 2035* policies such as: 2.3 Pedestrian Infrastructure: The Project frontage on 1st Street is a portion of the Pedestrian Enhanced District (PED). Centre Street, although partly Project frontage, is a PED until 2nd Street. The Project would improve pedestrian infrastructure by enhancing walking trails stretching from Harbor Boulevard Promenade along 1st and 2nd Street. 2.10 Loading Areas: When designing developments, it is important to consider a loading area that minimally impacts other travelers such as people driving or walking. The Project proposes consolidating service and loading access and limiting truck access to 1st and 3rd Street. 3.2 People with Disabilities: When designing developments, it is important to accommodate the needs of all people with varying levels of mobility. All proposed pedestrian accesses would be

			ADA-compliant, as well as the internal walking path on-site.
B.2	Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines?	MP 2.10, PL.1, CDG 2[16], MPP 321, Mobility Plan 2035: Transit Enhanced Network, Bicycle Enhanced Network, Bicycle Lane Network, Pedestrian Enhanced District, Neighborhood Enhanced Network, High Injury Network, TOC Guidelines	The Project proposes to add 4 driveways along 1st Street and 2 driveways along Harbor Boulevard, which are Avenue II and Avenue I designations, and these driveways would not conflict with the design guidelines. MPP Section 321 allows 1 driveway for up to 200 feet of frontage, and 2 driveways for up to 400 feet of frontage. The 2 driveways along Harbor Boulevard are along separate blocks, so they are the acceptable amount. 2 of the driveways on 1st Street are along separate blocks, so they would also not exceed the acceptable amount. The other 2 1st Street driveways would be between Centre Street and Palos Verdes Street, accessing the street from the north on the same block. This block is over 600 feet long, so it is acceptable to have 2 driveways. MPP Section 321 recommends that two-way driveways for commercial/industrial/multi-family residential developments be no wider than 30 feet in width. The Project driveways are anticipated to be approximately 24 feet wide, unless a greater width is determined necessary by the Director of Planning, LADOT, or LAFD.
	If the answer to either B.1 or B.2 are YES, City plans and policies should be reviewed in light of the proposed physical changes to determine if the City would be		The Project frontage is along 1st Street, Beacon Street, Harbor Boulevard, Centre Street, and Mesa Street. The Project frontages are not along streets part of the Transit Enhanced Network, Bicycle

[16] CDG2 is the abbreviation of Citywide Design Guidelines - Guideline 2

	obstructed from carrying out the plans and policies. The streets that need special consideration are those that are included on the following networks identified in the Mobility Plan 2035, or the HIN: ● Transit Enhanced Network ● Bicycle Enhanced Network ● Bicycle Lane Network ● Pedestrian Enhanced District ● Neighborhood Enhanced Network ● High Injury Network		Enhanced Network, or Bicycle Lane Network. Transit Enhanced Network: Mobility Plan 2035 identifies specific streets as part of the Transit Enhanced Network (TEN) to receive improvements that enhance the performance and reliability of existing and future bus service. The Project frontages are not along streets part of TEN. Bicycle Enhanced Networks: The Bicycle Enhanced Network (BEN) is a network of streets that will receive treatments that prioritize bicyclists. This network is a subset of the 2010 Bicycle Plan and will supplement the system. The Project frontages are not along streets part of BLN. Bicycle Lane Network: The Bicycle Lane Network (BLN) consists of: Tier 2 and Tier 3 Bicycle Lanes – Bicycle facilities on arterial roadways with striped separation. The Project frontages are not along streets part of BLN. Pedestrian Enhanced District: Mobility Plan 2035 identifies Pedestrian Enhanced District (PED) where initial analysis suggests arterials can be improved and further analysis and prioritization will occur as funding and projects become available. The Project frontage on 1st Street is a portion of the Pedestrian Enhanced District. Centre Street, although partly Project frontage, is a PED until 2nd Street. Neighborhood Enhanced Network: The Neighborhood Enhanced Network (NEN) is a selection of local streets to provide comfortable and safe routes for localized travel of slower-moving modes, such as walking or biking. The

			Project frontage is along 1st Street which is a NEN. High Injury Network: The High Injury Network (HIN) represents 6% of city streets (over 450 miles) that account for 70% of deaths and severe injuries for people walking[17]. The Project frontages are not along streets that are on the HIN, and therefore the Project would not preclude or conflict with the implementation of any potential future projects on the HIN. Information above is retrieved from LADOT Transportation Assessment Support Map https://arcg.is/fubbD
B.2.1	Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure?		The Project frontages are not along streets in the BEN, BLN, or TEN. The Project proposes to provide on-site bicycle parking and preserves the City's ability to implement bicycle projects on adjacent streets that are part of the bikeway network. Thus, the Project would not negatively impact existing bicycle infrastructure. To improve pedestrian access, the Project proposes pedestrian-priority streets including Palos Verdes Street, 1st Street, 2nd Street, Mesa Street, and Beacon Street. The 2nd Street and Beacon Street closures would especially increase pedestrian access. Thus, the Project would not negatively impact existing pedestrian infrastructure. The Project would improve all on-site transit stops by providing shade, landscaping, and seating, and there would be a new transit hub installed by the Project along 1st Street. Temporary

17 https://ladotlivablestreets.org/programs/vision-zero/maps

			transit stops would need to be provided during construction. Thus, existing transit infrastructure should not be negatively impacted.
B.2.2	Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users?		No, the Project physical modifications would integrate with the existing street grid. This would not preclude the City from advancing the safety of vulnerable roadway users.
C. Network Access			
C1.1	Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?	MP 3.9	Yes, the Project proposes to restrict vehicle access on 2nd Street between Palos Verdes Street and Harbor Boulevard, and on Beacon Street between 1st Street and 3rd Street, starting during OSP Specific Plan Site Phase 2.
C.1.2	If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking and biking on the street, alley, or stairway?		Yes, pedestrian access and bicycle access would be maintained along the 2nd Street and Beacon Street where they would be newly closed to vehicles.
C.2.1	Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?	MP 3.10	No, the project does not create or is located adjacent to an existing cul-de-sac.
C.2.2	If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network?		N/A
D. Parking Supply and Transportation Demand Management			
D.1	Would the project propose a supply of onsite parking that exceeds the baseline amount as required in the Los Angeles	MP 3.8, 4.8, 4.13	4.13 Parking and Land Use Management: The objective of this policy is to balance parking supply with other transportation and land use objectives. The policy states that an oversupply of parking can undermine broader regional goals of

<table>
<tr><td></td><td>Municipal Code or a Specific plan, whichever requirement prevails?</td><td></td><td>creating vibrant public spaces and a robust multi-modal transportation system; that an abundance of free parking incentivizes automobile trips and makes alternative modes of transportation less attractive; and that large parking lots consume land that could be used for other valuable uses and discourage walking by increasing the distance between services and facilities. The Project would provide 45 parking spaces on the 327 Harbor Site and 1,800 spaces on the OSP Specific Plan Site. The Project would establish its own minimum parking standards which are lower than those in the Los Angeles Municipal Code, as seen below.
<table>
<tr><th>Land Use</th><th>Project Minimum Parking Spaces</th></tr>
<tr><td>Replacement Affordable Housing</td><td>1.25</td></tr>
<tr><td>Multi-Family Housing</td><td>0.75</td></tr>
<tr><td>Permanent Supportive Housing</td><td>0.25</td></tr>
<tr><td>Homeownership</td><td>1.50</td></tr>
<tr><td>Age-restricted Senior</td><td>0</td></tr>
<tr><td>Special Needs/Supportive</td><td>0</td></tr>
<tr><td>Neighborhood Serving Uses</td><td>1</td></tr>
<tr><td>Commercial Retail Uses</td><td>2</td></tr>
</table></td></tr>
<tr><td>D.2</td><td>If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to</td><td></td><td>N/A</td></tr>
</table>

	all users (e.g., parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?		
D.3	Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC?		Yes, the Project would provide the minimum on and off-site bicycle parking spaces as required by the LAMC, which currently includes 1,600 long-term spaces and a minimum of 39 short-term spaces at the OSP Specific Plan Site. The 327 Harbor Site would include 42 long-term spaces and 6 short-term spaces.
D.4	Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?		Yes.
D.5	If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC?		The Specific Plan includes a TDM plan tailored for the project which incentives employees to utilize alternatives to the automobile.
E. Consistency with Regional Plans			
E.1	Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e., VMT per capita, VMT per employee, or VMT per service population) as discussed in Section 2.2.3 of the TAG?		Yes, the Project applies the City's efficiency-based impact thresholds due to the housing VMT per capita.
E.2	E.2 If the Answer to E.1 is YES, does the Project or Plan result in a significant VMT impact?		The Project does not result in a significant VMT impact. The daily household VMT per capita is estimated at 6.6, below the threshold of 9.2 for the Harbor APC.
E.3	If the Answer to E.1 is NO, does the Project result in a net increase in VMT?		N/A

E.4	If the Answer to E.2 or E.3 is YES, then further evaluation would be necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS		N/A

Review of Consistency with San Pedro Community Plan

The San Pedro Community Plan was adopted in 2017 as part of the Mobility Plan 2035 Update.

The San Pedro Community Plan is one of 35 in the City of Los Angeles that establishes the policies and programs that inform the framework for local land use, circulation, and service systems within the selected community plan area. Per the City's new TAG, a review of the San Pedro Community Plan was conducted to evaluate whether the project conflicts with or precludes the implementation of the community plan framework.

In addition to Chapter IV, Mobility, the San Pedro Community Plan contains transportation-related policies in Chapter III, Land Use Plan and Urban Design. The following objectives, policies, and programs are relevant to the Project:

Policy LU1.6 *Alleys*: Maintain and improve existing neighborhood alleys as an alternative, safe, well maintained vehicular access to homes that reduces curb cuts, driveways, and associated pedestrian-automobile conflicts along sidewalks.

- The Project supports this policy by consolidating driveways to reduce the incidence of curb cuts and disruptions to sidewalks. Additional pedestrian access routes that are restricted to motor vehicles would be provided between buildings within the Project, which reduces pedestrian-automobile conflicts.

Policy LU5.16 *Minimize parking impacts*: Reduce the visual prominence of parking within the public realm by requiring off-street parking to be located behind or within structures or otherwise fully or partially screened from public view.

- The Project supports this policy by providing onsite parking garages for all uses. The parking garages would consist of both at-grade and subterranean facilities, reducing the visual prominence of surface parking lots.

The Community Plan Mobility Chapter presents goals and policies related to the community as a whole, walking, bicycling, transit, motorized vehicles, goods movement, parking management, and recreation and scenic highways. The following objectives, policies, and programs are relevant to the Project:

Goal M1: A diverse system of streets that balances the needs of pedestrians, bicyclists, transit users, mobility-challenged persons and vehicles while providing sufficient mobility and abundant access options for the existing and future users of the street system

Policy M1.1 *Complete streets*: Ensure the community is served by a complete street system with some streets strategically prioritized for target users and other streets that connect the complement of arterials together to serve all users.

- The Project supports this policy by proposing various improvements to the existing street network to serve diverse groups of users. Proposed improvements that serve the concept of complete streets include curb extensions, raised crossings, widened sidewalks, bike lanes, and traffic signals with signalized crossings, which are all described in detail in **Appendix D**.

Policy M1.2 *Mobility for Challenged Users:* Support wherever feasible, transportation programs and services aimed at enhancing the mobility of young people, senior citizens, disabled persons and other populations dependent on transit.

- The Project proposes mobility improvements that would serve challenged users and provide enhanced accessibility to existing transit service. Among these improvements are minimized curb cuts, which improve the pedestrian experience, curb extensions, which serve as a traffic calming and challenged user safety measure, raised intersections for better visibility of challenged users, and pedestrian plazas, to reduce conflicts between vehicles and challenged users.

Policy M1.3 *Mobility Enhancements:* Developments that increase density or intensity by zone change, variance, conditional use, parcel map, subdivision or other discretionary action should provide adequate mobility enhancements such as traffic mitigation, pedestrian crosswalks, bike lanes and enhanced bus stops to ensure that mobility needs are met.

- The Project supports this policy by proposing various traffic calming and active transportation measures, including curb extensions, bicycle lanes, raised crossings, and improved bus shelters.

Policy M1.4 *Private investment for off-site facilities/amenities:* Encourage new developments to include bicycle and pedestrian amenities and include off-site transit and road improvements creating a circulation system that optimizes travel by all modes

- The Project incorporates several blocks of the existing City street grid. Given this quality, improvements included as part of the Project enhance the public realm for both users of the Project and those who pass through the Site, which supports this policy.

Goal M2: A circulation system that supports successful neighborhood areas with multi-modal access, streets that accommodate public open space and gathering places, and streets that enhance sustainable watershed management.

Policy M2.1 *Streetscapes:* Encourage and support streetscape improvements in neighborhood areas that foster the appeal of the street as a gathering place including street furniture, well-maintained street trees, publicly accessible courtyards, wide sidewalks, bicycle access and appropriate traffic control measures to maintain safe travel speeds

- Two major components of the Project are the proposed pedestrian plazas on portions of Beacon Street and 2nd Street, which would support this policy in a pedestrian-focused lens. In general, the pedestrian network proposed as part of the Project would incorporate shade, landscaping, and



street furniture, in addition to traffic calming measures such as curb extensions, traffic circles, and a road diet.

Goal M3: A pleasant street environment throughout San Pedro that is universally accessible, safe, and convenient for pedestrians.

Policy M3.2 *Priority pedestrian routes:* Selected streets within commercial, mixed-use and employment districts should have pedestrian priority establishing pedestrian needs as paramount to vehicular circulation needs and encouraging investment in pedestrian improvements and programs for these segments.

- The Project supports this policy by establishing pedestrian plazas on portions of Beacon Street and 2nd Street, which would restrict vehicular traffic and prioritize pedestrians.

Policy M3.3 *Pedestrian amenities:* Maintain sidewalks, streets and right-of-way in good condition, free of obstructions, and with adequate lighting, trees and parkways. Streets should accommodate pedestrians comfortably through adequate sidewalks and parkway landscaping that provides a buffer from moving vehicles, shade from the hot sun, and street lighting that provides for safety during the night.

- The Project supports this policy by incorporating adequate lighting, shade, and street furniture to the pedestrian network. The Project's streets would feature adequately wide and obstruction-free sidewalks, and enhanced pedestrian amenities would be provided in the Beacon Street and 2nd Street pedestrian plazas.

Policy M3.4 *Minimize pedestrian conflicts:* Minimize conflicts between buses, cars, and pedestrians by designing and constructing sidewalks and crosswalks that make pedestrians feel safe and creating well-marked crossings at intersections and mid-block locations.

- The Project supports this policy with several design features that minimize pedestrian conflicts, including marked or raised crosswalks, curb extensions, and traffic medians with pedestrian refuge islands at various locations. Additionally, the pedestrian plazas proposed on portions of Beacon Street and 2nd Street minimize conflict between pedestrians and vehicles.

Policy M3.5 *Safe school routes:* Encourage the development and improvement of safe routes to schools throughout the community via walking, bicycles or transit

- The Project includes various pedestrian, bicycle, and transit enhancements that can serve school children and support this policy. Such improvements include marked or raised crosswalks, curb extensions, traffic medians, bicycle climbing lanes, landscape buffers, bus shelters, and pedestrian plazas.

Goal M4: A safe, comprehensive, and integrated bikeway network that is accessible to all, and encourages bicycling for recreation and transportation.

Policy M4.1 *Priority bikeways:* Support the Citywide bikeway network to establish bicycle circulation as paramount to vehicular circulation needs on selected streets and to encourage investment in bicycle improvements and programs on these identified streets.

- The Project designates 2nd Street and Harbor Boulevard as streets with bicycle priority, supporting this policy. The Project proposes buffered bike lanes on 2nd Street between Pacific Avenue and Palos Verdes Street, in addition to off-street bicycle facilities, and a two-way bikeway on Harbor Boulevard.

Policy M4.2 *Bikeway connections:* Provide bicycle access for open space areas, commercial corridors, Downtown/Regional Center, Neighborhood Districts and Community Centers to allow easy connection between residential neighborhoods and employment centers, as well as important non-work destinations, including schools and recreational facilities.

- The Project's proposed bikeway on Harbor Boulevard supports this policy by establishing a two-way cycle track to serve the regional bikeway network. With proximity to the LA Waterfront, multiple parks, and other commercial uses in the Downtown San Pedro area, this feature serves valuable connections between the Project and the surrounding area.

Policy M4.4 *Regional coordination:* Coordinate with adjacent jurisdictions and communities to ensure that local bicycle facilities be linked with those of neighboring areas.

- The Project supports this policy by establishing a regional-serving bikeway on Harbor Boulevard. While bicycle facilities already exist on this corridor, the southbound buffered bike lane is planned to be maintained for local access, while a two-way cycle track would serve more regional use. In addition to bicycle prioritization on 2nd Street and existing facilities on Grand Avenue and Pacific Avenue, the Project's proposed facilities would be connected to those in the surrounding neighborhood.

Goal M6: An expanded public transit system that provides residents, employees, and visitors safe and efficient access to jobs, services, recreation and other community assets so that automobile dependence can be reduced.

Policy M6.2 *Pedestrian access to transit:* Improve pedestrian amenities and urban design on streets served by transit to create welcoming conditions for pedestrians accessing transit.

- The Project incorporates various pedestrian improvements that would support transit access, either through safety enhancement or increased comfortability. Among these improvements are raised crosswalks, widened sidewalks, curb extensions, traffic medians, landscape buffers, bus shelters, and pedestrian plazas.



Goal M7: A network of streets and freeways that supports existing and planned land uses, and provides improved motorized vehicle mobility throughout San Pedro, particularly on congested corridors

Policy M7.3 *Access management:* Minimize driveways and consider the addition of medians on Arterials to ensure the smooth and safe flow of vehicles, buses, pedestrians and bicycles.

- The Project supports this policy through minimization of driveways and use of pedestrian-only access points where possible. Though a Collector street, not an Arterial, the addition of medians on 3rd Street is proposed to aid in the smooth and safe flow of road users.

Policy M7.5 *Emergency access*. Develop, improve, and maintain streets that are easily accessible to emergency vehicles, and during emergency situations, such as sink holes, landslides, and other such type of events that may arise.

- Streets within the Project would be designed to relevant standards and guidelines as to not impede emergency vehicle access.

Goal M8: Residential neighborhoods that are protected from the intrusion of cut-through traffic, with emphasis on safety and quality of life.

Policy M8.1 *Traffic calming:* Support traffic calming measures and parking management for local and collector streets where a demonstrated need exists and with active community involvement.

- The Project supports this policy by proposing various traffic calming measures, including a road diet, curb extensions, raised intersections, mini-traffic circles, new traffic controls, and medians. Where possible or available, the Project proposes an expansion of diagonal parking.

Policy M8.2 *Traffic mitigations for development:* Require major developments to mitigate traffic impacts on residential neighborhoods

- The Project supports this policy as it is not expected to have any significant traffic impacts.

Goal M9: Improved air quality and health of residents as a result of decreased single-occupant automobile demand and reduced vehicle miles traveled.

Policy M9.1 *Regional coordination:* Coordinate with Councils of Government and regional transportation planning agencies (such as SCAG and Metro) and adjacent cities to improve shuttle services, encourage ridesharing, bicycle sharing, and other TDM programs within the region.

- The Project incorporates improvements that support the goals of other transportation agencies, such as Metro. For example, the pedestrian and bicycle improvements and transit shelters throughout the Project, and the proposed transit hub on 1st Street, support access to Metro bus stations and make ridership more convenient.

Policy M9.2 *Reduce auto trips:* Create incentives for employers, institutions, and residential neighborhoods to reduce their vehicle trips by encouraging mixed-use developments that minimize Vehicle Miles Traveled (VMT).

- The Project incorporates a mix of uses (residential and commercial) that allow for internal capture of trips and a minimization of VMT, serving this policy.

Policy M9.3 *Alternatives to the automobile:* Reduce automobile dependency by providing a safe, convenient transit system, pedestrian linkages and a network of safe and accessible bikeways and encouraging alternatives, including reduced emission vehicles, such as electric and neighborhood electric vehicles (NEVs).

- The Project proposes various pieces of infrastructure that provide alternatives to the automobile and support this policy. Elements that support pedestrian mobility include traffic calming measures such as a road diet, curb extensions, raised intersections, mini-traffic circles, new traffic controls, and medians. Bicycle mobility is supported by proposed bike facilities on 2nd Street and Harbor Boulevard, a bicycle hub, and bicycle parking. Transit mobility is supported through enhanced bus stop elements, such as shade and seating.

Policy M9.4 *Transportation Demand Management (TDM) Plans:* Encourage major development projects to submit a TDM Plan to the City and provide employee incentives for utilizing alternatives to the automobile (i.e., carpools, vanpools, buses, flex time, telecommuting, bicycling, and walking, etc.).

- Discuss The Project proposes a series of TDM measures, such as a reduced parking supply, bicycle parking and amenities, transit stop improvements, and pedestrian infrastructure improvements.

Policy M9.5 *Transportation Management Associations:* Support the formation of agencies and collaboratives such as Transportation Management Associations (TMAs) that facilitate ridesharing in carpools and vanpools.

- The Project proposes an expansion of transit service with a vanpool program to connect residents to necessary destinations. While the specific operation details of such programs are to be determined, the Project would not preclude formation of agencies and collaboratives to facilitate their implementation and success.

Goal M11: Improved air quality and health of residents as a result of decreased single-occupant automobile demand and reduced vehicle miles traveled.

Policy M11.1 *Parking management districts:* Support the creation of a parking management district(s) in areas of high demand to facilitate parking within a group of shared facilities.

- The Project does not propose a parking management district, though it contains on-street parking within the Project Site and would not preclude the implementation of a management district.

Policy M11.2 *Performance-based parking supply:* Utilize performance-based metrics that evaluate existing and projected parking needs in determining parking requirements.

- Performance-based parking supply is not currently proposed as a feature of the Project, though the Project would not preclude implementation of this policy.

Policy M11.3 *Convert surface lots to structures:* Support the development of City-owned or other surface parking lots into parking structures where appropriate

- The Project supports this policy, as all uses on-site would have parking in subterranean and semi-subterranean garages, replacing the currently existing on-site surface parking.

Goal M12: Parking policies and requirements that capture the true cost of private vehicle use and support livable neighborhoods, environmental/ energy sustainability, and the use of alternative modes of transportation.

Policy M12.3 *Priority parking for alternative fuel vehicles:* Encourage new commercial and retail developments to provide prioritized parking for shared vehicles, electric vehicles and vehicles using alternative fuels.

- As proposed, the Project does not contain priority parking for alternative fuel vehicles, though it would not preclude future implementation of priority spots using the proposed parking supply in garages or on streets.

Policy M12.4 *Connections for electric vehicles:* Encourage new construction to include vehicle access to properly wired outdoor receptacles to accommodate zero emission vehicles (ZEVs) and/or plug-in electric hybrids (PHEV).

- The Project would provide electric vehicle charging spaces in accordance with applicable codes. It does not contain specific plans for electric vehicle connections, though it would not preclude future implementation of such infrastructure in garages or on streets.

Appendix D: Substantially Increasing Hazards due to a Geometric Design Feature Review

Detailed Responses for 3.3 Substantially Increasing Hazards Due to A Geometric Design Feature or Incompatible Use

Adapted from Section 2.4 in Transportation Analysis Guidelines, LADOT, August 2022

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections. These impacts are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction. If the project requires a discretionary action, and the answer is "yes" to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses:

Screening Criteria

- Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?
    - The Project proposes to construct 15 driveways, with 14 on the OSP Specific Plan Site and 1 on the 327 Harbor Site. However, this would be replacing 28 existing driveways on the OSP Specific Plan Site, and 3 (currently unused) curb cuts on the 327 Harbor Site, so it would be a reduction of the total number of driveways.
- Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?
    - The Project is proposing to make many modifications to the public right-of-way, as detailed below and shown in Figures D1 through D3.
        - The Project proposes to construct new traffic signals at Harbor Boulevard & 3rd Street, and at Pacific Avenue & 2nd Street.
        - The Project proposes to construct mini traffic circles at the intersections of Santa Cruz Street and Centre Street, Santa Cruz Street and Beacon Street, 2nd Street and Mesa Street, 2nd Street and Centre Street, and 3rd Street and Centre Street.
        - The Project proposes to construct curb extensions at the intersections of Santa Cruz Street and Palos Verdes Street, the east corners of 1st Street and Mesa Street, 1st Street and Centre Street, 1st Street and Palos Verdes Street, the southeast corner of 1st Street and Harbor Boulevard, 2nd Street and Centre Street, 2nd Street and

Palos Verdes Street, the northeast corner of 3rd Street and Centre Street, and at 3rd Street and Palos Verdes Street.

- Along the Project frontages at Santa Cruz Street, the Project proposes a 2′ sidewalk easement to widen the sidewalks to 12′, with a raised crosswalk between Centre Street and Palos Verdes Street.
- Along the Project frontages at 1st Street, the Project proposes to narrow the roadway by 8′ to 20′, and to widen the sidewalks by 3′ to 13′, and change the Roadway Classification from Avenue II to Collector. The Project would vacate each side of 1st Street by 2′. Raised crosswalks would also be constructed between 1st Street and Centre Street, and between Centre Street and Palos Verdes Street.
- Along the Project frontages at 2nd Street, the Project proposes a 2′ sidewalk easement to widen the sidewalks to 12′. For the portion between Palos Verdes Street and Harbor Boulevard, 2nd Street would be fully closed to vehicles and only open to pedestrians. Raised crosswalks would also be constructed between 1st Street and Centre Street, and between Centre Street and Palos Verdes Street.
- Along the Project frontages at 3rd Street, the Project proposes a 2′ sidewalk easement to widen the sidewalks to 13′. A raised crosswalk would also be constructed between Palos Verdes Street and Harbor Boulevard.
- Along the Project frontages at Beacon Street, the Project proposes 2′ sidewalk easement to widen the sidewalks to 12′. For the portion between 1st Street and 3rd Street, Beacon Street would be fully closed to vehicles and open only to pedestrians.
- Along the Project frontages at Palos Verdes Street, the Project proposes to narrow the road by 2′ to 18′, and a 2′ sidewalk easement to widen the sidewalks to 12′.
- Along the Project frontages at Centre Street, the Project proposes to widen the road south of 1st Street by 13′ to 33′, and widen the sidewalks by 3′ to 13′, and the Project would provide a 3′ dedication to facilitate this.
- Along the Project frontages at Mesa Street, the Project proposes to widen the road by 2′ to 20′, and a 2′ sidewalk easement to widen the sidewalks to 12′.
- Along the Project frontages at Harbor Boulevard, the Project proposes a 3′ sidewalk easement to widen the sidewalk to 18 feet.

Figure D1 : Proposed Roadway Alignment Modifications



Source: One San Pedro Specific Plan

Figure D2 : Proposed Traffic Calming Improvements



Source: One San Pedro Specific Plan

N
N.T.S.

Figure D3 : Proposed Parking



Source: One San Pedro Specific Plan

N
N.T.S.

Assessing Project Impacts

Project access points, internal circulation, and parking access were reviewed to assess vehicle, bicycle, and pedestrian safety impacts from an operational and safety perspective (e.g., turning radii, driveway queuing, and line of sight for turns into and out of project driveway[s]) through the lens of Threshold T-3:

> Threshold T-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Operational and safety issues related to the potential for vehicle/pedestrian and vehicle/bicycle conflicts and the severity of consequences that could result were considered for locations where project driveways would cross pedestrian facilities or bicycle facilities (bike lanes or bike paths). Preliminary project access plans were reviewed in light of commonly accepted traffic engineering design standards (Section 321 of LADOT's Manual of Policies and Procedures, which provides guidance on driveway design) to ascertain whether any deficiencies are apparent in the site access plans which would be considered significant. The determination of significance considered the following factors:

- The relative amount of pedestrian activity at project access points.
    - The Project Site is located in an area with a mix of commercial, industrial, and office developments spread throughout the primarily residential area. As the Project would be spread across 8 City blocks, the pedestrian activity is not expected to be concentrated at any one entrance to the Project and would be spread out.
- Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.
    - Driveways on both the OSP Specific Plan Site and the 327 Harbor Site would be designed to the City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. As previously mentioned, the amount of driveways would also be reduced from the existing configurations, which would reduce the amount of opportunities for pedestrians and bicycles to interact with vehicles. All roadways and driveways would intersect at right angles. Street trees and other potential impediments to adequate driver and pedestrian visibility would be minimal. Pedestrian entrances separated from vehicular driveways would provide access from the adjacent streets, parking facilities, and transit stops.
- The type of bicycle facilities the project driveway(s) crosses and the relative level of utilization.
    - The 2 proposed Project driveways on Harbor Boulevard would intersect with the Harbor Boulevard bike lanes, and the Project proposes to construct new bicycle lanes along Centre Street, Mesa Street, Palos Verdes Street, 2nd Street, and Santa Cruz Street, which have a combined total of 6 driveways along them. All driveways would be designed to have adequate views of the adjacent bicycle facilities, and the vehicle volumes would

be spread across all 15 Project driveways so they would not be concentrated at any one location. Exact vehicle volumes at each driveway can be seen in **Appendix H**.

- The physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle impacts.
    - There are no curved streets surrounding either the OSP Specific Plan Site or the 327 Harbor Site, but both areas are on gentle slopes that transition from higher elevations in the east to lower elevations to the west. The Project would contribute to minimizing vehicle/pedestrian, vehicle/bicycle, and vehicle/vehicle impacts by providing designated pedestrian space and locating driveways at right angles to avoid visibility challenges, and the Project would consider visibility near sloped roadways during full design to ensure adequate conditions.
- The project location, or project-related changes to the public right-of-way, relative to proximity to the High Injury Network or a Safe Routes to School program area.
    - There are no streets along the Project's frontage that are on the High Injury Network. The Project proposes to develop a Safe Routes to School network along Mesa Street, 2nd Street, and the soon to be closed Beacon Street, to connect to local schools and parks.
- Any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard.
    - The Project's multimodal amenities and location of driveways would not substantially increase transportation hazards.

Cumulative Impacts

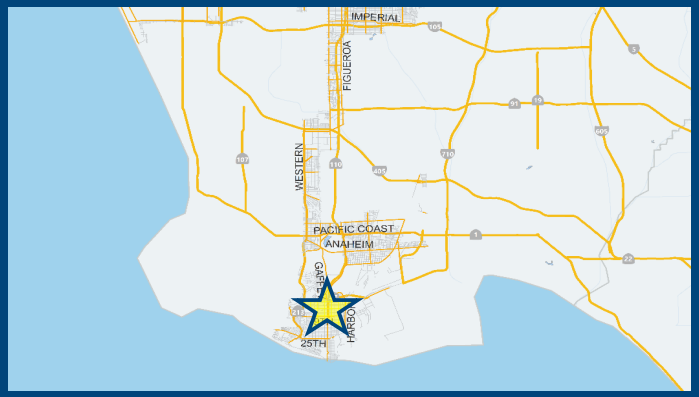
There are 15 related projects. The nearest related project is a mixed-use project with 120 residential units, across Beacon Street and 1st Street from the OSP Specific Plan Site at 111 N Harbor Boulevard. There are currently no driveways fronting this property from the OSP Specific Plan Site, and neither of the proposed street closures would be adjacent to the proposed 111 N Harbor Boulevard project. The two projects in combination with each other are expected to have a less-than-significant impact. Additionally, there is an 88-unit residential development at 117 O'Farrell Street, which is directly to the west of the 327 Harbor Site across Beacon Street. The 327 Harbor Site also does not have any proposed driveways along this shared frontage, and the two projects in combination are expected to have a less-than-significant impact. Other related projects would not share frontages with the Project.

Appendix E: VMT Calculator Reports

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	513	
Retail | General Retail	43	
Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1014	
Housing | Affordable Housing - Senior	73	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

A Parking

B Transit

Reduce Transit Headways
- 100 — percent reduction in headways (increase in frequency)
- 6 — percent existing transit mode share (as a % of total daily trips)
- >= 50 — percent of lines within project site improved

☐ Proposed Prj ☐ Mitigation

Implement Neighborhood Shuttle
- medium — degree of implementation
- 100 — percent of employees and residents eligible

☐ Proposed Prj ☐ Mitigation

Transit Subsidies
- 7 — percent of employees and residents eligible
- 5.96 — amount (dollar) of transit subsidy per passenger (daily equivalent)

☐ Proposed Prj ☑ Mitigation

C Education & Encouragement

D Commute Trip Reductions

E Shared Mobility

F Bicycle Infrastructure

G Neighborhood Enhancement

Analysis Results

Proposed Project	With
9,999 Daily Vehicle Trips	**9,787** Daily Vehicle Trips
92,376 Daily VMT	**90,408** Daily VMT
6.7 Household VMT per Capita	**6.6** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

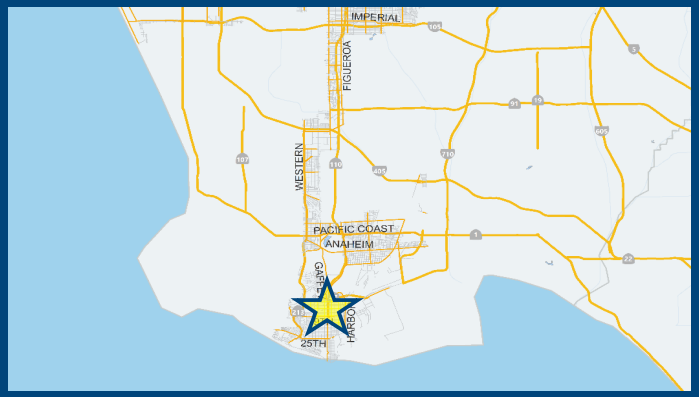
Measuring the Miles

1/11/2023

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	513	
Retail | General Retail	43	
Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1014	
Housing | Affordable Housing - Senior	73	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
  - Car-Share — ☐ Proposed Prj ☑ Mitigation — All Other — project setting
  - Bike Share — ☐ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy
  - School Carpool Program — High (75%-100% of all students + active school pool coor — ☐ Proposed Prj ☐ Mitigation — Level of implementation
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With
9,999 Daily Vehicle Trips	9,787 Daily Vehicle Trips
92,376 Daily VMT	90,408 Daily VMT
6.7 Household VMT per Capita	6.6 Household VMT
N/A Work VMT per Employee	N/A Work VMT per Employee

Significant VMT Impact?

Proposed Project	With
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

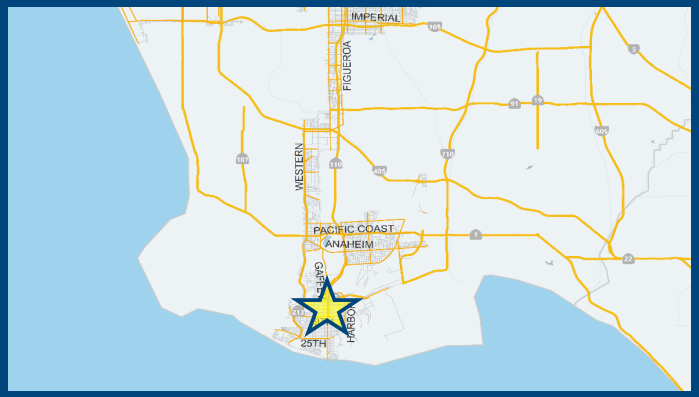
Measuring the Miles

1/11/2023

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



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Housing | Multi-Family	513	
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Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1014	
Housing | Affordable Housing - Senior	73	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	**No**	**No**
Max Work Based TDM Achieved?	**No**	**No**

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure

Implement/Improve On-street Bicycle Facility — ☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Bike Parking Per LAMC — ☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

Include Secure Bike Parking and Showers — ☑ Proposed Prj ☐ Mitigation — Select Proposed Prj or Mitigation to include this strategy

- **G** Neighborhood Enhancement

Analysis Results

Proposed Project	With
9,999 Daily Vehicle Trips	**9,787** Daily Vehicle Trips
92,376 Daily VMT	**90,408** Daily VMT
6.7 Household VMT per Capita	**6.6** Household VMT
N/A Work VMT per Employee	**N/A** Work VMT per Employee

Significant VMT Impact?

Proposed Project	With
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

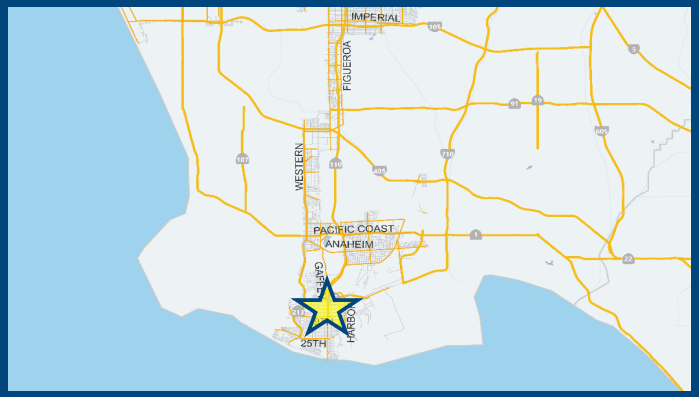
Measuring the Miles

1/11/2023

CITY OF LOS ANGELES VMT CALCULATOR Version 1.3

Project Information

Project: One San Pedro Specific Plan
Scenario: Full Buildout
Address: 275 W 1ST ST, 90731



Proposed Project Land Use Type	Value	Unit
Housing | Multi-Family	513	
Retail | General Retail	43	
Retail | Supermarket	15	
Retail | High-Turnover Sit-Down Restaurant	12	
Housing | Affordable Housing - Family	1014	
Housing | Affordable Housing - Senior	73	

TDM Strategies

Select each section to show individual strategies
Use ☑ to denote if the TDM strategy is part of the proposed project or is a mitigation strategy

	Proposed Project	With Mitigation
Max Home Based TDM Achieved?	No	No
Max Work Based TDM Achieved?	No	No

- **A** Parking
- **B** Transit
- **C** Education & Encouragement
- **D** Commute Trip Reductions
- **E** Shared Mobility
- **F** Bicycle Infrastructure
- **G** Neighborhood Enhancement

Traffic Calming Improvements
☐ Proposed Prj ☐ Mitigation
25 percent of streets within project with traffic calming improvements
25 percent of intersections within project with traffic calming improvements

Pedestrian Network Improvements
☑ Proposed Prj ☐ Mitigation
within project only

Analysis Results

Proposed Project	With
9,999 Daily Vehicle Trips	9,787 Daily Vehicle Trips
92,376 Daily VMT	90,408 Daily VMT
6.7 Household VMT per Capita	6.6 Household VMT
N/A Work VMT per Employee	N/A Work VMT per Employee

Significant VMT Impact?

Proposed Project	With
Household: No Threshold = 9.2 15% Below APC	**Household: No** Threshold = 9.2 15% Below APC
Work: N/A Threshold = 12.3 15% Below APC	**Work: N/A** Threshold = 12.3 15% Below APC

Measuring the Miles

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: January 11, 2023
Project Name: One San Pedro Specific Plan
Project Scenario: Full Buildout
Project Address: 275 W 1ST ST, 90731

Version 1.3

Project Information			
Land Use Type		**Value**	**Units**
Housing	*Single Family*	*0*	*DU*
	Multi Family	513	DU
	Townhouse	*0*	*DU*
	Hotel	*0*	*Rooms*
	Motel	*0*	*Rooms*
Affordable Housing	Family	1,014	DU
	Senior	73	DU
	Special Needs	*0*	*DU*
	Permanent Supportive	*0*	*DU*
Retail	General Retail	43.000	ksf
	Furniture Store	*0.000*	*ksf*
	Pharmacy/Drugstore	*0.000*	*ksf*
	Supermarket	15.000	ksf
	Bank	*0.000*	*ksf*
	Health Club	*0.000*	*ksf*
	High-Turnover Sit-Down Restaurant	12.000	ksf
	Fast-Food Restaurant	*0.000*	*ksf*
	Quality Restaurant	*0.000*	*ksf*
	Auto Repair	*0.000*	*ksf*
	Home Improvement	*0.000*	*ksf*
	Free-Standing Discount	*0.000*	*ksf*
	Movie Theater	*0*	*Seats*
Office	*General Office*	*0.000*	*ksf*
	Medical Office	*0.000*	*ksf*
Industrial	*Light Industrial*	*0.000*	*ksf*
	Manufacturing	*0.000*	*ksf*
	Warehousing/Self-Storage	*0.000*	*ksf*
School	*University*	*0*	*Students*
	High School	*0*	*Students*
	Middle School	*0*	*Students*
	Elementary	*0*	*Students*
	Private School (K-12)	*0*	*Students*

CITY OF LOS ANGELES VMT CALCULATOR

Report 1: Project & Analysis Overview

Date: January 11, 2023
Project Name: One San Pedro Specific Plan
Project Scenario: Full Buildout
Project Address: 275 W 1ST ST, 90731

Version 1.3

Analysis Results			
Total Employees: 194 Total Population: 4,428			
Proposed Project		***With Mitigation***	
9,999	**Daily Vehicle Trips**	**9,787**	**Daily Vehicle Trips**
92,376	**Daily VMT**	**90,408**	**Daily VMT**
6.7	**Household VMT per Capita**	**6.6**	**Household VMT per Capita**
N/A	**Work VMT per Employee**	**N/A**	**Work VMT per Employee**

Significant VMT Impact?			
APC: Harbor			
Impact Threshold: 15% Below APC Average Household = 9.2 Work = 12.3			
Proposed Project		***With Mitigation***	
VMT Threshold	**Impact**	**VMT Threshold**	**Impact**
Household > 9.2 Work > 12.3	No N/A	Household > 9.2 Work > 12.3	No N/A

TDM Strategy Inputs

Strategy Type		Description	Proposed Project	Mitigations
Parking	*Reduce parking supply*	*City code parking provision (spaces)*	*0*	*0*
		Actual parking provision (spaces)	*0*	*0*
	Unbundle parking	*Monthly cost for parking ($)*	*$0*	*$0*
	Parking cash-out	*Employees eligible (%)*	*0%*	*0%*
	Price workplace parking	*Daily parking charge ($)*	*$0.00*	*$0.00*
		Employees subject to priced parking (%)	*0%*	*0%*
	Residential area parking permits	*Cost of annual permit ($)*	*$0*	*$0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Transit	*Reduce transit headways*	*Reduction in headways (increase in frequency) (%)*	*0%*	*0%*
		Existing transit mode share (as a percent of total daily trips) (%)	*0%*	*0%*
		Lines within project site improved (<50%, >=50%)	*0*	*0*
	Implement neighborhood shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees and residents eligible (%)	*0%*	*0%*
	Transit subsidies	Employees and residents eligible (%)	*0%*	7%
		Amount of transit subsidy per passenger (daily equivalent) ($)	*$0.00*	$5.96
Education & Encouragement	*Voluntary travel behavior change program*	*Employees and residents participating (%)*	*0%*	*0%*
	Promotions and marketing	*Employees and residents participating (%)*	*0%*	*0%*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Commute Trip Reductions	*Required commute trip reduction program*	*Employees participating (%)*	*0%*	*0%*
	Alternative Work Schedules and Telecommute	*Employees participating (%)*	*0%*	*0%*
		Type of program	*0*	*0*
	Employer sponsored vanpool or shuttle	*Degree of implementation (low, medium, high)*	*0*	*0*
		Employees eligible (%)	*0%*	*0%*
		Employer size (small, medium, large)	*0*	*0*
	Ride-share program	*Employees eligible (%)*	*0%*	*0%*
Shared Mobility	Car share	Car share project setting (Urban, Suburban, All Other)	*0*	All Other
	Bike share	*Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)*	*0*	*0*
	School carpool program	*Level of implementation (Low, Medium, High)*	*0*	*0*

(cont. on following page)

TDM Strategy Inputs, Cont.

Strategy Type		Description	Proposed Project	Mitigations
Bicycle Infrastructure	Implement/Improve on-street bicycle facility	Provide bicycle facility along site (Yes/No)	Yes	Yes
	Include Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
Neighborhood Enhancement	*Traffic calming improvements*	*Streets with traffic calming improvements (%)*	*0%*	*0%*
		Intersections with traffic calming improvements (%)	*0%*	*0%*
	Pedestrian network improvements	Included (within project and connecting off-site/within project only)	within project only	within project only

CITY OF LOS ANGELES VMT CALCULATOR

Report 3: TDM Outputs

Date: January 11, 2023
Project Name: One San Pedro Specific Plan
Project Scenario: Full Buildout
Project Address: 275 W 1ST ST, 90731

Version 1.3

TDM Adjustments by Trip Purpose & Strategy

Place type: Compact Infill

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Parking	Reduce parking supply	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Parking sections 1 - 5
	Unbundle parking	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Parking cash-out	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Price workplace parking	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Residential area parking permits	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
Transit	Reduce transit headways	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Transit sections 1 - 3
	Implement neighborhood shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Transit subsidies	*0%*	1%	*0%*	1%	*0%*	1%	*0%*	1%	*0%*	1%	*0%*	1%	
Education & Encouragement	Voluntary travel behavior change program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Education & Encouragement sections 1 - 2
	Promotions and marketing	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Commute Trip Reductions	Required commute trip reduction program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	TDM Strategy Appendix, Commute Trip Reductions sections 1 - 4
	Alternative Work Schedules and Telecommute Program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Employer sponsored vanpool or shuttle	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
	Ride-share program	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Shared Mobility	Car-share	*0.0%*	0.7%	*0.0%*	0.7%	*0.0%*	0.7%	*0.0%*	0.7%	*0.0%*	0.7%	*0.0%*	0.7%	TDM Strategy Appendix, Shared Mobility sections 1 - 3
	Bike share	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	
	School carpool program	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	

TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Compact Infill

		Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*		*Source*
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
Bicycle Infrastructure	Implement/ Improve on-street bicycle facility	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	TDM Strategy Appendix, Bicycle Infrastructure sections 1 - 3
	Include Bike parking per LAMC	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
	Include secure bike parking and showers	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Neighborhood Enhancement	Traffic calming improvements	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	TDM Strategy Appendix, Neighborhood Enhancement
	Pedestrian network improvements	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	

Final Combined & Maximum TDM Effect

	Home Based Work Production		*Home Based Work Attraction*		*Home Based Other Production*		*Home Based Other Attraction*		*Non-Home Based Other Production*		*Non-Home Based Other Attraction*	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
COMBINED TOTAL	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*
MAX. TDM EFFECT	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*	*3%*	*5%*

= Minimum (X%, 1-[(1-A)*(1-B)…])

where X%=

PLACE	*urban*	*75%*
TYPE	compact infill	*40%*
MAX:	*suburban center*	*20%*
	suburban	*15%*

Note: (1-[(1-A)*(1-B)…]) reflects the dampened combined effectiveness of TDM Strategies (e.g., A, B,…). See the TDM Strategy Appendix (*Transportation Assessment Guidelines Attachment G)* for further discussion of dampening.

CITY OF LOS ANGELES VMT CALCULATOR

Report 4: MXD Methodology

Date: January 11, 2023
Project Name: One San Pedro Specific Plan
Project Scenario: Full Buildout
Project Address: 275 W 1ST ST, 90731

Version 1.3

MXD Methodology - Project Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	1,341	-17.0%	1,113	11.8	15,824	13,133
Home Based Other Production	3,713	-35.3%	2,403	7.3	27,105	17,542
Non-Home Based Other Production	2,690	-4.8%	2,561	9.9	26,631	25,354
Home-Based Work Attraction	281	-46.6%	150	14.4	4,046	2,160
Home-Based Other Attraction	3,966	-30.1%	2,774	7.9	31,331	21,915
Non-Home Based Other Attraction	1,377	-6.2%	1,291	11.6	15,973	14,976

MXD Methodology with TDM Measures

	Proposed Project			*Project with Mitigation Measures*		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-2.8%	1,081	12,759	-4.9%	1,058	12,488
Home Based Other Production	-2.8%	2,335	17,043	-4.9%	2,285	16,680
Non-Home Based Other Production	-2.8%	2,488	24,633	-4.9%	2,435	24,108
Home-Based Work Attraction	-2.8%	146	2,099	-4.9%	143	2,054
Home-Based Other Attraction	-2.8%	2,695	21,292	-4.9%	2,638	20,838
Non-Home Based Other Attraction	-2.8%	1,254	14,550	-4.9%	1,228	14,240

MXD VMT Methodology Per Capita & Per Employee

Total Population: 4,428
Total Employees: 194
APC: Harbor

	Proposed Project	*Project with Mitigation Measures*
Total Home Based Production VMT	**29,802**	**29,168**
Total Home Based Work Attraction VMT	**2,099**	**2,054**
Total Home Based VMT Per Capita	**6.7**	**6.6**
Total Work Based VMT Per Employee	**N/A**	**N/A**

Appendix F: Count Sheets

Appendix E1: 2019 Counts

Prepared by National Data & Surveying Services

Gaffey St & SR-47 EB On-Ramp/I-110 Ramp

Peak Hour Turning Movement Count

ID: 19-05332-010
City: San Pedro

Day: Thursday
Date: 05/23/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS	
AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

Gaffey St – SOUTHBOUND

	Right	Thru	Left	U-Turn	Exit
AM	0	785	0	0	475
NOON	0	0	0	0	0
PM	0	1075	0	0	510
	0	3	0	0	

SR-47 EB On-Ramp/I-110 Ramp – WESTBOUND

	PM	NOON	AM	
Right	85	0	71	0.5
Thru	0	0	0	0
Left	1853	0	1548	2.5
U-Turn	0	0	0	0
Exit	1966	0	2978	

SR-47 EB On-Ramp/I-110 Ramp – EASTBOUND

	AM	NOON	PM	
Exit	0	0	0	
U-Turn	0	0	0	0
Left	0	0	0	0
Thru	0	0	0	0
Right	0	0	0	0

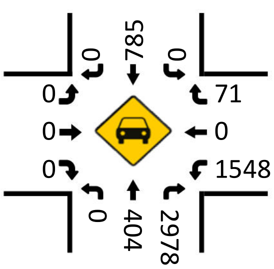
Gaffey St – NORTHBOUND

	Exit	U-Turn	Left	Thru	Right
		0	0	2	2
PM	2929	1	0	425	1966
NOON	0	0	0	0	0
AM	2334	1	0	404	2978

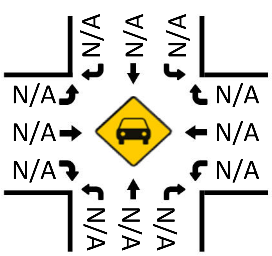
CONTROL: Signalized

	AM	NOON	PM
TEV	5787	0	5405
PHF	0.93		0.97

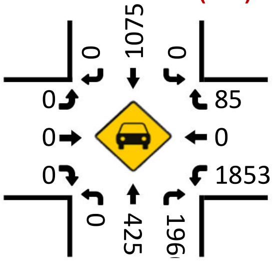
Total Vehicles (AM)



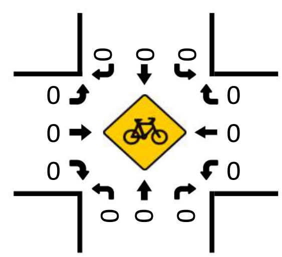
Total Vehicles (Noon)



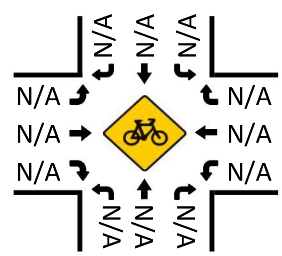
Total Vehicles (PM)



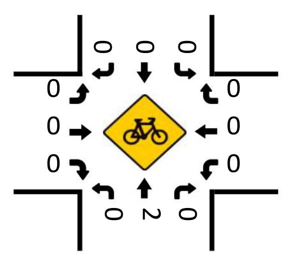
Bikes (AM)



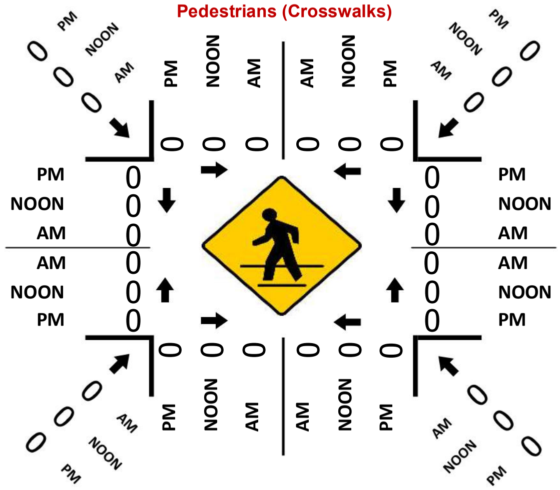
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Gaffey St & 1st St

Peak Hour Turning Movement Count

ID: 19-05332-011
City: San Pedro

Day: Thursday
Date: 05/23/2019

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

COUNT PERIODS	
AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

Gaffey St — SOUTHBOUND

AM	402	1485	72	0	2990	AM
NOON	0	0	0	0	0	NOON
PM	424	1811	92	0	2191	PM

1st St — EASTBOUND

AM	NOON	PM		
528	0	596		
0	0	0	0	
1040	0	692	1.5	
47	0	102	0.5	
24	0	37	1	
AM	NOON	PM		

1st St — WESTBOUND

PM	NOON	AM	
109	0	177	0
141	0	117	1
42	0	41	1
0	0	0	0
203	0	122	
PM	NOON	AM	

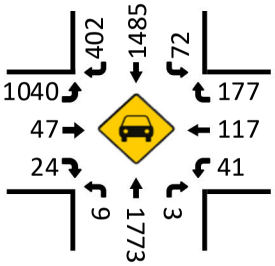
Gaffey St — NORTHBOUND

PM	1890	0	31	1390	9	PM
NOON	0	0	0	0	0	NOON
AM	1550	0	9	1773	3	AM

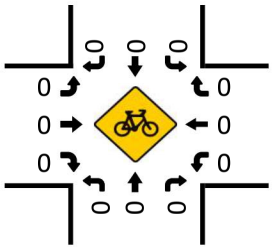
	SOUTHBOUND	EASTBOUND	WESTBOUND	NORTHBOUND
	0	3	1	0
				0 1 3 0

CONTROL			
Signalized			
TEV	5190	0	4880
	AM	NOON	PM
PHF	0.95		0.99

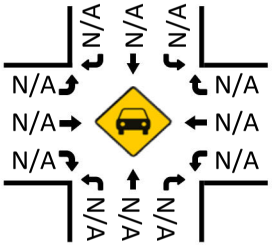
Total Vehicles (AM)



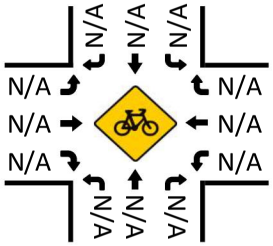
Bikes (AM)



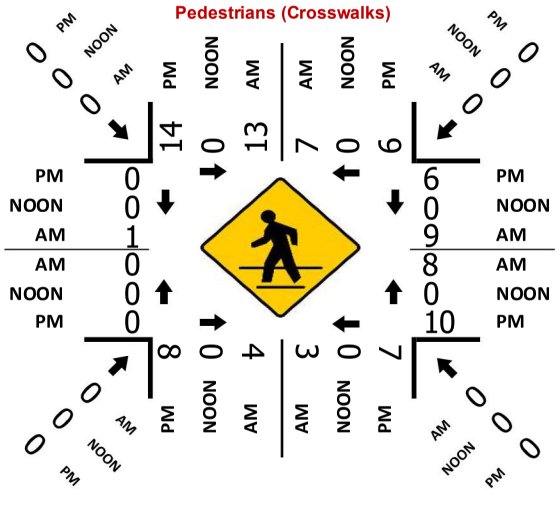
Total Vehicles (Noon)



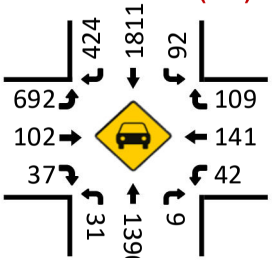
Bikes (NOON)



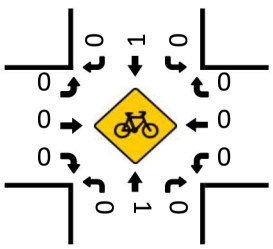
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Pacific Ave & 1st St

Peak Hour Turning Movement Count

ID: 19-05332-007
City: San Pedro

Day: Thursday
Date: 05/23/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 10:00 AM
NONE	NONE
04:45 PM - 05:45 PM	03:00 PM - 06:00 PM

SOUTHBOUND — Pacific Ave

AM	22	499	19	0	803	AM
NOON	0	0	0	0	0	NOON
PM	37	682	22	0	624	PM

EASTBOUND — 1st St

AM	NOON	PM		
208	0	202	⇦	
0	0	0	↶	0
44	0	53	↱	0
79	0	78	→	1
46	0	95	↴	0
AM	NOON	PM		

WESTBOUND — 1st St

PM	NOON	AM		
36	0	61	↰	1
90	0	109	←	0.5
36	0	72	↰	0.5
0	0	0	↶	0
128	0	124	⇨	
PM	NOON	AM		

NORTHBOUND — Pacific Ave

PM	813	0	75	535	28	PM
NOON	0	0	0	0	0	NOON
AM	617	0	77	698	26	AM

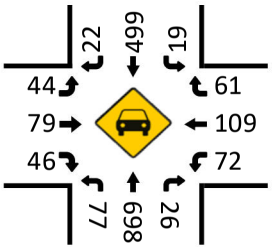
	0	2	1	0
	0	1	2	0

CONTROL

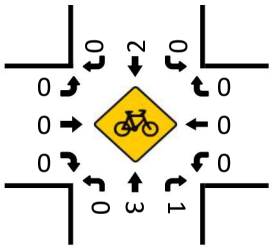
Signalized

TEV	1752 AM	0 NOON	1767 PM
PHF	0.87		0.98

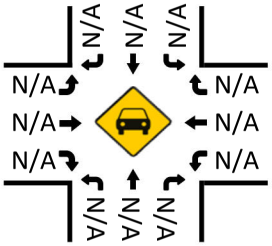
Total Vehicles (AM)



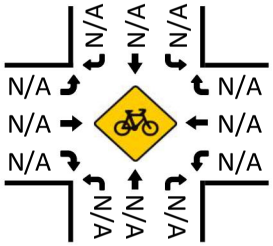
Bikes (AM)



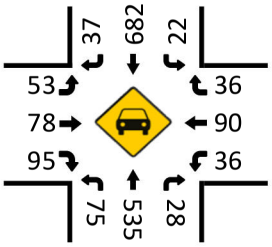
Total Vehicles (Noon)



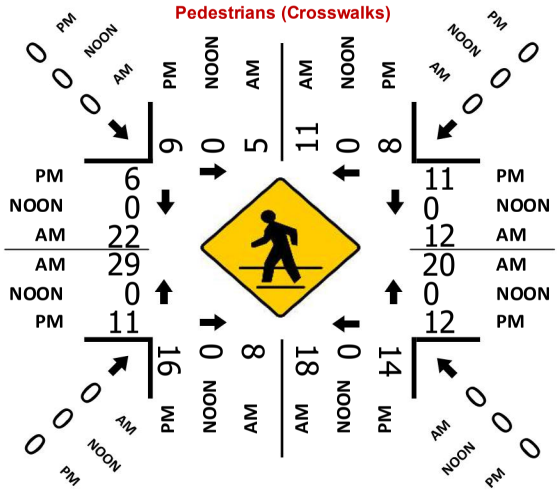
Bikes (NOON)



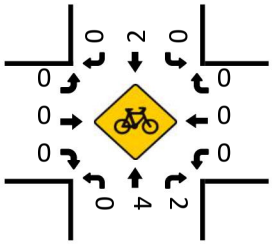
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Harbor Blvd & SR-47 WB On-Ramp

Peak Hour Turning Movement Count

ID: 19-05332-001
City: San Pedro

Day: Thursday
Date: 05/23/2019

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	03:00 PM - 04:00 PM	03:00 PM - 06:00 PM

SOUTHBOUND — Harbor Blvd

AM	7	203	0	0	434	AM
NOON	0	0	0	0	0	NOON
PM	101	191	0	0	391	PM

EASTBOUND — SR-47 WB On-Ramp

AM	NOON	PM	
754	0	605	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

WESTBOUND — SR-47 WB On-Ramp

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

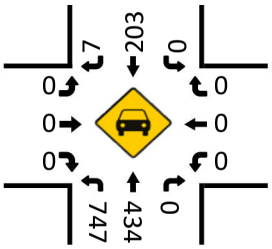
NORTHBOUND — Harbor Blvd

PM	191	0	504	391	0	PM
NOON	0	0	0	0	0	NOON
AM	203	0	747	434	0	AM

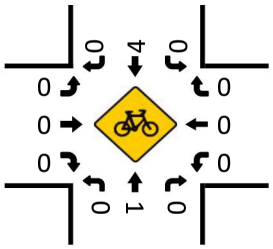
	0	2	0	0
	0	1	2	0

CONTROL			
No Control			
TEV	1391	0	1187
	AM	NOON	PM
PHF	0.75		0.90

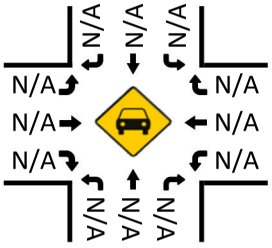
Total Vehicles (AM)



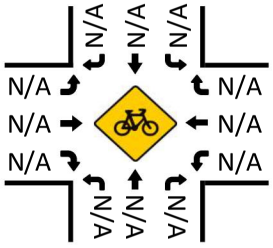
Bikes (AM)



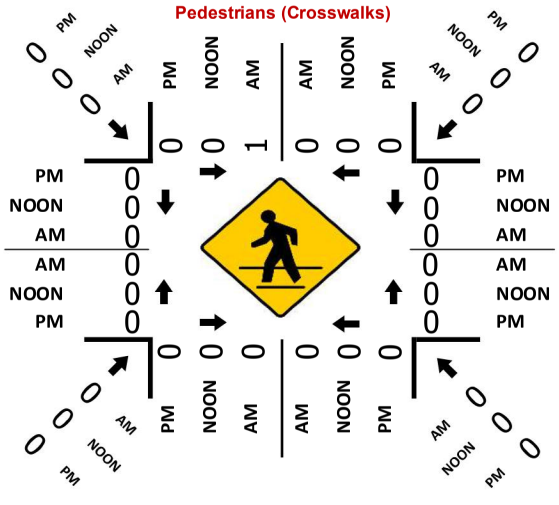
Total Vehicles (Noon)



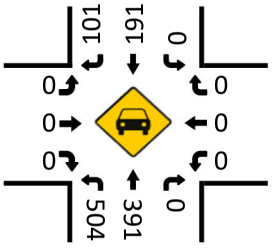
Bikes (NOON)



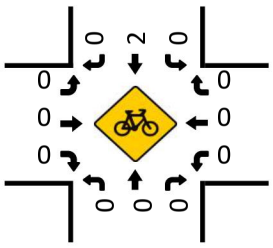
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Harbor Blvd & SR-47 EB Ramps/Swinford St

Peak Hour Turning Movement Count

ID: 19-05332-002
City: San Pedro

Day: Thursday
Date: 05/23/2019

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 03:30 PM - 04:30 PM

COUNT PERIODS

AM: 07:00 AM - 10:00 AM
NOON: NONE
PM: 03:00 PM - 06:00 PM

Harbor Blvd — SOUTHBOUND

AM	43	149	29	2	1165	AM
NOON	0	0	0	0	0	NOON
PM	74	114	17	1	811	PM

SR-47 EB Ramps/Swinford St — EASTBOUND

AM	NOON	PM		
476	0	439		
1	0	1	0	
163	0	139	1.3	
64	0	51	0.3	
976	0	1083	1.3	

SR-47 EB Ramps/Swinford St — WESTBOUND

PM	NOON	AM		
7	0	3	0.5	
7	0	6	1	
15	0	10	0.5	
0	0	0	0	
280	0	128		

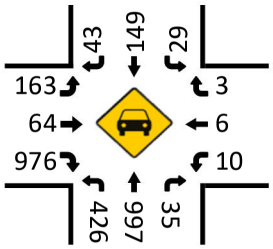
Harbor Blvd — NORTHBOUND

PM	1212	0	357	664	212	PM
NOON	0	0	0	0	0	NOON
AM	1135	0	426	997	35	AM

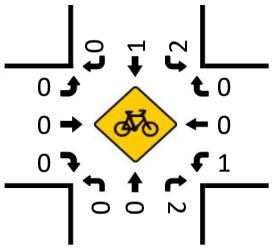
CONTROL: Signalized

TEV	2904	0	2742
	AM	NOON	PM
PHF	0.80		0.98

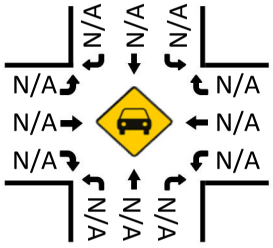
Total Vehicles (AM)



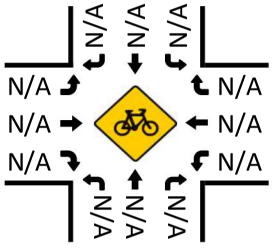
Bikes (AM)



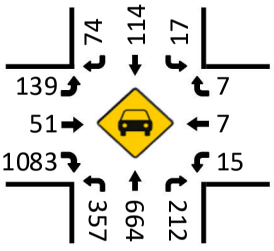
Total Vehicles (Noon)



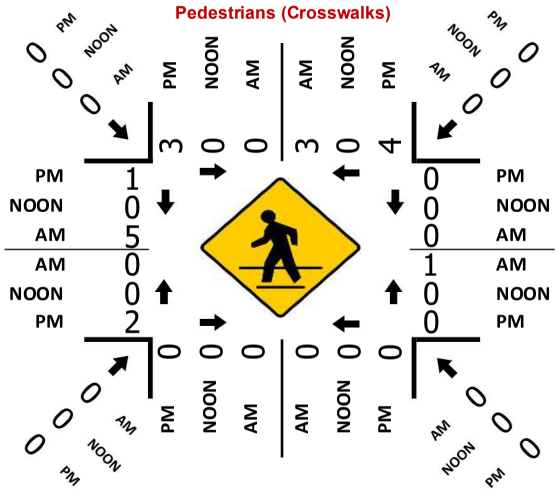
Bikes (NOON)



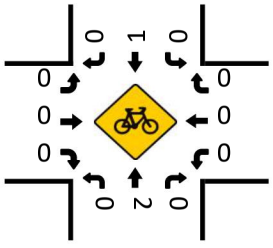
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Harbor Blvd & 1st St

Peak Hour Turning Movement Count

ID: 19-05332-003
City: San Pedro

Day: Thursday
Date: 05/23/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	03:30 PM - 04:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

Harbor Blvd

SOUTHBOUND

AM	39	971	15	3	1314	AM
NOON	0	0	0	0	0	NOON
PM	47	1036	3	0	1186	PM

1st St

EASTBOUND

AM	NOON	PM	
46	0	74	
0	0	1	0
245	0	169	1
3	0	6	1
10	0	28	0

CONTROL

Signalized

TEV	2368	0	2346
	AM	NOON	PM
PHF	0.79		0.98

WESTBOUND

PM	NOON	AM	
28	0	7	0
3	0	0	1
8	0	3	0
0	0	0	0
12	0	24	

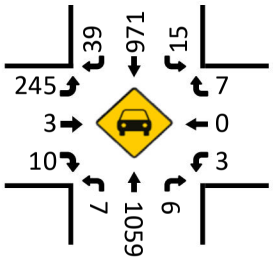
1st St

NORTHBOUND

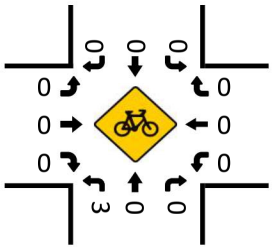
PM	1074	2	23	989	3	PM
NOON	0	0	0	0	0	NOON
AM	984	0	7	1059	6	AM

Harbor Blvd

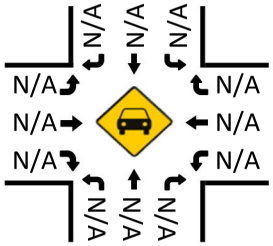
Total Vehicles (AM)



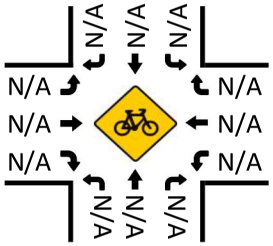
Bikes (AM)



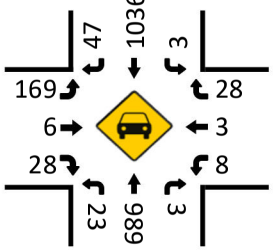
Total Vehicles (Noon)



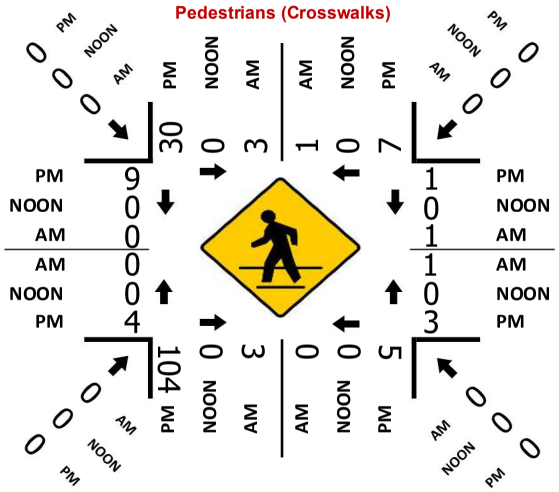
Bikes (NOON)



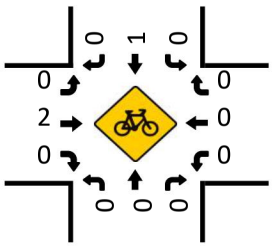
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Harbor Blvd & 3rd St

Peak Hour Turning Movement Count

ID: 19-05332-004
City: San Pedro

Day: Thursday
Date: 05/23/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	03:30 PM - 04:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

Harbor Blvd

SOUTHBOUND

AM	196	795	0	0	1083	AM
NOON	0	0	0	0	0	NOON
PM	72	946	0	10	1028	PM

3rd St

EASTBOUND

AM	NOON	PM	
199	0	76	
0	0	0	0
26	0	49	1
0	0	0	0
13	0	17	1

WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

3rd St

NORTHBOUND

PM	965	2	4	969	0	PM
NOON	0	0	0	0	0	NOON
AM	808	0	3	1057	0	AM

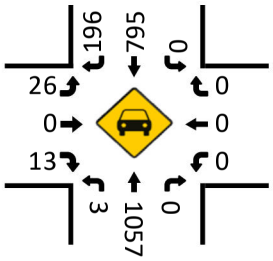
Harbor Blvd

CONTROL

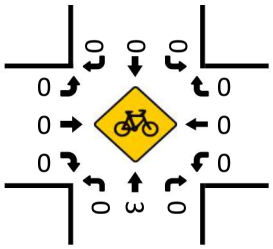
1-Way Stop (EB)

TEV	2090	0	2069
	AM	NOON	PM
PHF	0.83		0.99

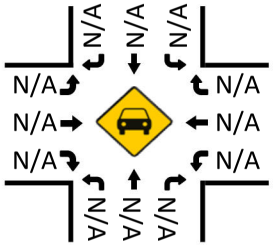
Total Vehicles (AM)



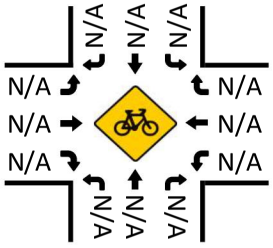
Bikes (AM)



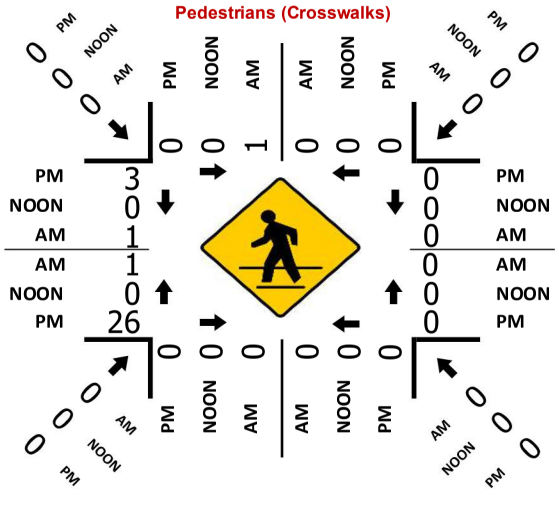
Total Vehicles (Noon)



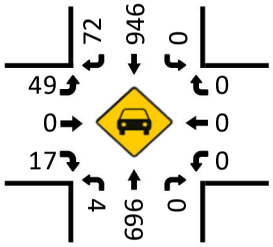
Bikes (NOON)



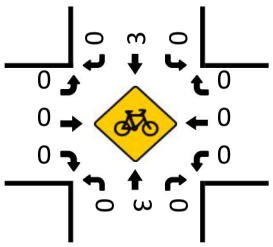
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Appendix E2: 2021 Counts

Prepared by National Data & Surveying Services

Pacific Ave & W 1st St

Peak Hour Turning Movement Count

ID: 21-020127-003
City: San Pedro

Day: Wednesday
Date: 05/05/2021

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 10:00 AM
NONE	NONE
04:45 PM - 05:45 PM	03:00 PM - 06:00 PM

SOUTHBOUND — Pacific Ave

AM	22	298	10	0	454	AM
NOON	0	0	0	0	0	NOON
PM	37	530	24	0	524	PM

EASTBOUND — W 1st St

AM	NOON	PM	
148	0	177	
0	0	0	0
33	0	37	0
36	0	67	1
51	0	68	0

WESTBOUND — W 1st St

PM	NOON	AM	
31	0	32	1
78	0	56	0.5
31	0	30	0.5
0	0	0	0
117	0	66	

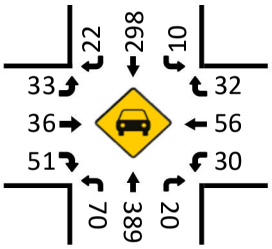
NORTHBOUND — Pacific Ave

PM	629	0	62	456	26	PM
NOON	0	0	0	0	0	NOON
AM	379	0	70	389	20	AM

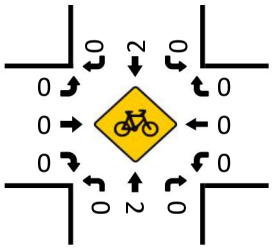
CONTROL			
Signalized			
TEV	1047 AM	0 NOON	1447 PM
PHF	0.91		0.95

	SB	EB	NB	WB
Left	0	0	0	1
Thru	2	0	1	0.5
Right	1	1	2	0.5
U-Turn	0	0	0	0

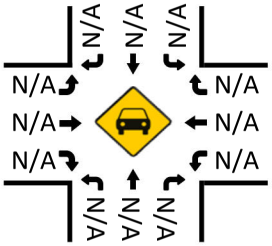
Total Vehicles (AM)



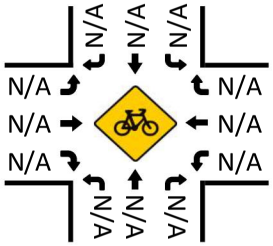
Bikes (AM)



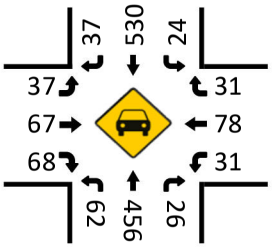
Total Vehicles (Noon)



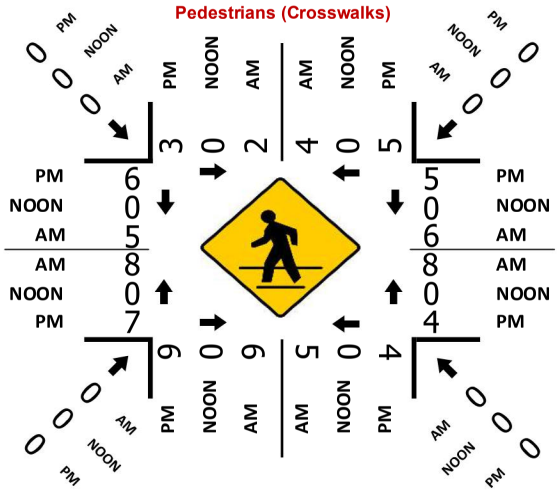
Bikes (NOON)



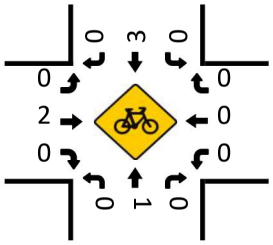
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

S Harbor Blvd & W Ofarrell St

Peak Hour Turning Movement Count

ID: 21-020127-002
City: San Pedro

Day: Wednesday
Date: 05/05/2021

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	03:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1578	0	2207
PHF	0.90		0.96

S Harbor Blvd – SOUTHBOUND

	Right	Through	Left	U-Turn	Departing (northern leg)
AM	12	582	0	0	969
NOON	0	0	0	0	0
PM	11	1199	0	0	975
Bikes	0	3	0	0	

W Ofarrell St – EASTBOUND

	AM	NOON	PM	Bikes
Departing (western leg)	16	0	21	
U-Turn	0	0	0	0
Left	95	0	72	0
Through	0	0	0	1
Right	11	0	12	0

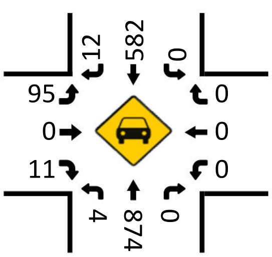
W Ofarrell St – WESTBOUND

	PM	NOON	AM	Bikes
Right	0	0	0	0
Through	0	0	0	0
Left	0	0	0	0
U-Turn	0	0	0	0
Departing (eastern leg)	0	0	0	

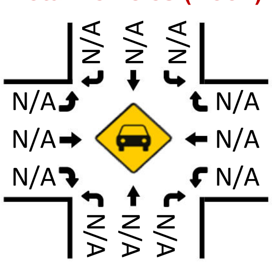
S Harbor Blvd – NORTHBOUND

	Departing (southern leg)	U-Turn	Left	Through	Right
Bikes		0	1	2	0
PM	1211	0	10	903	0
NOON	0	0	0	0	0
AM	593	0	4	874	0

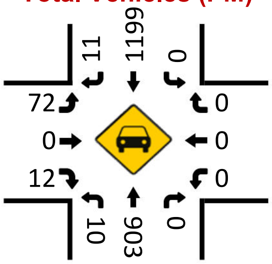
Total Vehicles (AM)



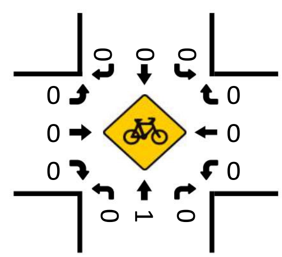
Total Vehicles (Noon)



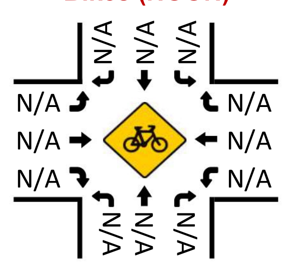
Total Vehicles (PM)



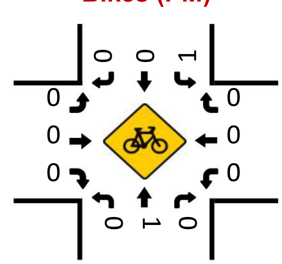
Bikes (AM)



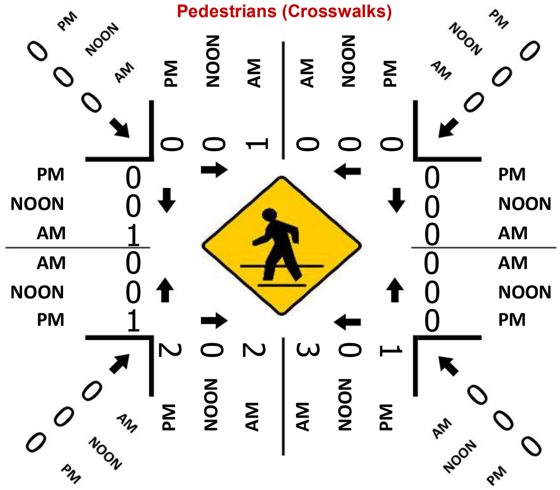
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

S Harbor Blvd & W 1st St

Peak Hour Turning Movement Count

ID: 21-020127-001
City: San Pedro

Day: Wednesday
Date: 05/05/2021

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	03:00 PM - 06:00 PM

S Harbor Blvd – SOUTHBOUND

	Right	Through	Left	U-Turn	Exit
Lanes	0	3	1	0	
AM	20	610	14	2	837
NOON	0	0	0	0	0
PM	39	1129	7	5	915

W 1st St – WESTBOUND

	Right	Through	Left	U-Turn	Exit
Lanes	0	1	0	0	
PM	19	3	7	0	9
NOON	0	0	0	0	0
AM	7	0	0	1	25

W 1st St – EASTBOUND

	Exit	U-Turn	Left	Through	Right
Lanes		0	1	1	0
AM	23	0	60	3	5
NOON	0	0	0	0	0
PM	50	0	70	0	21

S Harbor Blvd – NORTHBOUND

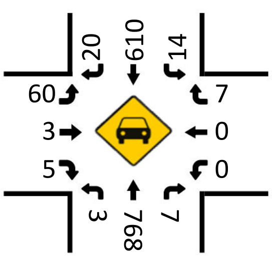
	Exit	U-Turn	Left	Through	Right
Lanes		0	1	2	0
PM	1157	0	8	821	2
NOON	0	0	0	0	0
AM	616	1	3	768	7

CONTROL

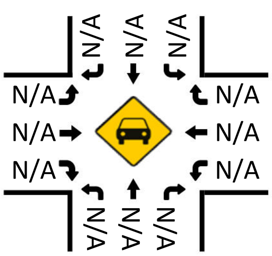
Signalized

	AM	NOON	PM
TEV	1501	0	2131
PHF	0.90		0.94

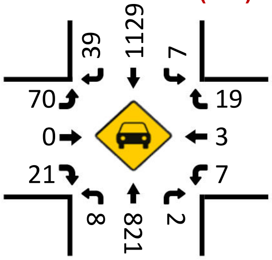
Total Vehicles (AM)



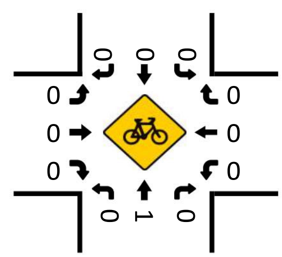
Total Vehicles (Noon)



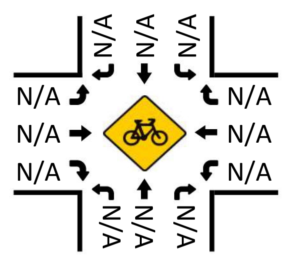
Total Vehicles (PM)



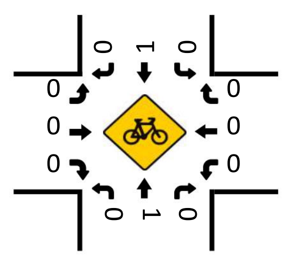
Bikes (AM)



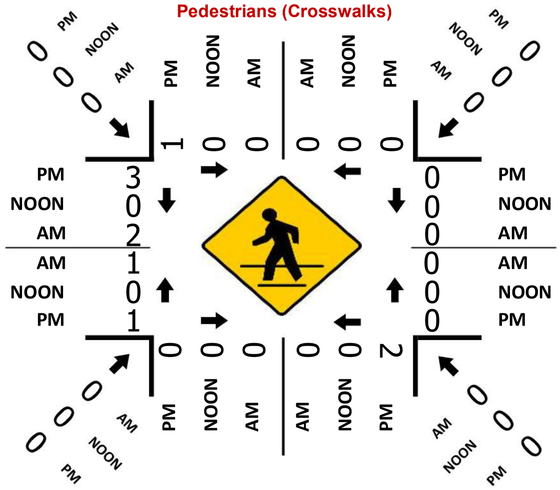
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)



Appendix G: LOS and Queueing Analysis Sheets

Baseline Year (2021)

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/02/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1548	71	404	2978	0	785
Future Volume (veh/h)	1548	71	404	2978	0	785
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1731	0	434	0	0	844
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2348	696	1450		0	2084
Arrive On Green	0.45	0.00	0.41	0.00	0.00	0.41
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1731	0	434	0	0	844
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	24.4	0.0	7.5	0.0	0.0	10.6
Cycle Q Clear(g_c), s	24.4	0.0	7.5	0.0	0.0	10.6
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2348	696	1450		0	2084
V/C Ratio(X)	0.74	0.00	0.30		0.00	0.41
Avail Cap(c_a), veh/h	2834	841	1450		0	2084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	17.6	0.0	0.0	18.5
Incr Delay (d2), s/veh	1.1	0.0	0.5	0.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.0	0.0	5.3	0.0	0.0	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	0.0	18.1	0.0	0.0	19.1
LnGrp LOS	C	A	B		A	B
Approach Vol, veh/h	1731		434			844
Approach Delay, s/veh	21.6		18.1			19.1
Approach LOS	C		B			B

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		43.3		46.7		43.3
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		12.6		26.4		9.5
Green Ext Time (p_c), s		8.4		13.7		4.5

Intersection Summary		
HCM 6th Ctrl Delay		20.4
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1040	47	24	41	117	177	9	1773	3	72	1485	402
Future Volume (veh/h)	1040	47	24	41	117	177	9	1773	3	72	1485	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1130	0	5	43	123	75	9	1866	3	76	1563	394
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	198	208	167	98	2298	4	93	2127	530
Arrive On Green	0.19	0.00	0.19	0.11	0.11	0.11	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1523	1753	1841	1477	221	5181	8	1753	3992	995
Grp Volume(v), veh/h	1130	0	5	43	123	75	9	1207	662	76	1309	648
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1477	221	1675	1839	1753	1675	1637
Q Serve(g_s), s	28.3	0.0	0.4	3.3	9.5	7.1	4.9	47.0	47.0	6.4	44.9	45.9
Cycle Q Clear(g_c), s	28.3	0.0	0.4	3.3	9.5	7.1	37.4	47.0	47.0	6.4	44.9	45.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.61
Lane Grp Cap(c), veh/h	661	0	287	198	208	167	98	1486	816	93	1785	872
V/C Ratio(X)	1.71	0.00	0.02	0.22	0.59	0.45	0.09	0.81	0.81	0.81	0.73	0.74
Avail Cap(c_a), veh/h	661	0	287	284	298	239	98	1486	816	93	1785	872
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	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.5	60.5	63.2	62.1	46.7	36.3	36.3	70.3	26.9	27.1
Incr Delay (d2), s/veh	325.2	0.0	0.1	1.3	6.4	4.6	1.8	4.9	8.7	40.0	2.7	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(95%),veh/ln	65.7	0.0	0.3	2.8	8.4	5.2	0.6	27.3	30.6	7.1	25.2	26.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	386.0	0.0	49.6	61.8	69.6	66.7	48.6	41.2	45.0	110.3	29.6	32.8
LnGrp LOS	F	A	D	E	E	E	D	D	D	F	C	C
Approach Vol, veh/h		1135			241			1878			2033	
Approach Delay, s/veh		384.5			67.3			42.6			33.6	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	4	6	8
Phs Duration (G+Y+Rc), s	13.4	75.9	26.7	89.3	34.0
Change Period (Y+Rc), s	* 5.4	* 9.4	* 9.7	* 9.4	5.7
Max Green Setting (Gmax), s	* 8	* 59	* 24	* 73	28.3
Max Q Clear Time (g_c+I1), s	8.4	49.0	11.5	47.9	30.3
Green Ext Time (p_c), s	0.0	9.0	1.7	21.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	113.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	79	46	72	109	61	77	698	26	19	499	22
Future Volume (veh/h)	44	79	46	72	109	61	77	698	26	19	499	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	51	91	17	83	125	24	89	802	15	22	574	14
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	82	108	481	84	92	491	349	930	752	201	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	334	1488	0	284	1519	814	1841	1489	658	1841	1501
Grp Volume(v), veh/h	142	0	17	208	0	24	89	802	15	22	574	14
Grp Sat Flow(s),veh/h/ln	334	0	1488	284	0	1519	814	1841	1489	658	1841	1501
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.7	5.3	22.9	0.3	1.8	13.5	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.7	18.8	22.9	0.3	24.8	13.5	0.3
Prop In Lane	0.36		1.00	0.40		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	0	481	176	0	491	349	930	752	201	930	758
V/C Ratio(X)	0.75	0.00	0.04	1.18	0.00	0.05	0.26	0.86	0.02	0.11	0.62	0.02
Avail Cap(c_a), veh/h	190	0	481	176	0	491	349	930	752	201	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	20.7	0.0	14.0	17.4	13.0	7.4	23.9	10.7	7.4
Incr Delay (d2), s/veh	2.5	0.0	0.0	126.1	0.0	0.2	1.8	10.4	0.0	1.1	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.3	14.7	0.0	0.4	1.9	15.2	0.2	0.6	8.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	13.9	146.7	0.0	14.1	19.2	23.4	7.5	25.0	13.8	7.5
LnGrp LOS	B	A	B	F	A	B	B	C	A	C	B	A
Approach Vol, veh/h		159			232			906			610	
Approach Delay, s/veh		18.9			133.0			22.8			14.0	
Approach LOS		B			F			C			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	26.8	21.4	24.9	21.4
Green Ext Time (p_c), s	1.2	0.0	2.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	64	976	10	6	3	426	997	35	31	149	43
Future Volume (veh/h)	164	64	976	10	6	3	426	997	35	31	149	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1040	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1381
Adj Flow Rate, veh/h	133	0	744	10	6	1	435	1017	36	32	152	5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	58	0	0	0	0	0	0	0	0	0	0	35
Cap, veh/h	243	0	1681	113	99	16	973	1130	40	93	466	147
Arrive On Green	0.24	0.00	0.24	0.06	0.06	0.06	0.28	0.37	0.37	0.05	0.13	0.13
Sat Flow, veh/h	991	0	3220	1810	1583	264	3510	3028	107	1810	3610	1139
Grp Volume(v), veh/h	133	0	744	10	0	7	435	421	632	32	152	5
Grp Sat Flow(s),veh/h/ln	991	0	1610	1810	0	1847	1755	1254	1881	1810	1805	1139
Q Serve(g_s), s	9.2	0.0	0.0	0.4	0.0	0.3	8.0	24.9	24.9	1.3	3.0	0.3
Cycle Q Clear(g_c), s	9.2	0.0	0.0	0.4	0.0	0.3	8.0	24.9	24.9	1.3	3.0	0.3
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	1681	113	0	115	973	468	702	93	466	147
V/C Ratio(X)	0.55	0.00	0.44	0.09	0.00	0.06	0.45	0.90	0.90	0.35	0.33	0.03
Avail Cap(c_a), veh/h	442	0	2328	622	0	635	1565	479	719	346	1103	348
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	11.7	34.7	0.0	34.7	23.4	23.2	23.2	36.0	31.1	29.9
Incr Delay (d2), s/veh	3.9	0.0	0.4	0.3	0.0	0.2	0.3	20.6	15.0	2.2	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.0	6.9	0.3	0.0	0.2	5.7	14.4	18.9	1.1	2.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	0.0	12.0	35.1	0.0	34.9	23.7	43.8	38.3	38.2	31.5	30.0
LnGrp LOS	C	A	B	D	A	C	C	D	D	D	C	C
Approach Vol, veh/h		877			17			1488			189	
Approach Delay, s/veh		14.7			35.0			35.6			32.6	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	34.7		24.9	27.2	15.5		10.9
Change Period (Y+Rc), s	4.0	5.4		* 5.7	5.4	5.4		6.0
Max Green Setting (Gmax), s	15.0	30.0		* 35	35.0	24.0		27.0
Max Q Clear Time (g_c+I1), s	3.3	26.9		11.2	10.0	5.0		2.4
Green Ext Time (p_c), s	0.0	2.4		8.0	1.5	0.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	162	19	7	1486	989	20
Future Volume (veh/h)	162	19	7	1486	989	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	178	16	8	1633	1087	22
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	223	20	401	2633	2639	53
Arrive On Green	0.14	0.14	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1584	142	500	3589	3598	71
Grp Volume(v), veh/h	195	0	8	1633	542	567
Grp Sat Flow(s),veh/h/ln	1735	0	500	1749	1749	1828
Q Serve(g_s), s	9.8	0.0	0.5	19.5	10.0	10.0
Cycle Q Clear(g_c), s	9.8	0.0	10.5	19.5	10.0	10.0
Prop In Lane	0.91	0.08	1.00			0.04
Lane Grp Cap(c), veh/h	244	0	401	2633	1316	1376
V/C Ratio(X)	0.80	0.00	0.02	0.62	0.41	0.41
Avail Cap(c_a), veh/h	578	0	401	2633	1316	1376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.91	0.91
Uniform Delay (d), s/veh	37.4	0.0	5.9	5.2	4.0	4.0
Incr Delay (d2), s/veh	6.0	0.0	0.1	1.1	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	0.1	8.8	4.9	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.4	0.0	6.0	6.3	4.9	4.8
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	195			1641	1109	
Approach Delay, s/veh	43.4			6.3	4.8	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	72.3		17.7		72.3
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	12.0		11.8		21.5
Green Ext Time (p_c), s	15.6		0.5		23.7

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	3	10	3	0	7	7	1059	6	18	971	39
Future Volume (veh/h)	245	3	10	3	0	7	7	1059	6	18	971	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.89	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	310	4	4	4	0	1	9	1341	8	23	1229	24
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	420	186	186	190	0	150	165	1405	8	68	1670	739
Arrive On Green	0.24	0.24	0.24	0.11	0.00	0.11	0.39	0.39	0.39	0.04	0.48	0.48
Sat Flow, veh/h	1753	778	778	1753	0	1383	436	3564	21	1753	3497	1547
Grp Volume(v), veh/h	310	0	8	4	0	1	9	658	691	23	1229	24
Grp Sat Flow(s),veh/h/ln	1753	0	1556	1753	0	1383	436	1749	1837	1753	1749	1547
Q Serve(g_s), s	14.7	0.0	0.4	0.2	0.0	0.1	1.5	32.9	32.9	1.1	25.5	0.7
Cycle Q Clear(g_c), s	14.7	0.0	0.4	0.2	0.0	0.1	19.5	32.9	32.9	1.1	25.5	0.7
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	420	0	373	190	0	150	165	689	724	68	1670	739
V/C Ratio(X)	0.74	0.00	0.02	0.02	0.00	0.01	0.05	0.95	0.95	0.34	0.74	0.03
Avail Cap(c_a), veh/h	460	0	408	479	0	378	165	689	724	234	1670	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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	26.1	35.9	0.0	35.8	29.8	26.5	26.5	42.1	18.9	12.5
Incr Delay (d2), s/veh	5.6	0.0	0.0	0.0	0.0	0.0	0.6	24.8	24.1	2.9	2.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.2	0.1	0.0	0.0	0.3	24.3	25.2	1.0	15.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	0.0	26.2	35.9	0.0	35.8	30.5	51.3	50.6	45.0	21.9	12.6
LnGrp LOS	D	A	C	D	A	D	C	D	D	D	C	B
Approach Vol, veh/h		318			5			1358			1276	
Approach Delay, s/veh		37.0			35.9			50.8			22.1	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	47.9	27.0	7.5	40.4	15.2
Change Period (Y+Rc), s	4.9	* 5.4	4.0	4.9	5.4
Max Green Setting (Gmax), s	26.1	* 24	12.0	10.1	24.6
Max Q Clear Time (g_c+I1), s	27.5	16.7	3.1	34.9	2.2
Green Ext Time (p_c), s	0.0	0.6	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	13	3	1057	795	196
Future Vol, veh/h	26	13	3	1057	795	196
Conflicting Peds, #/hr	0	0	0	0	0	29
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	31	16	4	1273	958	236

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1750	626	1223	0	-	0
Stage 1	1105	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	75	422	555	-	-	-
Stage 1	274	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	71	412	542	-	-	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	266	-	-	-	-	-
Stage 2	468	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	65.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	542	-	71	412	-	-
HCM Lane V/C Ratio	0.007	-	0.441	0.038	-	-
HCM Control Delay (s)	11.7	-	90.8	14.1	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	1.8	0.1	-	-

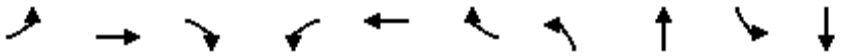


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1741	434	3202	844
v/c Ratio	0.71	0.35	1.20	0.47
Control Delay	18.7	23.0	100.6	24.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	23.0	100.6	24.0
Queue Length 50th (ft)	247	96	~357	136
Queue Length 95th (ft)	284	141	#500	182
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2635	1244	2676	1789
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.66	0.35	1.20	0.47

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	569	575	25	43	123	186	9	1869	76	1986
v/c Ratio	1.83	1.84	0.06	0.20	0.54	0.63	0.19	0.87	0.83	0.78
Control Delay	418.7	424.3	0.3	58.7	69.2	30.1	41.7	44.8	123.8	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	418.7	424.3	0.3	58.7	69.2	30.1	41.7	44.8	123.8	31.7
Queue Length 50th (ft)	~883	~893	0	38	115	54	5	601	75	546
Queue Length 95th (ft)	#1130	#1141	0	75	177	135	24	#751	#172	661
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	312	406	281	295	345	48	2149	92	2531
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.83	1.84	0.06	0.15	0.42	0.54	0.19	0.87	0.83	0.78

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.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	53	208	70	89	802	30	22	574	25
v/c Ratio	0.29	0.11	0.43	0.13	0.31	0.87	0.04	0.18	0.62	0.03
Control Delay	17.2	5.6	19.4	5.2	12.5	26.1	1.9	12.6	14.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	5.6	19.4	5.2	12.5	26.1	1.9	12.6	14.5	1.5
Queue Length 50th (ft)	38	0	58	0	17	236	0	4	138	0
Queue Length 95th (ft)	74	19	106	21	44	#429	7	17	216	5
Internal Link Dist (ft)	1268		582			261			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	490	504	483	526	287	922	754	122	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.11	0.43	0.13	0.31	0.87	0.04	0.18	0.62	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	150	540	538	19	435	1053	32	152	44
v/c Ratio	0.36	0.80	0.45	0.04	0.54	1.21	0.20	0.32	0.18
Control Delay	31.9	30.6	2.5	37.8	37.2	136.4	52.1	43.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	30.6	2.5	37.8	37.2	136.4	52.1	43.4	1.6
Queue Length 50th (ft)	60	187	0	4	98	~559	17	41	0
Queue Length 95th (ft)	205	#692	60	18	238	#1123	63	97	0
Internal Link Dist (ft)		555		207		957		443	
Turn Bay Length (ft)					340		350		150
Base Capacity (vph)	413	678	1208	1007	1334	1234	294	943	384
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.80	0.45	0.02	0.33	0.85	0.11	0.16	0.11

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.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	199	8	1633	1109
v/c Ratio	0.64	0.03	0.66	0.45
Control Delay	41.8	5.7	9.4	6.7
Queue Delay	0.0	0.0	0.3	0.0
Total Delay	41.8	5.7	9.7	6.7
Queue Length 50th (ft)	103	1	214	113
Queue Length 95th (ft)	154	7	399	212
Internal Link Dist (ft)	174		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	578	295	2485	2477
Starvation Cap Reductn	0	0	284	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.03	0.74	0.45

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	310	17	4	9	9	1349	23	1229	49
v/c Ratio	0.80	0.05	0.01	0.02	0.08	0.88	0.15	0.71	0.06
Control Delay	48.6	14.9	25.7	0.0	34.0	37.5	40.1	26.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0
Total Delay	48.6	14.9	25.7	0.0	34.0	37.5	40.1	34.8	1.1
Queue Length 50th (ft)	165	2	2	0	3	328	12	284	0
Queue Length 95th (ft)	210	15	8	0	18	#700	31	#467	0
Internal Link Dist (ft)		145		103		256		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	389	474	697	109	1536	231	1726	782
Starvation Cap Reductn	0	0	0	0	0	0	0	464	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.04	0.01	0.01	0.08	0.88	0.10	0.97	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/02/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1853	85	425	1966	0	1075
Future Volume (veh/h)	1853	85	425	1966	0	1075
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1987	0	438	0	0	1108
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2372	704	1434		0	2061
Arrive On Green	0.45	0.00	0.41	0.00	0.00	0.41
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1987	0	438	0	0	1108
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	30.0	0.0	7.6	0.0	0.0	15.0
Cycle Q Clear(g_c), s	30.0	0.0	7.6	0.0	0.0	15.0
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2372	704	1434		0	2061
V/C Ratio(X)	0.84	0.00	0.31		0.00	0.54
Avail Cap(c_a), veh/h	2484	737	1434		0	2061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.8	0.0	17.9	0.0	0.0	20.1
Incr Delay (d2), s/veh	2.8	0.0	0.6	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.0	0.0	5.4	0.0	0.0	9.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.6	0.0	18.5	0.0	0.0	21.1
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	1987		438			1108
Approach Delay, s/veh	24.6		18.5			21.1
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.9		47.1		42.9
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		17.0		32.0		9.6
Green Ext Time (p_c), s		11.4		8.6		5.1

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	692	102	37	42	141	109	31	1390	9	92	1811	424
Future Volume (veh/h)	692	102	37	42	141	109	31	1390	9	92	1811	424
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	773	0	8	42	142	14	31	1404	9	93	1829	405
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	207	217	175	71	2259	14	93	2174	470
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1523	1753	1841	1481	168	5150	33	1753	4117	891
Grp Volume(v), veh/h	773	0	8	42	142	14	31	913	500	93	1480	754
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1481	168	1675	1833	1753	1675	1658
Q Serve(g_s), s	28.3	0.0	0.6	3.2	11.1	1.3	20.2	31.6	31.6	8.0	56.1	59.0
Cycle Q Clear(g_c), s	28.3	0.0	0.6	3.2	11.1	1.3	65.8	31.6	31.6	8.0	56.1	59.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.54
Lane Grp Cap(c), veh/h	661	0	287	207	217	175	71	1469	804	93	1769	875
V/C Ratio(X)	1.17	0.00	0.03	0.20	0.65	0.08	0.44	0.62	0.62	0.99	0.84	0.86
Avail Cap(c_a), veh/h	661	0	287	284	298	240	71	1469	804	93	1769	875
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	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	59.8	63.2	58.9	67.6	32.5	32.5	71.0	29.9	30.6
Incr Delay (d2), s/veh	91.5	0.0	0.1	1.2	8.2	0.5	18.6	2.0	3.6	91.3	4.9	10.9
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(95%),veh/ln	30.9	0.0	0.5	2.7	9.6	0.9	2.8	19.1	21.0	9.9	31.1	33.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.3	0.0	49.7	61.0	71.4	59.4	86.2	34.5	36.1	162.2	34.8	41.5
LnGrp LOS	F	A	D	E	E	E	F	C	D	F	C	D
Approach Vol, veh/h		781			198			1444			2327	
Approach Delay, s/veh		151.3			68.4			36.1			42.1	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	13.4	75.2		27.4		88.6		34.0
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3
Max Q Clear Time (g_c+I1), s	10.3	67.8		13.1		61.0		30.3
Green Ext Time (p_c), s	0.0	0.0		1.3		11.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	59.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	78	95	36	90	36	75	535	28	22	682	37
Future Volume (veh/h)	53	78	95	36	90	36	75	535	28	22	682	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.96		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	54	80	32	37	92	13	77	546	16	22	696	20
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	253	341	481	189	425	491	268	930	752	367	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	523	1054	1488	347	1316	1519	723	1841	1489	833	1841	1501
Grp Volume(v), veh/h	134	0	32	129	0	13	77	546	16	22	696	20
Grp Sat Flow(s),veh/h/ln	1578	0	1488	1662	0	1519	723	1841	1489	833	1841	1501
Q Serve(g_s), s	0.3	0.0	0.9	0.0	0.0	0.4	5.7	12.5	0.3	1.1	18.1	0.4
Cycle Q Clear(g_c), s	3.4	0.0	0.9	3.1	0.0	0.4	23.7	12.5	0.3	13.7	18.1	0.4
Prop In Lane	0.40		1.00	0.29		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	594	0	481	615	0	491	268	930	752	367	930	758
V/C Ratio(X)	0.23	0.00	0.07	0.21	0.00	0.03	0.29	0.59	0.02	0.06	0.75	0.03
Avail Cap(c_a), veh/h	594	0	481	615	0	491	268	930	752	367	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	14.0	14.8	0.0	13.9	21.3	10.5	7.4	15.3	11.8	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.8	0.0	0.1	2.7	2.7	0.1	0.3	5.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	0.5	2.4	0.0	0.2	1.9	8.2	0.2	0.4	11.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	14.1	15.5	0.0	14.0	24.0	13.2	7.5	15.6	17.3	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	B	A
Approach Vol, veh/h		166			142			639			738	
Approach Delay, s/veh		14.7			15.4			14.3			17.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	20.1	5.1	25.7	5.4
Green Ext Time (p_c), s	3.5	0.6	1.7	0.7

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	51	1083	15	7	7	357	664	212	18	114	74
Future Volume (veh/h)	140	51	1083	15	7	7	357	664	212	18	114	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		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1040	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1381
Adj Flow Rate, veh/h	113	0	759	15	7	2	364	678	206	18	116	10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	58	0	0	0	0	0	0	0	0	0	0	35
Cap, veh/h	237	0	1560	136	106	30	862	844	256	61	478	151
Arrive On Green	0.24	0.00	0.24	0.07	0.07	0.07	0.25	0.36	0.36	0.03	0.13	0.13
Sat Flow, veh/h	991	0	3220	1810	1415	404	3510	2322	705	1810	3610	1140
Grp Volume(v), veh/h	113	0	759	15	0	9	364	366	518	18	116	10
Grp Sat Flow(s),veh/h/ln	991	0	1610	1810	0	1820	1755	1254	1773	1810	1805	1140
Q Serve(g_s), s	7.2	0.0	0.0	0.6	0.0	0.3	6.4	19.2	19.2	0.7	2.1	0.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	0.6	0.0	0.3	6.4	19.2	19.2	0.7	2.1	0.6
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	237	0	1560	136	0	136	862	456	645	61	478	151
V/C Ratio(X)	0.48	0.00	0.49	0.11	0.00	0.07	0.42	0.80	0.80	0.30	0.24	0.07
Avail Cap(c_a), veh/h	475	0	2335	669	0	673	1683	515	729	372	1187	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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	12.7	31.5	0.0	31.4	23.2	20.9	20.9	34.4	28.4	27.7
Incr Delay (d2), s/veh	3.0	0.0	0.5	0.4	0.0	0.2	0.3	9.8	7.1	2.7	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	7.1	0.5	0.0	0.3	4.5	10.4	13.2	0.6	1.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	13.2	31.9	0.0	31.6	23.5	30.7	28.0	37.1	28.6	27.9
LnGrp LOS	C	A	B	C	A	C	C	C	C	D	C	C
Approach Vol, veh/h		872			24			1248			144	
Approach Delay, s/veh		15.0			31.8			27.5			29.6	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	31.9		23.1	23.3	15.1		11.5
Change Period (Y+Rc), s	4.0	5.4		* 5.7	5.4	5.4		6.0
Max Green Setting (Gmax), s	15.0	30.0		* 35	35.0	24.0		27.0
Max Q Clear Time (g_c+I1), s	2.7	21.2		9.2	8.4	4.1		2.6
Green Ext Time (p_c), s	0.0	5.4		8.3	1.3	0.6		0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	94	16	13	1174	1559	14
Future Volume (veh/h)	94	16	13	1174	1559	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	98	9	14	1223	1624	15
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	141	13	272	2810	2853	26
Arrive On Green	0.09	0.09	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1574	145	301	3589	3643	33
Grp Volume(v), veh/h	108	0	14	1223	799	840
Grp Sat Flow(s),veh/h/ln	1734	0	301	1749	1749	1835
Q Serve(g_s), s	5.4	0.0	1.6	9.5	14.9	14.9
Cycle Q Clear(g_c), s	5.4	0.0	16.5	9.5	14.9	14.9
Prop In Lane	0.91	0.08	1.00			0.02
Lane Grp Cap(c), veh/h	156	0	272	2810	1405	1474
V/C Ratio(X)	0.69	0.00	0.05	0.44	0.57	0.57
Avail Cap(c_a), veh/h	578	0	272	2810	1405	1474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.89	0.89
Uniform Delay (d), s/veh	39.8	0.0	6.2	2.7	3.2	3.2
Incr Delay (d2), s/veh	5.4	0.0	0.4	0.5	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.0	0.2	3.4	5.8	6.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.2	0.0	6.6	3.2	4.7	4.6
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	108			1237	1639	
Approach Delay, s/veh	45.2			3.2	4.7	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	76.9		13.1		76.9
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	16.9		7.4		18.5
Green Ext Time (p_c), s	24.1		0.3		20.3

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	6	28	8	3	28	25	989	3	3	1036	47
Future Volume (veh/h)	170	6	28	8	3	28	25	989	3	3	1036	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.90	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	173	6	6	8	3	5	26	1009	3	3	1057	26
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	385	169	169	216	71	118	213	1545	5	11	1688	747
Arrive On Green	0.22	0.22	0.22	0.12	0.12	0.12	0.43	0.43	0.43	0.01	0.48	0.48
Sat Flow, veh/h	1753	771	771	1753	576	961	512	3577	11	1753	3497	1547
Grp Volume(v), veh/h	173	0	12	8	0	8	26	493	519	3	1057	26
Grp Sat Flow(s),veh/h/ln	1753	0	1543	1753	0	1537	512	1749	1839	1753	1749	1547
Q Serve(g_s), s	7.7	0.0	0.6	0.4	0.0	0.4	3.6	20.1	20.1	0.2	20.2	0.8
Cycle Q Clear(g_c), s	7.7	0.0	0.6	0.4	0.0	0.4	19.2	20.1	20.1	0.2	20.2	0.8
Prop In Lane	1.00		0.50	1.00		0.63	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	385	0	339	216	0	189	213	755	794	11	1688	747
V/C Ratio(X)	0.45	0.00	0.04	0.04	0.00	0.04	0.12	0.65	0.65	0.27	0.63	0.03
Avail Cap(c_a), veh/h	460	0	405	479	0	420	213	755	794	234	1688	747
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	27.6	34.8	0.0	34.8	26.0	20.2	20.2	44.5	17.3	12.2
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.1	0.0	0.1	1.2	4.4	4.2	12.1	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	0.0	0.4	0.3	0.0	0.3	0.9	13.3	13.8	0.2	12.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	0.0	27.7	34.8	0.0	34.9	27.2	24.6	24.4	56.6	19.0	12.3
LnGrp LOS	C	A	C	C	A	C	C	C	C	E	B	B
Approach Vol, veh/h		185			16			1038			1086	
Approach Delay, s/veh		31.0			34.8			24.6			19.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	48.3	25.2	4.6	43.8	16.5
Change Period (Y+Rc), s	4.9	* 5.4	4.0	4.9	5.4
Max Green Setting (Gmax), s	26.1	* 24	12.0	10.1	24.6
Max Q Clear Time (g_c+I1), s	22.2	9.7	2.2	22.1	2.4
Green Ext Time (p_c), s	3.1	0.4	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	17	6	969	946	72
Future Vol, veh/h	49	17	6	969	946	72
Conflicting Peds, #/hr	0	0	0	0	0	29
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	49	17	6	979	956	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1524	544	1058	0	-	0
Stage 1	1022	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	107	478	642	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	101	466	626	-	-	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	294	-	-	-	-	-
Stage 2	554	-	-	-	-	-

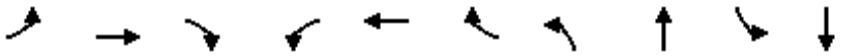
Approach	EB	NB	SB
HCM Control Delay, s	56	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	626	-	101	466	-	-
HCM Lane V/C Ratio	0.01	-	0.49	0.037	-	-
HCM Control Delay (s)	10.8	-	70.9	13	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	2.2	0.1	-	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1998	438	2027	1108
v/c Ratio	0.86	0.32	0.76	0.57
Control Delay	26.1	20.1	2.1	23.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.1	20.1	2.1	23.0
Queue Length 50th (ft)	343	89	0	177
Queue Length 95th (ft)	412	127	0	221
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2310	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.86	0.32	0.76	0.57

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	398	404	37	42	142	110	31	1413	93	2257
v/c Ratio	1.28	1.28	0.09	0.19	0.60	0.36	0.65	0.66	1.01	0.90
Control Delay	195.5	196.3	0.4	58.2	71.7	9.2	95.8	36.9	164.6	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	195.5	196.3	0.4	58.2	71.7	9.2	95.8	36.9	164.6	38.2
Queue Length 50th (ft)	~517	~525	0	37	134	0	24	399	~93	696
Queue Length 95th (ft)	#742	#749	0	74	201	42	#93	482	#218	#840
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	315	406	281	295	345	48	2126	92	2517
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	1.28	0.09	0.15	0.48	0.32	0.65	0.66	1.01	0.90

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.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	134	97	129	37	77	546	29	22	696	38
v/c Ratio	0.27	0.18	0.25	0.07	0.39	0.59	0.04	0.07	0.75	0.05
Control Delay	16.9	4.9	16.5	6.1	16.5	13.8	1.8	8.5	18.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	4.9	16.5	6.1	16.5	13.8	1.8	8.5	18.7	2.5
Queue Length 50th (ft)	35	0	34	0	16	128	0	4	185	0
Queue Length 95th (ft)	73	27	70	17	49	215	7	14	#316	10
Internal Link Dist (ft)	1268		582			261			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	496	534	526	503	198	922	754	309	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.18	0.25	0.07	0.39	0.59	0.04	0.07	0.75	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	129	585	586	29	364	894	18	116	76
v/c Ratio	0.31	0.81	0.49	0.06	0.52	1.06	0.11	0.25	0.31
Control Delay	30.9	27.9	2.8	34.5	39.5	79.5	52.3	42.9	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	27.9	2.8	34.5	39.5	79.5	52.3	42.9	6.9
Queue Length 50th (ft)	55	194	0	6	104	~451	10	33	0
Queue Length 95th (ft)	171	#651	63	23	200	#880	42	75	21
Internal Link Dist (ft)		555		207		957		443	
Turn Bay Length (ft)					340		350		150
Base Capacity (vph)	410	720	1192	989	1324	1195	292	936	382
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.81	0.49	0.03	0.27	0.75	0.06	0.12	0.20

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.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	115	14	1223	1639
v/c Ratio	0.45	0.08	0.45	0.60
Control Delay	36.1	6.4	5.5	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.1	6.4	5.5	7.2
Queue Length 50th (ft)	57	2	100	164
Queue Length 95th (ft)	91	12	245	401
Internal Link Dist (ft)	174		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	577	171	2737	2734
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.45	0.60

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	173	35	8	32	26	1012	3	1057	48
v/c Ratio	0.59	0.13	0.03	0.11	0.13	0.55	0.02	0.55	0.06
Control Delay	42.2	13.8	26.4	11.5	26.2	23.0	38.0	19.9	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
Total Delay	42.2	13.8	26.4	11.5	26.2	23.0	38.0	21.4	0.9
Queue Length 50th (ft)	93	3	4	2	7	177	2	188	0
Queue Length 95th (ft)	141	26	14	23	#45	#574	10	#458	5
Internal Link Dist (ft)		145		103		256		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	393	474	431	207	1825	231	1917	858
Starvation Cap Reductn	0	0	0	0	0	0	0	629	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.09	0.02	0.07	0.13	0.55	0.01	0.82	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Future Year (2030)
No Project

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/02/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1626	73	418	3112	0	807
Future Volume (veh/h)	1626	73	418	3112	0	807
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1816	0	449	0	0	868
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2424	719	1399		0	2011
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1816	0	449	0	0	868
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	25.6	0.0	8.0	0.0	0.0	11.3
Cycle Q Clear(g_c), s	25.6	0.0	8.0	0.0	0.0	11.3
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2424	719	1399		0	2011
V/C Ratio(X)	0.75	0.00	0.32		0.00	0.43
Avail Cap(c_a), veh/h	2834	841	1399		0	2011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	18.6	0.0	0.0	19.6
Incr Delay (d2), s/veh	1.2	0.0	0.6	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.5	0.0	5.7	0.0	0.0	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.2	0.0	19.2	0.0	0.0	20.3
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	1816		449			868
Approach Delay, s/veh	21.2		19.2			20.3
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.0		48.0		42.0
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.3		27.6		10.0
Green Ext Time (p_c), s		8.4		13.9		4.6

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1068	50	25	42	126	188	9	1872	3	76	1561	413
Future Volume (veh/h)	1068	50	25	42	126	188	9	1872	3	76	1561	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1162	0	6	44	133	87	9	1971	3	80	1643	406
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	201	211	170	88	2292	3	93	2135	520
Arrive On Green	0.19	0.00	0.19	0.11	0.11	0.11	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1490	202	5181	8	1753	4015	978
Grp Volume(v), veh/h	1162	0	6	44	133	87	9	1274	700	80	1367	682
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1490	202	1675	1839	1753	1675	1643
Q Serve(g_s), s	28.3	0.0	0.5	3.4	10.3	8.2	5.6	51.4	51.4	6.8	48.4	49.9
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.4	10.3	8.2	42.1	51.4	51.4	6.8	48.4	49.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.60
Lane Grp Cap(c), veh/h	661	0	286	201	211	170	88	1482	813	93	1781	873
V/C Ratio(X)	1.76	0.00	0.02	0.22	0.63	0.51	0.10	0.86	0.86	0.86	0.77	0.78
Avail Cap(c_a), veh/h	661	0	286	284	298	241	88	1482	813	93	1781	873
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	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	60.3	63.4	62.5	50.4	37.6	37.7	70.4	27.8	28.1
Incr Delay (d2), s/veh	346.7	0.0	0.1	1.3	7.3	5.6	2.3	6.7	11.5	49.9	3.2	6.9
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(95%),veh/ln	68.9	0.0	0.3	2.9	8.9	6.1	0.6	29.8	33.6	7.8	27.0	28.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	407.5	0.0	49.6	61.6	70.7	68.1	52.7	44.4	49.2	120.3	31.0	35.0
LnGrp LOS	F	A	D	E	E	E	D	D	D	F	C	D
Approach Vol, veh/h		1168			264			1983			2129	
Approach Delay, s/veh		405.7			68.3			46.1			35.7	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	75.7		26.9		89.1		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	18.8	53.4		12.3		51.9		30.3				
Green Ext Time (p_c), s	0.0	5.4		1.8		18.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	118.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	86	47	74	123	63	79	797	129	20	523	23
Future Volume (veh/h)	45	86	47	74	123	63	79	797	129	20	523	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	52	99	17	85	141	24	91	916	101	23	601	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	81	115	454	83	101	453	331	930	767	128	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	355	1405	0	312	1402	795	1841	1520	546	1841	1520
Grp Volume(v), veh/h	151	0	17	226	0	24	91	916	101	23	601	13
Grp Sat Flow(s),veh/h/ln	355	0	1405	312	0	1402	795	1841	1520	546	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.7	5.7	29.4	2.1	0.9	14.4	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.7	20.1	29.4	2.1	30.3	14.4	0.3
Prop In Lane	0.34		1.00	0.38		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	0	454	183	0	453	331	930	767	128	930	767
V/C Ratio(X)	0.77	0.00	0.04	1.23	0.00	0.05	0.28	0.99	0.13	0.18	0.65	0.02
Avail Cap(c_a), veh/h	196	0	454	183	0	453	331	930	767	128	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	20.2	0.0	14.0	18.3	14.6	7.9	29.8	10.9	7.4
Incr Delay (d2), s/veh	2.7	0.0	0.0	142.9	0.0	0.2	2.1	26.2	0.4	3.1	3.5	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	0.3	16.7	0.0	0.4	2.0	22.7	1.1	0.8	9.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	0.0	13.9	163.2	0.0	14.2	20.4	40.8	8.2	32.9	14.4	7.5
LnGrp LOS	B	A	B	F	A	B	C	D	A	C	B	A
Approach Vol, veh/h		168			250			1108			637	
Approach Delay, s/veh		19.2			148.9			36.2			14.9	
Approach LOS		B			F			D			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	32.3	21.4	31.4	21.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	198	397	53	116	9	767	392	89	5	209	7
Future Volume (veh/h)	53	198	397	53	116	9	767	392	89	5	209	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	71	264	529	71	155	12	1023	523	107	7	279	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	198	174	1637	367	346	27	1144	1185	241	25	436	12
Arrive On Green	0.11	0.26	0.26	0.12	0.26	0.26	0.33	0.43	0.43	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2718	3018	1319	102	3428	2753	561	977	3556	102
Grp Volume(v), veh/h	71	264	529	71	0	167	1023	315	315	7	140	147
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1421	1714	1664	1650	977	1791	1867
Q Serve(g_s), s	4.5	32.0	12.1	2.6	0.0	12.1	34.9	16.4	16.5	0.9	9.2	9.2
Cycle Q Clear(g_c), s	4.5	32.0	12.1	2.6	0.0	12.1	34.9	16.4	16.5	0.9	9.2	9.2
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	198	174	1637	367	0	373	1144	716	710	25	219	229
V/C Ratio(X)	0.36	1.52	0.32	0.19	0.00	0.45	0.89	0.44	0.44	0.28	0.64	0.64
Avail Cap(c_a), veh/h	217	174	1637	367	0	373	1655	918	911	119	342	356
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	45.6	12.6	48.7	0.0	38.0	39.0	24.7	24.7	58.9	51.5	51.5
Incr Delay (d2), s/veh	1.1	260.1	0.1	0.3	0.0	0.8	4.8	0.4	0.4	5.8	3.1	3.0
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(95%),veh/ln	3.8	29.8	6.7	1.8	0.0	7.8	21.5	10.6	10.6	0.5	7.7	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	305.7	12.8	48.9	0.0	38.8	43.8	25.1	25.1	64.6	54.5	54.5
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	D	D
Approach Vol, veh/h		864			238			1653			294	
Approach Delay, s/veh		105.5			41.9			36.7			54.7	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	58.5	19.0	37.0	46.6	20.6	18.7	37.3
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 5	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	12.9	18.5	4.6	34.0	36.9	11.2	6.5	14.1
Green Ext Time (p_c), s	0.0	4.3	0.1	0.0	4.2	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	45	682	10	6	3	650	1024	36	52	530	44
Future Volume (veh/h)	115	45	682	10	6	3	650	1024	36	52	530	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	142	56	407	12	7	0	802	1264	44	64	654	17
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	191	179	1317	62	65	130	1062	1957	68	201	1053	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3531	123	3428	3554	1317
Grp Volume(v), veh/h	142	56	407	12	7	0	802	641	667	64	654	17
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1863	1714	1777	1317
Q Serve(g_s), s	15.0	5.8	0.0	0.8	0.4	0.0	25.0	29.8	29.9	2.2	19.1	0.7
Cycle Q Clear(g_c), s	15.0	5.8	0.0	0.8	0.4	0.0	25.0	29.8	29.9	2.2	19.1	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	191	179	1317	62	65	130	1062	993	1032	201	1053	390
V/C Ratio(X)	0.74	0.31	0.31	0.19	0.11	0.00	0.75	0.65	0.65	0.32	0.62	0.04
Avail Cap(c_a), veh/h	191	179	1317	407	427	396	1264	993	1032	228	1053	390
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	46.9	43.1	18.9	56.4	56.2	0.0	37.7	18.6	18.6	54.3	36.5	11.5
Incr Delay (d2), s/veh	23.0	4.5	0.6	1.5	0.7	0.0	2.2	3.2	3.1	0.9	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	3.0	6.5	0.7	0.4	0.0	16.2	18.5	19.1	1.7	13.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	47.6	19.5	57.9	57.0	0.0	39.9	21.8	21.7	55.1	39.2	11.7
LnGrp LOS	E	D	B	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		605			19			2110			735	
Approach Delay, s/veh		33.9			57.6			28.7			40.0	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.2	31.9	2.8	7.8	27.0	21.1	17.0	2.4
Green Ext Time (p_c), s	0.0	20.5	0.0	3.3	2.9	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	168	23	7	1737	1072	21
Future Volume (veh/h)	168	23	7	1737	1072	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	185	18	8	1909	1178	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	225	22	366	2624	2632	51
Arrive On Green	0.14	0.14	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1573	153	458	3589	3601	68
Grp Volume(v), veh/h	204	0	8	1909	587	614
Grp Sat Flow(s),veh/h/ln	1734	0	458	1749	1749	1828
Q Serve(g_s), s	10.3	0.0	0.6	27.0	11.4	11.4
Cycle Q Clear(g_c), s	10.3	0.0	12.0	27.0	11.4	11.4
Prop In Lane	0.91	0.09	1.00			0.04
Lane Grp Cap(c), veh/h	248	0	366	2624	1312	1372
V/C Ratio(X)	0.82	0.00	0.02	0.73	0.45	0.45
Avail Cap(c_a), veh/h	578	0	366	2624	1312	1372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.83	0.83
Uniform Delay (d), s/veh	37.4	0.0	6.5	6.2	4.2	4.2
Incr Delay (d2), s/veh	6.7	0.0	0.1	1.8	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	0.0	0.1	11.6	5.6	5.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.1	0.0	6.6	8.0	5.1	5.1
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	204			1917	1201	
Approach Delay, s/veh	44.1			8.0	5.1	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	72.1		17.9		72.1
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	13.4		12.3		29.0
Green Ext Time (p_c), s	17.2		0.5		19.4

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	3	10	3	0	7	7	1100	6	18	1093	51
Future Volume (veh/h)	469	3	10	3	0	7	7	1100	6	18	1093	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	594	4	4	4	0	1	9	1392	8	23	1384	28
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	172	1642	9	68	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.46	0.46	0.46	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	375	3565	20	1753	3497	1556
Grp Volume(v), veh/h	594	0	8	4	0	1	9	683	717	23	1384	28
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	375	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	1.7	31.1	31.1	1.1	26.9	0.8
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	21.1	31.1	31.1	1.1	26.9	0.8
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	172	805	846	68	1902	847
V/C Ratio(X)	1.29	0.00	0.02	0.12	0.00	0.03	0.05	0.85	0.85	0.34	0.73	0.03
Avail Cap(c_a), veh/h	460	0	442	479	0	424	172	805	846	234	1902	847
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	26.3	21.5	21.5	42.1	15.5	9.5
Incr Delay (d2), s/veh	147.0	0.0	0.0	1.5	0.0	0.4	0.6	10.7	10.3	2.9	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.7	0.0	0.2	0.2	0.0	0.0	0.3	20.2	20.9	1.0	15.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.2	0.0	24.6	44.9	0.0	43.7	26.8	32.2	31.8	45.0	18.0	9.6
LnGrp LOS	F	A	C	D	A	D	C	C	C	D	B	A
Approach Vol, veh/h		602			5			1409			1435	
Approach Delay, s/veh		178.1			44.6			32.0			18.2	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	53.9		29.0	7.5	46.4		7.1
Change Period (Y+Rc), s	4.9		* 5.4	4.0	4.9		5.4
Max Green Setting (Gmax), s	26.1		* 24	12.0	10.1		24.6
Max Q Clear Time (g_c+I1), s	28.9		25.6	3.1	33.1		2.2
Green Ext Time (p_c), s	0.0		0.0	0.0	0.0		0.0

Intersection Summary		
HCM 6th Ctrl Delay		51.8
HCM 6th LOS		D

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	13	3	1097	907	207
Future Vol, veh/h	28	13	3	1097	907	207
Conflicting Peds, #/hr	0	2	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	34	16	4	1322	1093	249

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1888	674	1343	0	-	0
Stage 1	1219	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	61	392	499	-	-	-
Stage 1	238	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	60	391	499	-	-	-
Mov Cap-2 Maneuver	60	-	-	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	465	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	89.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	499	-	60	391	-	-
HCM Lane V/C Ratio	0.007	-	0.562	0.04	-	-
HCM Control Delay (s)	12.3	-	124.2	14.6	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	2.3	0.1	-	-

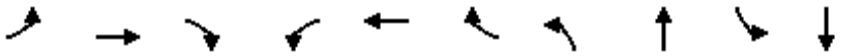


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1826	449	3346	868
v/c Ratio	0.72	0.37	1.22	0.50
Control Delay	18.6	23.8	113.4	25.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.6	23.8	113.4	25.0
Queue Length 50th (ft)	254	103	~416	146
Queue Length 95th (ft)	304	146	#556	187
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1203	2733	1729
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.69	0.37	1.22	0.50

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	584	593	26	44	133	198	9	1974	80	2078
v/c Ratio	1.88	1.90	0.06	0.20	0.57	0.66	0.19	0.92	0.87	0.84
Control Delay	439.2	448.9	0.3	58.5	70.2	33.0	41.9	49.2	131.9	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	439.2	448.9	0.3	58.5	70.2	33.0	41.9	49.2	131.9	34.3
Queue Length 50th (ft)	~914	~931	0	39	124	65	5	663	79	604
Queue Length 95th (ft)	#1164	#1182	0	76	190	150	24	#828	#184	723
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	312	415	281	295	347	48	2135	92	2485
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.88	1.90	0.06	0.16	0.45	0.57	0.19	0.92	0.87	0.84

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

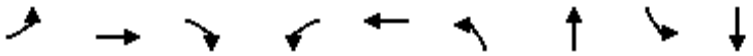
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	151	54	226	72	91	916	148	23	601	26
v/c Ratio	0.31	0.11	0.48	0.14	0.34	0.99	0.19	0.19	0.65	0.03
Control Delay	17.5	5.6	20.3	5.2	13.6	46.2	4.1	13.0	15.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	5.6	20.3	5.2	13.6	46.2	4.1	13.0	15.2	1.5
Queue Length 50th (ft)	40	0	64	0	18	303	9	4	148	0
Queue Length 95th (ft)	78	19	116	22	47	#523	31	17	232	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	484	487	474	513	265	922	776	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.11	0.48	0.14	0.34	0.99	0.19	0.19	0.65	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	264	529	71	167	1023	642	7	288
v/c Ratio	0.33	0.98	0.31	0.20	0.44	0.84	0.39	0.05	0.59
Control Delay	61.7	98.5	10.5	57.6	47.9	44.5	20.1	58.4	58.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.7	98.5	10.5	57.6	47.9	44.5	20.1	58.4	58.8
Queue Length 50th (ft)	56	~236	102	28	118	403	156	5	122
Queue Length 95th (ft)	97	#370	119	48	180	396	211	19	153
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	216	270	2020	362	378	1648	1818	138	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.98	0.26	0.20	0.44	0.62	0.35	0.05	0.42

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	142	56	842	12	7	4	802	1308	64	654	54
v/c Ratio	0.66	0.26	0.48	0.06	0.03	0.02	0.75	0.63	0.28	0.61	0.12
Control Delay	65.8	52.7	2.3	52.7	52.3	0.0	43.5	21.2	62.4	42.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	52.7	2.3	52.7	52.3	0.0	43.5	21.2	62.4	42.0	0.5
Queue Length 50th (ft)	94	34	1	8	5	0	251	290	22	203	0
Queue Length 95th (ft)	#220	87	10	26	19	0	394	530	52	343	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	214	214	1834	413	434	256	1280	2188	230	1067	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.26	0.46	0.03	0.02	0.02	0.63	0.60	0.28	0.61	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	210	8	1909	1201
v/c Ratio	0.66	0.03	0.77	0.49
Control Delay	42.2	6.0	12.4	7.3
Queue Delay	0.0	0.0	0.6	0.0
Total Delay	42.2	6.0	13.1	7.3
Queue Length 50th (ft)	108	1	303	131
Queue Length 95th (ft)	162	7	555	238
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	578	259	2470	2462
Starvation Cap Reductn	0	0	232	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.03	0.85	0.49

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	594	17	4	9	9	1400	23	1384	65
v/c Ratio	1.31	0.04	0.01	0.02	0.10	1.00	0.15	0.87	0.09
Control Delay	183.2	14.8	25.7	0.0	35.0	56.1	40.1	33.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.3	0.0
Total Delay	183.2	14.8	25.7	0.0	35.0	56.1	40.1	81.1	2.7
Queue Length 50th (ft)	~438	2	2	0	3	371	12	364	0
Queue Length 95th (ft)	#529	15	8	0	18	#717	31	#556	9
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	433	474	645	93	1400	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	393	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.04	0.01	0.01	0.10	1.00	0.10	1.16	0.09

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.

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/02/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1968	87	444	2065	0	1116
Future Volume (veh/h)	1968	87	444	2065	0	1116
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2109	0	458	0	0	1151
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2422	718	1401		0	2013
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2109	0	458	0	0	1151
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	32.5	0.0	8.1	0.0	0.0	16.0
Cycle Q Clear(g_c), s	32.5	0.0	8.1	0.0	0.0	16.0
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2422	718	1401		0	2013
V/C Ratio(X)	0.87	0.00	0.33		0.00	0.57
Avail Cap(c_a), veh/h	2484	737	1401		0	2013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	18.6	0.0	0.0	21.0
Incr Delay (d2), s/veh	3.8	0.0	0.6	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.3	0.0	5.9	0.0	0.0	10.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.7	0.0	19.2	0.0	0.0	22.2
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2109		458			1151
Approach Delay, s/veh	25.7		19.2			22.2
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.0		48.0		42.0
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.0		34.5		10.1
Green Ext Time (p_c), s		11.2		7.0		5.3

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	132	38	48	162	121	32	1471	18	109	1921	436
Future Volume (veh/h)	711	132	38	48	162	121	32	1471	18	109	1921	436
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	813	0	8	48	164	18	32	1486	18	110	1940	418
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	221	232	187	59	2202	27	93	2156	451
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1486	149	5115	62	1753	4146	867
Grp Volume(v), veh/h	813	0	8	48	164	18	32	973	531	110	1556	802
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1486	149	1675	1827	1753	1675	1663
Q Serve(g_s), s	28.3	0.0	0.6	3.7	12.8	1.6	10.9	35.0	35.0	8.0	62.5	67.1
Cycle Q Clear(g_c), s	28.3	0.0	0.6	3.7	12.8	1.6	64.6	35.0	35.0	8.0	62.5	67.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.52
Lane Grp Cap(c), veh/h	661	0	287	221	232	187	59	1442	786	93	1742	865
V/C Ratio(X)	1.23	0.00	0.03	0.22	0.71	0.10	0.54	0.67	0.67	1.18	0.89	0.93
Avail Cap(c_a), veh/h	661	0	287	284	298	241	59	1442	786	93	1742	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	0.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.9	62.9	58.0	73.1	34.3	34.3	71.0	32.3	33.4
Incr Delay (d2), s/veh	116.0	0.0	0.1	1.2	9.9	0.5	31.6	2.5	4.6	148.2	7.5	17.4
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(95%),veh/ln	34.5	0.0	0.5	3.1	10.8	1.1	3.2	20.9	23.1	12.5	34.8	39.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	176.9	0.0	49.7	60.1	72.8	58.5	104.8	36.8	38.9	219.2	39.8	50.8
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	D
Approach Vol, veh/h		821			230			1536			2468	
Approach Delay, s/veh		175.6			69.0			39.0			51.3	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	74.0		28.6		87.4		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.3	66.6		14.8		69.1		30.3				
Green Ext Time (p_c), s	0.0	0.0		1.4		3.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	68.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	135	98	37	127	37	77	581	116	23	787	38
Future Volume (veh/h)	54	135	98	37	127	37	77	581	116	23	787	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	55	138	33	38	130	12	79	593	61	23	803	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	188	426	481	154	467	491	200	930	752	327	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	342	1317	1488	248	1445	1519	654	1841	1489	766	1841	1501
Grp Volume(v), veh/h	193	0	33	168	0	12	79	593	61	23	803	21
Grp Sat Flow(s),veh/h/ln	1659	0	1488	1694	0	1519	654	1841	1489	766	1841	1501
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.3	7.2	14.1	1.3	1.4	23.0	0.4
Cycle Q Clear(g_c), s	4.8	0.0	0.9	4.1	0.0	0.3	30.2	14.1	1.3	15.5	23.0	0.4
Prop In Lane	0.28		1.00	0.23		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	614	0	481	621	0	491	200	930	752	327	930	758
V/C Ratio(X)	0.31	0.00	0.07	0.27	0.00	0.02	0.40	0.64	0.08	0.07	0.86	0.03
Avail Cap(c_a), veh/h	614	0	481	621	0	491	200	930	752	327	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	14.0	15.1	0.0	13.8	26.3	10.8	7.7	16.5	13.0	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.1	5.8	3.3	0.2	0.4	10.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	0.5	3.2	0.0	0.2	2.4	9.1	0.7	0.5	15.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	14.1	16.2	0.0	13.9	32.1	14.2	7.9	16.9	23.5	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		226			180			733			847	
Approach Delay, s/veh		15.3			16.0			15.6			23.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	25.0	6.1	32.2	6.8
Green Ext Time (p_c), s	2.6	0.8	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	156	686	145	197	53	591	359	76	27	203	104
Future Volume (veh/h)	46	156	686	145	197	53	591	359	76	27	203	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	51	173	762	161	219	53	657	399	72	30	226	73
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	199	194	1440	438	351	85	779	814	146	82	388	122
Arrive On Green	0.11	0.29	0.29	0.15	0.31	0.31	0.23	0.29	0.29	0.08	0.15	0.15
Sat Flow, veh/h	1781	670	2790	3018	1121	271	3428	2820	505	977	2672	838
Grp Volume(v), veh/h	51	173	762	161	0	272	657	234	237	30	149	150
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1661	977	1791	1719
Q Serve(g_s), s	2.7	25.6	18.8	5.0	0.0	17.2	18.9	12.0	12.2	3.0	8.0	8.4
Cycle Q Clear(g_c), s	2.7	25.6	18.8	5.0	0.0	17.2	18.9	12.0	12.2	3.0	8.0	8.4
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.30	1.00		0.49
Lane Grp Cap(c), veh/h	199	194	1440	438	0	435	779	480	479	82	260	250
V/C Ratio(X)	0.26	0.89	0.53	0.37	0.00	0.62	0.84	0.49	0.49	0.37	0.57	0.60
Avail Cap(c_a), veh/h	362	214	1525	467	0	435	1775	958	957	203	477	458
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	35.2	16.6	39.9	0.0	30.3	38.2	30.4	30.5	44.7	41.2	41.3
Incr Delay (d2), s/veh	0.7	32.6	0.3	0.5	0.0	2.8	2.6	0.8	0.8	2.7	2.0	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(95%),veh/ln	2.2	9.9	9.9	3.4	0.0	10.2	12.7	8.4	8.5	1.4	6.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	67.8	16.9	40.4	0.0	33.1	40.8	31.2	31.3	47.5	43.2	43.7
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		986			433			1128			329	
Approach Delay, s/veh		27.2			35.8			36.8			43.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	35.3	19.0	34.8	29.0	20.5	16.5	37.3
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 8	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.0	14.2	7.0	27.6	20.9	10.4	4.7	19.2
Green Ext Time (p_c), s	0.0	3.0	0.3	2.3	2.5	1.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	154	756	15	55	84	473	682	218	120	709	76
Future Volume (veh/h)	98	154	756	15	55	84	473	682	218	120	709	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	100	157	425	15	56	16	483	696	206	122	723	28
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	134	1177	58	168	207	1021	1653	489	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2725	806	3428	3554	1298
Grp Volume(v), veh/h	100	157	425	15	56	16	483	457	445	122	723	28
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1740	1714	1777	1298
Q Serve(g_s), s	10.0	16.9	1.8	1.0	3.5	1.3	14.6	17.3	17.3	4.4	20.8	1.3
Cycle Q Clear(g_c), s	10.0	16.9	1.8	1.0	3.5	1.3	14.6	17.3	17.3	4.4	20.8	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	84	134	1177	58	168	207	1021	1086	1055	212	1294	473
V/C Ratio(X)	1.19	1.18	0.36	0.26	0.33	0.08	0.47	0.42	0.42	0.58	0.56	0.06
Avail Cap(c_a), veh/h	84	134	1177	382	495	441	1024	1086	1055	214	1294	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	59.0	55.5	13.0	60.4	54.7	46.7	37.1	13.3	13.3	58.4	32.5	14.5
Incr Delay (d2), s/veh	157.9	132.5	0.9	2.3	1.1	0.2	0.3	1.2	1.2	3.7	1.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	15.1	5.6	0.9	3.2	0.8	10.3	11.4	11.2	3.6	14.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	216.8	188.0	13.8	62.7	55.9	46.9	37.5	14.5	14.5	62.1	34.2	14.7
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	C	B
Approach Vol, veh/h		682			87			1385			873	
Approach Delay, s/veh		83.7			55.4			22.5			37.5	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.1	22.9	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	6.4	19.3	3.0	18.9	16.6	22.8	12.0	5.5
Green Ext Time (p_c), s	0.0	15.0	0.0	0.0	1.7	5.2	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	98	22	13	1311	1837	14
Future Volume (veh/h)	98	22	13	1311	1837	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	102	15	14	1366	1914	15
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	140	21	208	2796	2843	22
Arrive On Green	0.09	0.09	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1490	219	227	3589	3649	28
Grp Volume(v), veh/h	118	0	14	1366	940	989
Grp Sat Flow(s),veh/h/ln	1724	0	227	1749	1749	1836
Q Serve(g_s), s	6.0	0.0	2.6	11.6	21.0	21.1
Cycle Q Clear(g_c), s	6.0	0.0	23.7	11.6	21.0	21.1
Prop In Lane	0.86	0.13	1.00			0.02
Lane Grp Cap(c), veh/h	162	0	208	2796	1398	1467
V/C Ratio(X)	0.73	0.00	0.07	0.49	0.67	0.67
Avail Cap(c_a), veh/h	575	0	208	2796	1398	1467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.85	0.85
Uniform Delay (d), s/veh	39.7	0.0	9.1	3.0	3.9	3.9
Incr Delay (d2), s/veh	6.1	0.0	0.6	0.6	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	0.0	0.3	4.3	8.0	8.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.8	0.0	9.7	3.6	6.1	6.1
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	118			1380	1929	
Approach Delay, s/veh	45.8			3.6	6.1	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	76.5		13.5		76.5
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	23.1		8.0		25.7
Green Ext Time (p_c), s	23.6		0.3		18.5

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	295	50	29	32	30	29	26	1045	42	3	1325	56
Future Volume (veh/h)	295	50	29	32	30	29	26	1045	42	3	1325	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	301	51	8	33	31	6	27	1066	42	3	1352	26
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	419	362	57	276	232	45	107	1297	51	11	1501	663
Arrive On Green	0.24	0.24	0.24	0.16	0.16	0.16	0.38	0.38	0.38	0.01	0.43	0.43
Sat Flow, veh/h	1753	1516	238	1753	1474	285	387	3429	135	1753	3497	1546
Grp Volume(v), veh/h	301	0	59	33	0	37	27	544	564	3	1352	26
Grp Sat Flow(s),veh/h/ln	1753	0	1753	1753	0	1759	387	1749	1816	1753	1749	1546
Q Serve(g_s), s	14.2	0.0	2.4	1.5	0.0	1.6	6.2	25.2	25.2	0.2	32.4	0.9
Cycle Q Clear(g_c), s	14.2	0.0	2.4	1.5	0.0	1.6	34.0	25.2	25.2	0.2	32.4	0.9
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	419	0	419	276	0	277	107	661	687	11	1501	663
V/C Ratio(X)	0.72	0.00	0.14	0.12	0.00	0.13	0.25	0.82	0.82	0.27	0.90	0.04
Avail Cap(c_a), veh/h	460	0	460	479	0	481	107	661	687	234	1501	663
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	27.0	32.5	0.0	32.6	41.9	25.2	25.2	44.5	23.9	14.9
Incr Delay (d2), s/veh	4.9	0.0	0.2	0.2	0.0	0.2	5.6	11.0	10.7	12.1	9.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	1.8	1.1	0.0	1.3	1.4	17.5	18.0	0.2	20.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	27.1	32.7	0.0	32.8	47.5	36.3	35.9	56.6	33.0	15.0
LnGrp LOS	D	A	C	C	A	C	D	D	D	E	C	B
Approach Vol, veh/h		360			70			1135			1381	
Approach Delay, s/veh		34.8			32.8			36.4			32.7	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	43.5	26.9	4.6	38.9	19.6
Change Period (Y+Rc), s	4.9	* 5.4	4.0	4.9	5.4
Max Green Setting (Gmax), s	26.1	* 24	12.0	10.1	24.6
Max Q Clear Time (g_c+I1), s	34.4	16.2	2.2	36.0	3.6
Green Ext Time (p_c), s	0.0	0.8	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	17	6	1061	1254	78
Future Vol, veh/h	53	17	6	1061	1254	78
Conflicting Peds, #/hr	0	0	0	0	0	29
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	54	17	6	1072	1267	99

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1894	712	1395	0	-	0
Stage 1	1346	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	60	370	476	-	-	-
Stage 1	204	-	-	-	-	-
Stage 2	537	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	56	361	464	-	-	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	196	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	174.9	0.1	0
HCM LOS	F		

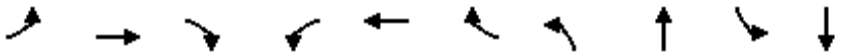
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	464	-	56	361	-	-
HCM Lane V/C Ratio	0.013	-	0.956	0.048	-	-
HCM Control Delay (s)	12.9	-	226	15.5	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0	-	4.3	0.1	-	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2119	458	2129	1151
v/c Ratio	0.92	0.34	0.80	0.59
Control Delay	29.8	20.3	2.5	23.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.8	20.3	2.5	23.4
Queue Length 50th (ft)	381	94	0	186
Queue Length 95th (ft)	#467	133	0	231
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.92	0.34	0.80	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	424	427	38	48	164	122	32	1504	110	2380
v/c Ratio	1.36	1.35	0.09	0.20	0.65	0.39	0.65	0.72	1.20	0.96
Control Delay	227.3	222.3	0.4	57.9	73.4	11.5	96.8	39.3	212.4	45.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	227.3	222.3	0.4	57.9	73.4	11.5	96.8	39.3	212.4	45.9
Queue Length 50th (ft)	~573	~573	0	42	153	0	25	450	~129	805
Queue Length 95th (ft)	#802	#804	0	83	230	55	#95	525	#263	#969
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	316	406	281	295	345	49	2084	92	2478
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	1.35	0.09	0.17	0.56	0.35	0.65	0.72	1.20	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

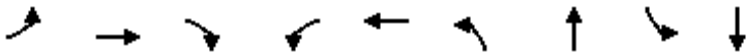
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	193	100	168	38	79	593	118	23	803	39
v/c Ratio	0.38	0.19	0.32	0.08	0.65	0.64	0.15	0.08	0.87	0.05
Control Delay	18.3	4.9	17.4	6.0	41.8	14.9	2.4	8.7	26.2	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	4.9	17.4	6.0	41.8	14.9	2.4	8.7	26.2	2.6
Queue Length 50th (ft)	53	0	45	0	19	145	0	4	236	0
Queue Length 95th (ft)	101	27	88	17	#87	241	20	15	#457	10
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	513	536	529	504	122	922	789	274	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.19	0.32	0.08	0.65	0.64	0.15	0.08	0.87	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	173	762	161	278	657	483	30	342
v/c Ratio	0.20	0.69	0.49	0.38	0.67	0.71	0.40	0.19	0.60
Control Delay	49.4	54.1	15.2	48.9	46.0	40.9	27.8	50.8	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	54.1	15.2	48.9	46.0	40.9	27.8	50.8	42.8
Queue Length 50th (ft)	32	107	161	53	172	210	143	19	101
Queue Length 95th (ft)	82	220	243	104	#340	310	205	56	173
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	349	321	2209	445	415	1708	1794	229	911
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.54	0.34	0.36	0.67	0.38	0.27	0.13	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	100	157	771	15	56	86	483	918	122	723	78
v/c Ratio	0.96	0.77	0.46	0.11	0.27	0.28	0.48	0.44	0.58	0.57	0.14
Control Delay	137.0	76.8	3.8	61.2	55.7	7.8	40.9	15.0	72.4	36.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	137.0	76.8	3.8	61.2	55.7	7.8	40.9	15.0	72.4	36.4	0.5
Queue Length 50th (ft)	~91	119	30	12	44	0	167	187	51	246	0
Queue Length 95th (ft)	#238	#238	60	38	86	33	259	317	#95	372	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1679	378	491	309	1011	2092	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.77	0.46	0.04	0.11	0.28	0.48	0.44	0.58	0.57	0.14

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.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	125	14	1366	1929
v/c Ratio	0.48	0.15	0.53	0.75
Control Delay	37.0	9.8	6.6	10.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.0	9.8	6.6	10.4
Queue Length 50th (ft)	62	2	123	239
Queue Length 95th (ft)	98	15	291	570
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	575	95	2589	2586
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.15	0.53	0.75

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	301	81	33	61	27	1109	3	1352	57
v/c Ratio	0.77	0.21	0.11	0.20	0.30	0.74	0.02	0.85	0.08
Control Delay	45.8	19.2	28.8	18.2	42.4	31.0	38.0	32.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	0.0
Total Delay	45.8	19.2	28.8	18.2	42.4	31.0	38.0	80.5	2.0
Queue Length 50th (ft)	154	22	17	16	9	254	2	345	0
Queue Length 95th (ft)	243	58	37	44	#67	#655	10	#658	11
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	451	474	471	91	1498	231	1598	731
Starvation Cap Reductn	0	0	0	0	0	0	0	408	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.18	0.07	0.13	0.30	0.74	0.01	1.14	0.08

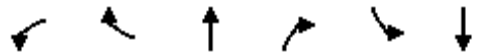
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Future Year (2035)
No Project

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/02/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1650	74	424	3159	0	820
Future Volume (veh/h)	1650	74	424	3159	0	820
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1844	0	456	0	0	882
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2448	726	1384		0	1988
Arrive On Green	0.47	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1844	0	456	0	0	882
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	26.0	0.0	8.2	0.0	0.0	11.6
Cycle Q Clear(g_c), s	26.0	0.0	8.2	0.0	0.0	11.6
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2448	726	1384		0	1988
V/C Ratio(X)	0.75	0.00	0.33		0.00	0.44
Avail Cap(c_a), veh/h	2834	841	1384		0	1988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	18.9	0.0	0.0	19.9
Incr Delay (d2), s/veh	1.2	0.0	0.6	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.6	0.0	5.9	0.0	0.0	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.0	0.0	19.5	0.0	0.0	20.7
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	1844		456			882
Approach Delay, s/veh	21.0		19.5			20.7
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.6		48.4		41.6
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.6		28.0		10.2
Green Ext Time (p_c), s		8.4		13.9		4.6

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1085	51	25	43	128	191	9	1900	3	77	1584	419
Future Volume (veh/h)	1085	51	25	43	128	191	9	1900	3	77	1584	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1181	0	6	45	135	90	9	2000	3	81	1667	412
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	202	212	172	85	2287	3	93	2132	518
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1491	196	5181	8	1753	4016	977
Grp Volume(v), veh/h	1181	0	6	45	135	90	9	1293	710	81	1386	693
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1491	196	1675	1839	1753	1675	1643
Q Serve(g_s), s	28.3	0.0	0.5	3.5	10.5	8.5	5.9	52.7	52.7	6.9	49.7	51.4
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.5	10.5	8.5	43.8	52.7	52.7	6.9	49.7	51.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.59
Lane Grp Cap(c), veh/h	661	0	286	202	212	172	85	1479	812	93	1778	872
V/C Ratio(X)	1.79	0.00	0.02	0.22	0.64	0.52	0.11	0.87	0.87	0.87	0.78	0.79
Avail Cap(c_a), veh/h	661	0	286	284	298	242	85	1479	812	93	1778	872
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	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	60.3	63.4	62.5	51.8	38.1	38.1	70.5	28.2	28.6
Incr Delay (d2), s/veh	359.5	0.0	0.1	1.3	7.3	5.8	2.5	7.5	12.6	52.6	3.5	7.4
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(95%),veh/ln	70.8	0.0	0.3	3.0	9.0	6.4	0.6	30.6	34.5	7.9	27.7	29.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	420.3	0.0	49.6	61.6	70.7	68.3	54.3	45.6	50.7	123.1	31.6	36.0
LnGrp LOS	F	A	D	E	E	E	D	D	D	F	C	D
Approach Vol, veh/h		1187			270			2012			2160	
Approach Delay, s/veh		418.5			68.3			47.5			36.5	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	13.4	75.6		27.0		89.0		34.0
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3
Max Q Clear Time (g_c+I1), s	8.9	54.7		12.5		53.4		30.3
Green Ext Time (p_c), s	0.0	4.3		1.9		17.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	122.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	87	48	75	125	64	80	808	129	20	530	23
Future Volume (veh/h)	46	87	48	75	125	64	80	808	129	20	530	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	100	18	86	144	25	92	929	101	23	609	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	81	114	454	82	102	453	325	930	767	120	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	352	1405	0	314	1402	789	1841	1520	539	1841	1520
Grp Volume(v), veh/h	153	0	18	230	0	25	92	929	101	23	609	13
Grp Sat Flow(s),veh/h/ln	352	0	1405	314	0	1402	789	1841	1520	539	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.7	5.9	30.3	2.1	0.0	14.7	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.7	20.5	30.3	2.1	30.3	14.7	0.3
Prop In Lane	0.35		1.00	0.37		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	195	0	454	184	0	453	325	930	767	120	930	767
V/C Ratio(X)	0.79	0.00	0.04	1.25	0.00	0.06	0.28	1.00	0.13	0.19	0.66	0.02
Avail Cap(c_a), veh/h	195	0	454	184	0	453	325	930	767	120	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	20.2	0.0	14.0	18.6	14.8	7.9	30.0	11.0	7.4
Incr Delay (d2), s/veh	3.0	0.0	0.0	149.1	0.0	0.2	2.2	29.4	0.4	3.5	3.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	0.3	17.3	0.0	0.4	2.1	24.0	1.1	0.8	9.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	0.0	13.9	169.3	0.0	14.2	20.7	44.2	8.2	33.5	14.6	7.5
LnGrp LOS	B	A	B	F	A	B	C	D	A	C	B	A
Approach Vol, veh/h		171			255			1122			645	
Approach Delay, s/veh		19.4			154.1			39.1			15.1	
Approach LOS		B			F			D			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	32.3	21.4	32.3	21.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	201	402	54	118	9	779	398	90	5	212	7
Future Volume (veh/h)	54	201	402	54	118	9	779	398	90	5	212	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	72	268	536	72	157	11	1039	531	108	7	283	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	197	173	1645	365	346	24	1160	1196	242	25	433	12
Arrive On Green	0.11	0.26	0.26	0.12	0.26	0.26	0.34	0.43	0.43	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2718	3018	1329	93	3428	2756	558	977	3557	100
Grp Volume(v), veh/h	72	268	536	72	0	168	1039	320	319	7	142	149
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1422	1714	1664	1651	977	1791	1867
Q Serve(g_s), s	4.6	32.0	12.3	2.7	0.0	12.3	35.7	16.7	16.8	0.9	9.4	9.4
Cycle Q Clear(g_c), s	4.6	32.0	12.3	2.7	0.0	12.3	35.7	16.7	16.8	0.9	9.4	9.4
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	197	173	1645	365	0	370	1160	722	716	25	218	227
V/C Ratio(X)	0.36	1.55	0.33	0.20	0.00	0.45	0.90	0.44	0.45	0.28	0.65	0.66
Avail Cap(c_a), veh/h	215	173	1645	365	0	370	1644	912	905	118	339	354
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	46.0	12.6	49.1	0.0	38.5	39.0	24.6	24.6	59.3	52.0	52.0
Incr Delay (d2), s/veh	1.1	274.4	0.1	0.3	0.0	0.9	5.1	0.4	0.4	5.8	3.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	30.9	6.8	1.9	0.0	7.9	22.0	10.8	10.8	0.5	7.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	320.5	12.7	49.4	0.0	39.4	44.1	25.0	25.1	65.1	55.2	55.2
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		876			240			1678			298	
Approach Delay, s/veh		110.1			42.4			36.8			55.4	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	59.4	19.0	37.0	47.5	20.6	18.7	37.3
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	12.3	18.8	4.7	34.0	37.7	11.4	6.6	14.3
Green Ext Time (p_c), s	0.0	4.4	0.1	0.0	4.3	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	59.8
HCM 6th LOS	E

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	46	692	10	6	3	656	1040	36	53	537	45
Future Volume (veh/h)	117	46	692	10	6	3	656	1040	36	53	537	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	144	57	421	12	7	0	810	1284	44	65	663	16
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	191	179	1317	62	65	130	1063	1958	67	202	1052	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3533	121	3428	3554	1317
Grp Volume(v), veh/h	144	57	421	12	7	0	810	650	678	65	663	16
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1863	1714	1777	1317
Q Serve(g_s), s	15.3	5.9	0.0	0.8	0.4	0.0	25.3	30.6	30.6	2.2	19.4	0.6
Cycle Q Clear(g_c), s	15.3	5.9	0.0	0.8	0.4	0.0	25.3	30.6	30.6	2.2	19.4	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	191	179	1317	62	65	130	1063	992	1032	202	1052	390
V/C Ratio(X)	0.76	0.32	0.32	0.19	0.11	0.00	0.76	0.66	0.66	0.32	0.63	0.04
Avail Cap(c_a), veh/h	191	179	1317	406	427	396	1263	992	1032	228	1052	390
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	47.0	43.1	19.0	56.4	56.3	0.0	37.8	18.8	18.8	54.3	36.6	11.5
Incr Delay (d2), s/veh	24.0	4.6	0.6	1.5	0.7	0.0	2.3	3.4	3.3	0.9	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	3.1	6.7	0.7	0.4	0.0	16.4	18.9	19.5	1.7	13.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	47.7	19.6	57.9	57.0	0.0	40.1	22.1	22.0	55.2	39.5	11.7
LnGrp LOS	E	D	B	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		622			19			2138			744	
Approach Delay, s/veh		34.1			57.6			28.9			40.2	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.2	32.6	2.8	7.9	27.3	21.4	17.3	2.4
Green Ext Time (p_c), s	0.0	20.6	0.0	3.4	2.9	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C

Notes

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	171	23	7	1760	1087	21
Future Volume (veh/h)	171	23	7	1760	1087	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	188	18	8	1934	1195	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	228	22	359	2618	2627	51
Arrive On Green	0.14	0.14	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1575	151	451	3589	3602	68
Grp Volume(v), veh/h	207	0	8	1934	595	623
Grp Sat Flow(s),veh/h/ln	1734	0	451	1749	1749	1829
Q Serve(g_s), s	10.4	0.0	0.6	28.0	11.7	11.7
Cycle Q Clear(g_c), s	10.4	0.0	12.3	28.0	11.7	11.7
Prop In Lane	0.91	0.09	1.00			0.04
Lane Grp Cap(c), veh/h	251	0	359	2618	1309	1369
V/C Ratio(X)	0.82	0.00	0.02	0.74	0.45	0.46
Avail Cap(c_a), veh/h	578	0	359	2618	1309	1369
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.83	0.83
Uniform Delay (d), s/veh	37.4	0.0	6.7	6.4	4.3	4.3
Incr Delay (d2), s/veh	6.7	0.0	0.1	1.9	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	0.0	0.1	12.1	5.8	6.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	0.0	6.8	8.3	5.3	5.2
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	207			1942	1218	
Approach Delay, s/veh	44.0			8.3	5.2	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	72.0		18.0		72.0
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	13.7		12.4		30.0
Green Ext Time (p_c), s	17.5		0.5		18.7

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	472	3	10	3	0	7	7	1116	6	19	1108	52
Future Volume (veh/h)	472	3	10	3	0	7	7	1116	6	19	1108	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	597	4	4	4	0	1	9	1413	8	24	1403	29
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	168	1638	9	70	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.46	0.46	0.46	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	368	3565	20	1753	3497	1556
Grp Volume(v), veh/h	597	0	8	4	0	1	9	693	728	24	1403	29
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	368	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	1.7	31.9	32.0	1.2	27.5	0.8
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	21.6	31.9	32.0	1.2	27.5	0.8
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	168	803	844	70	1902	847
V/C Ratio(X)	1.30	0.00	0.02	0.12	0.00	0.03	0.05	0.86	0.86	0.34	0.74	0.03
Avail Cap(c_a), veh/h	460	0	442	479	0	424	168	803	844	234	1902	847
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	26.8	21.8	21.8	42.0	15.6	9.5
Incr Delay (d2), s/veh	149.7	0.0	0.0	1.5	0.0	0.4	0.6	11.8	11.3	2.8	2.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.2	0.0	0.2	0.2	0.0	0.0	0.3	20.9	21.6	1.0	15.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	182.9	0.0	24.6	44.9	0.0	43.7	27.4	33.6	33.1	44.9	18.2	9.6
LnGrp LOS	F	A	C	D	A	D	C	C	C	D	B	A
Approach Vol, veh/h		605			5			1430			1456	
Approach Delay, s/veh		180.8			44.6			33.3			18.5	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	53.9		29.0	7.6	46.2		7.1
Change Period (Y+Rc), s	4.9		* 5.4	4.0	4.9		5.4
Max Green Setting (Gmax), s	26.1		* 24	12.0	10.1		24.6
Max Q Clear Time (g_c+I1), s	29.5		25.6	3.2	34.0		2.2
Green Ext Time (p_c), s	0.0		0.0	0.0	0.0		0.0

Intersection Summary		
HCM 6th Ctrl Delay		52.7
HCM 6th LOS		D

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	14	3	1113	919	210
Future Vol, veh/h	28	14	3	1113	919	210
Conflicting Peds, #/hr	0	2	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	34	17	4	1341	1107	253

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1914	683	1361	0	-	0
Stage 1	1235	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	58	387	491	-	-	-
Stage 1	234	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	57	386	491	-	-	-
Mov Cap-2 Maneuver	57	-	-	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	95.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	491	-	57	386	-	-
HCM Lane V/C Ratio	0.007	-	0.592	0.044	-	-
HCM Control Delay (s)	12.4	-	135.2	14.8	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	2.4	0.1	-	-

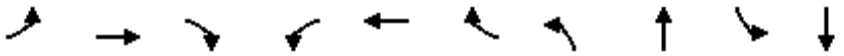


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1854	456	3397	882
v/c Ratio	0.73	0.38	1.24	0.51
Control Delay	18.6	24.1	122.0	25.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.6	24.1	122.0	25.3
Queue Length 50th (ft)	259	105	~451	149
Queue Length 95th (ft)	312	148	#590	191
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1192	2733	1713
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.38	1.24	0.51

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	594	602	26	45	135	201	9	2003	81	2108
v/c Ratio	1.91	1.93	0.06	0.20	0.57	0.67	0.19	0.94	0.88	0.85
Control Delay	452.9	461.2	0.3	58.6	70.4	33.8	41.9	50.9	134.1	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	452.9	461.2	0.3	58.6	70.4	33.8	41.9	50.9	134.1	35.0
Queue Length 50th (ft)	~935	~951	0	40	126	68	5	681	80	621
Queue Length 95th (ft)	#1186	#1203	0	78	193	155	24	#849	#188	741
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	312	415	281	295	347	48	2132	92	2482
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.91	1.93	0.06	0.16	0.46	0.58	0.19	0.94	0.88	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.

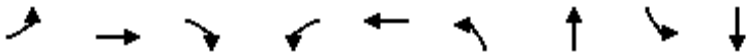


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	153	55	230	74	92	929	148	23	609	26
v/c Ratio	0.32	0.11	0.49	0.14	0.36	1.01	0.19	0.19	0.66	0.03
Control Delay	17.6	5.6	20.6	5.1	13.9	49.8	4.2	13.0	15.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	5.6	20.6	5.1	13.9	49.8	4.2	13.0	15.4	1.5
Queue Length 50th (ft)	41	0	66	0	18	~316	9	4	151	0
Queue Length 95th (ft)	80	19	118	22	48	#533	31	17	236	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	482	488	473	515	259	922	776	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.11	0.49	0.14	0.36	1.01	0.19	0.19	0.66	0.03

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	268	536	72	169	1039	651	7	292
v/c Ratio	0.34	1.02	0.31	0.20	0.46	0.82	0.39	0.05	0.61
Control Delay	62.7	110.2	10.5	58.2	49.2	43.2	19.9	59.0	60.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	110.2	10.5	58.2	49.2	43.2	19.9	59.0	60.1
Queue Length 50th (ft)	58	~252	105	29	123	413	158	5	126
Queue Length 95th (ft)	100	#379	121	50	182	404	215	19	155
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	210	263	1992	352	367	1601	1788	134	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	1.02	0.27	0.20	0.46	0.65	0.36	0.05	0.44

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	144	57	854	12	7	4	810	1328	65	663	56
v/c Ratio	0.67	0.27	0.48	0.06	0.03	0.02	0.75	0.64	0.28	0.62	0.12
Control Delay	66.4	52.9	2.5	52.7	52.5	0.0	43.7	21.5	62.5	42.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	52.9	2.5	52.7	52.5	0.0	43.7	21.5	62.5	42.2	0.5
Queue Length 50th (ft)	95	35	2	8	5	0	255	297	23	206	0
Queue Length 95th (ft)	#224	89	14	26	19	0	400	542	52	349	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	214	214	1833	412	434	256	1279	2187	230	1067	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.47	0.03	0.02	0.02	0.63	0.61	0.28	0.62	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	213	8	1934	1218
v/c Ratio	0.66	0.03	0.78	0.50
Control Delay	42.3	6.0	12.9	7.4
Queue Delay	0.0	0.0	0.7	0.0
Total Delay	42.3	6.0	13.6	7.4
Queue Length 50th (ft)	110	1	314	135
Queue Length 95th (ft)	165	7	572	243
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	578	253	2465	2458
Starvation Cap Reductn	0	0	227	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.86	0.50

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	597	17	4	9	9	1421	24	1403	66
v/c Ratio	1.31	0.04	0.01	0.02	0.10	1.02	0.15	0.88	0.09
Control Delay	185.8	14.8	25.7	0.0	35.1	59.7	40.2	34.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0
Total Delay	185.8	14.8	25.7	0.0	35.1	59.7	40.2	81.7	2.8
Queue Length 50th (ft)	~442	2	2	0	3	381	13	373	0
Queue Length 95th (ft)	#531	15	8	0	18	#731	32	#566	10
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	433	474	645	92	1399	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	389	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.04	0.01	0.01	0.10	1.02	0.10	1.17	0.09

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.

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/02/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1996	89	450	2095	0	1133
Future Volume (veh/h)	1996	89	450	2095	0	1133
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2140	0	464	0	0	1168
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2433	722	1394		0	2003
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2140	0	464	0	0	1168
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	33.2	0.0	8.3	0.0	0.0	16.4
Cycle Q Clear(g_c), s	33.2	0.0	8.3	0.0	0.0	16.4
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2433	722	1394		0	2003
V/C Ratio(X)	0.88	0.00	0.33		0.00	0.58
Avail Cap(c_a), veh/h	2484	737	1394		0	2003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	18.8	0.0	0.0	21.2
Incr Delay (d2), s/veh	4.2	0.0	0.6	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.7	0.0	6.0	0.0	0.0	10.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	0.0	19.4	0.0	0.0	22.5
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2140		464			1168
Approach Delay, s/veh	26.1		19.4			22.5
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.9		48.1		41.9
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.4		35.2		10.3
Green Ext Time (p_c), s		11.2		6.4		5.3

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	722	133	39	49	164	123	32	1493	18	110	1950	442
Future Volume (veh/h)	722	133	39	49	164	123	32	1493	18	110	1950	442
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	825	0	8	49	166	18	32	1508	18	111	1970	424
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	222	233	189	56	2199	26	93	2154	449
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1486	144	5116	61	1753	4149	865
Grp Volume(v), veh/h	825	0	8	49	166	18	32	988	538	111	1578	816
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1486	144	1675	1827	1753	1675	1664
Q Serve(g_s), s	28.3	0.0	0.6	3.8	13.0	1.6	8.5	35.7	35.7	8.0	64.2	69.4
Cycle Q Clear(g_c), s	28.3	0.0	0.6	3.8	13.0	1.6	64.5	35.7	35.7	8.0	64.2	69.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.52
Lane Grp Cap(c), veh/h	661	0	287	222	233	189	56	1440	785	93	1739	864
V/C Ratio(X)	1.25	0.00	0.03	0.22	0.71	0.10	0.57	0.69	0.69	1.19	0.91	0.94
Avail Cap(c_a), veh/h	661	0	287	284	298	241	56	1440	785	93	1739	864
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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.8	62.8	57.9	73.9	34.6	34.6	71.0	32.8	34.0
Incr Delay (d2), s/veh	123.6	0.0	0.1	1.2	10.1	0.5	35.9	2.7	4.8	151.9	8.4	19.8
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(95%),veh/ln	55.6	0.0	0.5	3.2	10.9	1.1	3.2	21.3	23.5	12.6	35.9	41.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	184.4	0.0	49.7	60.0	72.9	58.4	109.9	37.3	39.4	222.9	41.2	53.8
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	D
Approach Vol, veh/h		833			233			1558			2505	
Approach Delay, s/veh		183.1			69.1			39.5			53.4	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	13.4	73.9		28.7		87.3		34.0
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3
Max Q Clear Time (g_c+I1), s	10.3	66.5		15.0		71.4		30.3
Green Ext Time (p_c), s	0.0	0.0		1.4		1.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	136	99	38	129	38	78	589	116	23	797	39
Future Volume (veh/h)	55	136	99	38	129	38	78	589	116	23	797	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	56	139	34	39	132	13	80	601	61	23	813	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	189	424	481	155	466	491	193	930	752	322	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	345	1311	1488	251	1440	1519	648	1841	1489	760	1841	1501
Grp Volume(v), veh/h	195	0	34	171	0	13	80	601	61	23	813	21
Grp Sat Flow(s),veh/h/ln	1656	0	1488	1692	0	1519	648	1841	1489	760	1841	1501
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.4	6.8	14.4	1.3	1.4	23.5	0.4
Cycle Q Clear(g_c), s	4.8	0.0	0.9	4.2	0.0	0.4	30.3	14.4	1.3	15.8	23.5	0.4
Prop In Lane	0.29		1.00	0.23		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	613	0	481	621	0	491	193	930	752	322	930	758
V/C Ratio(X)	0.32	0.00	0.07	0.28	0.00	0.03	0.41	0.65	0.08	0.07	0.87	0.03
Avail Cap(c_a), veh/h	613	0	481	621	0	491	193	930	752	322	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	14.1	15.1	0.0	13.9	26.9	10.9	7.7	16.7	13.2	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.1	6.4	3.5	0.2	0.4	11.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	0.0	0.5	3.3	0.0	0.2	2.5	9.3	0.7	0.5	15.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	14.1	16.2	0.0	14.0	33.3	14.4	7.9	17.1	24.4	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		229			184			742			857	
Approach Delay, s/veh		15.3			16.1			15.9			23.8	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	25.5	6.2	32.3	6.8
Green Ext Time (p_c), s	2.4	0.8	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	159	692	147	200	54	599	365	77	27	206	105
Future Volume (veh/h)	47	159	692	147	200	54	599	365	77	27	206	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	52	177	769	163	222	54	666	406	74	30	229	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	199	196	1455	433	352	86	787	815	147	82	383	120
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.23	0.29	0.29	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1119	272	3428	2815	509	977	2671	839
Grp Volume(v), veh/h	52	177	769	163	0	276	666	239	241	30	151	152
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1660	977	1791	1719
Q Serve(g_s), s	2.8	26.6	19.0	5.1	0.0	17.7	19.4	12.4	12.6	3.0	8.3	8.7
Cycle Q Clear(g_c), s	2.8	26.6	19.0	5.1	0.0	17.7	19.4	12.4	12.6	3.0	8.3	8.7
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.31	1.00		0.49
Lane Grp Cap(c), veh/h	199	196	1455	433	0	437	787	482	481	82	257	247
V/C Ratio(X)	0.26	0.90	0.53	0.38	0.00	0.63	0.85	0.50	0.50	0.37	0.59	0.61
Avail Cap(c_a), veh/h	358	211	1521	462	0	437	1755	947	945	201	471	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	35.6	16.5	40.5	0.0	30.7	38.5	30.8	30.9	45.3	41.9	42.1
Incr Delay (d2), s/veh	0.7	35.5	0.3	0.5	0.0	2.9	2.6	0.8	0.8	2.8	2.1	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(95%),veh/ln	2.3	10.3	10.0	3.5	0.0	10.4	13.0	8.6	8.7	1.4	6.8	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	71.1	16.8	41.1	0.0	33.6	41.1	31.6	31.7	48.1	44.0	44.5
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		998			439			1146			333	
Approach Delay, s/veh		27.8			36.4			37.1			44.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	35.8	19.0	35.5	29.5	20.5	16.7	37.8
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 8	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.8	14.6	7.1	28.6	21.4	10.7	4.8	19.7
Green Ext Time (p_c), s	0.0	3.1	0.3	2.0	2.6	1.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	154	768	16	55	84	478	692	221	120	716	77
Future Volume (veh/h)	99	154	768	16	55	84	478	692	221	120	716	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	101	157	442	16	56	16	488	706	210	122	731	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	132	1173	61	168	207	1021	1650	491	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2721	809	3428	3554	1298
Grp Volume(v), veh/h	101	157	442	16	56	16	488	465	451	122	731	29
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1740	1714	1777	1298
Q Serve(g_s), s	10.0	16.7	2.0	1.1	3.5	1.3	14.7	17.6	17.6	4.4	21.1	1.4
Cycle Q Clear(g_c), s	10.0	16.7	2.0	1.1	3.5	1.3	14.7	17.6	17.6	4.4	21.1	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	84	132	1173	61	168	207	1021	1086	1055	212	1294	473
V/C Ratio(X)	1.20	1.19	0.38	0.26	0.33	0.08	0.48	0.43	0.43	0.58	0.56	0.06
Avail Cap(c_a), veh/h	84	132	1173	382	495	441	1024	1086	1055	214	1294	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	59.0	55.6	13.1	60.2	54.7	46.7	37.2	13.4	13.4	58.4	32.6	14.5
Incr Delay (d2), s/veh	162.1	138.1	0.9	2.2	1.1	0.2	0.3	1.2	1.3	3.7	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.3	15.3	5.8	1.0	3.2	0.8	10.4	11.6	11.3	3.6	14.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	221.0	193.7	14.0	62.5	55.9	46.9	37.5	14.6	14.6	62.1	34.3	14.8
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	C	B
Approach Vol, veh/h		700			88			1404			882	
Approach Delay, s/veh		84.2			55.4			22.6			37.5	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.3	22.7	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	16.4	19.6	3.1	18.7	16.7	23.1	12.0	5.5
Green Ext Time (p_c), s	0.0	15.3	0.0	0.0	1.7	5.2	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	23	14	1329	1861	15
Future Volume (veh/h)	99	23	14	1329	1861	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	103	17	15	1384	1939	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	141	23	203	2788	2834	23
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1465	242	221	3589	3647	29
Grp Volume(v), veh/h	121	0	15	1384	952	1003
Grp Sat Flow(s),veh/h/ln	1721	0	221	1749	1749	1835
Q Serve(g_s), s	6.2	0.0	2.9	11.9	21.8	22.0
Cycle Q Clear(g_c), s	6.2	0.0	24.9	11.9	21.8	22.0
Prop In Lane	0.85	0.14	1.00			0.02
Lane Grp Cap(c), veh/h	165	0	203	2788	1394	1463
V/C Ratio(X)	0.73	0.00	0.07	0.50	0.68	0.69
Avail Cap(c_a), veh/h	574	0	203	2788	1394	1463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.85	0.85
Uniform Delay (d), s/veh	39.6	0.0	9.6	3.1	4.1	4.1
Incr Delay (d2), s/veh	6.1	0.0	0.7	0.6	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	0.0	0.3	4.5	8.4	8.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.7	0.0	10.3	3.7	6.4	6.3
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	121			1399	1955	
Approach Delay, s/veh	45.7			3.8	6.4	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	76.4		13.6		76.4
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	24.0		8.2		26.9
Green Ext Time (p_c), s	23.1		0.3		18.0

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	297	50	29	32	30	29	26	1060	42	3	1341	57
Future Volume (veh/h)	297	50	29	32	30	29	26	1060	42	3	1341	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	303	51	8	33	31	6	27	1082	42	3	1368	26
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	419	362	57	276	232	45	104	1297	50	11	1500	663
Arrive On Green	0.24	0.24	0.24	0.16	0.16	0.16	0.38	0.38	0.38	0.01	0.43	0.43
Sat Flow, veh/h	1753	1516	238	1753	1474	285	381	3431	133	1753	3497	1546
Grp Volume(v), veh/h	303	0	59	33	0	37	27	551	573	3	1368	26
Grp Sat Flow(s),veh/h/ln	1753	0	1753	1753	0	1759	381	1749	1816	1753	1749	1546
Q Serve(g_s), s	14.3	0.0	2.4	1.5	0.0	1.6	5.6	25.8	25.8	0.2	33.0	0.9
Cycle Q Clear(g_c), s	14.3	0.0	2.4	1.5	0.0	1.6	34.0	25.8	25.8	0.2	33.0	0.9
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	419	0	419	276	0	277	104	661	686	11	1500	663
V/C Ratio(X)	0.72	0.00	0.14	0.12	0.00	0.13	0.26	0.83	0.83	0.27	0.91	0.04
Avail Cap(c_a), veh/h	460	0	460	479	0	481	104	661	686	234	1500	663
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	27.0	32.5	0.0	32.6	42.6	25.4	25.4	44.5	24.1	14.9
Incr Delay (d2), s/veh	5.0	0.0	0.2	0.2	0.0	0.2	6.0	11.8	11.5	12.1	10.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	1.8	1.1	0.0	1.3	1.4	17.9	18.4	0.2	20.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	27.1	32.7	0.0	32.8	48.6	37.2	36.9	56.6	34.1	15.0
LnGrp LOS	D	A	C	C	A	C	D	D	D	E	C	B
Approach Vol, veh/h		362			70			1151			1397	
Approach Delay, s/veh		35.0			32.8			37.3			33.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	43.5	26.9	4.6	38.9	19.6
Change Period (Y+Rc), s	4.9	* 5.4	4.0	4.9	5.4
Max Green Setting (Gmax), s	26.1	* 24	12.0	10.1	24.6
Max Q Clear Time (g_c+I1), s	35.0	16.3	2.2	36.0	3.6
Green Ext Time (p_c), s	0.0	0.8	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	54	18	6	1077	1269	79
Future Vol, veh/h	54	18	6	1077	1269	79
Conflicting Peds, #/hr	0	0	0	0	0	29
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	55	18	6	1088	1282	100

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1917	720	1411	0	-	0
Stage 1	1361	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	58	366	469	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	55	357	458	-	-	-
Mov Cap-2 Maneuver	55	-	-	-	-	-
Stage 1	193	-	-	-	-	-
Stage 2	519	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	183.5	0.1	0
HCM LOS	F		

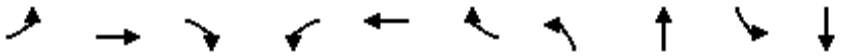
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	458	-	55	357	-	-
HCM Lane V/C Ratio	0.013	-	0.992	0.051	-	-
HCM Control Delay (s)	13	-	239.5	15.6	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0	-	4.5	0.2	-	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2150	464	2160	1168
v/c Ratio	0.93	0.34	0.81	0.60
Control Delay	31.1	20.3	2.7	23.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	20.3	2.7	23.6
Queue Length 50th (ft)	390	95	0	190
Queue Length 95th (ft)	#513	134	0	236
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.93	0.34	0.81	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	430	433	39	49	166	124	32	1526	111	2416
v/c Ratio	1.38	1.37	0.10	0.21	0.66	0.40	0.65	0.73	1.21	0.98
Control Delay	234.8	229.7	0.5	58.0	73.7	12.0	96.8	39.7	215.7	48.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	234.8	229.7	0.5	58.0	73.7	12.0	96.8	39.7	215.7	48.6
Queue Length 50th (ft)	~586	~586	0	43	155	0	25	461	~131	830
Queue Length 95th (ft)	#814	#816	0	84	233	58	#95	535	#263	#995
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	316	406	281	295	345	49	2082	92	2476
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.38	1.37	0.10	0.17	0.56	0.36	0.65	0.73	1.21	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

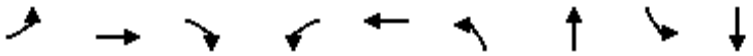
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	195	101	171	39	80	601	118	23	813	40
v/c Ratio	0.38	0.19	0.32	0.08	0.66	0.65	0.15	0.09	0.88	0.05
Control Delay	18.4	4.9	17.5	6.0	43.5	15.2	2.4	8.8	27.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	4.9	17.5	6.0	43.5	15.2	2.4	8.8	27.3	2.7
Queue Length 50th (ft)	53	0	46	0	20	148	0	4	241	0
Queue Length 95th (ft)	103	27	90	17	#89	246	20	15	#465	11
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	512	537	528	505	121	922	789	267	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.19	0.32	0.08	0.66	0.65	0.15	0.09	0.88	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	177	769	163	282	666	492	30	346
v/c Ratio	0.21	0.70	0.49	0.39	0.68	0.72	0.40	0.19	0.61
Control Delay	50.0	55.6	15.3	49.5	46.7	41.1	27.8	51.4	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	55.6	15.3	49.5	46.7	41.1	27.8	51.4	43.3
Queue Length 50th (ft)	33	111	165	54	178	214	146	19	103
Queue Length 95th (ft)	85	#232	246	105	#352	315	208	57	176
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	346	319	2198	443	415	1697	1783	227	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.55	0.35	0.37	0.68	0.39	0.28	0.13	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	101	157	784	16	56	86	488	932	122	731	79
v/c Ratio	0.97	0.77	0.47	0.11	0.27	0.28	0.48	0.45	0.58	0.57	0.14
Control Delay	139.3	76.8	4.1	61.3	55.7	7.8	41.0	15.1	72.4	36.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.3	76.8	4.1	61.3	55.7	7.8	41.0	15.1	72.4	36.6	0.5
Queue Length 50th (ft)	~92	119	34	12	44	0	169	191	51	249	0
Queue Length 95th (ft)	#242	#238	66	40	86	33	261	323	#95	377	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1676	378	491	309	1011	2092	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.77	0.47	0.04	0.11	0.28	0.48	0.45	0.58	0.57	0.14

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.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	127	15	1384	1955
v/c Ratio	0.49	0.17	0.54	0.76
Control Delay	37.4	10.8	6.7	10.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.4	10.8	6.7	10.8
Queue Length 50th (ft)	64	2	128	248
Queue Length 95th (ft)	100	16	297	#589
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	574	90	2584	2582
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.17	0.54	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	303	81	33	61	27	1125	3	1368	58
v/c Ratio	0.77	0.21	0.11	0.20	0.30	0.75	0.02	0.86	0.08
Control Delay	46.0	19.2	28.8	18.2	42.4	31.4	38.0	33.4	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	0.0
Total Delay	46.0	19.2	28.8	18.2	42.4	31.4	38.0	80.9	2.1
Queue Length 50th (ft)	156	22	17	16	9	260	2	352	0
Queue Length 95th (ft)	244	58	37	44	#67	#666	10	#668	11
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	451	474	471	91	1496	231	1597	730
Starvation Cap Reductn	0	0	0	0	0	0	0	405	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.18	0.07	0.13	0.30	0.75	0.01	1.15	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Future Year (2037)
No Project

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/05/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1660	74	427	3177	0	825
Future Volume (veh/h)	1660	74	427	3177	0	825
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1855	0	459	0	0	887
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2457	729	1377		0	1979
Arrive On Green	0.47	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1855	0	459	0	0	887
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	26.1	0.0	8.2	0.0	0.0	11.7
Cycle Q Clear(g_c), s	26.1	0.0	8.2	0.0	0.0	11.7
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2457	729	1377		0	1979
V/C Ratio(X)	0.75	0.00	0.33		0.00	0.45
Avail Cap(c_a), veh/h	2834	841	1377		0	1979
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	19.0	0.0	0.0	20.1
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.7	0.0	6.0	0.0	0.0	7.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.0	0.0	19.7	0.0	0.0	20.8
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	1855		459			887
Approach Delay, s/veh	21.0		19.7			20.8
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.4		48.6		41.4
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.7		28.1		10.2
Green Ext Time (p_c), s		8.4		13.9		4.7

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1091	51	25	43	129	192	9	1911	3	78	1593	422
Future Volume (veh/h)	1091	51	25	43	129	192	9	1911	3	78	1593	422
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1187	0	6	45	136	91	9	2012	3	82	1677	415
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	203	213	172	84	2285	3	93	2130	518
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1491	194	5182	8	1753	4016	977
Grp Volume(v), veh/h	1187	0	6	45	136	91	9	1301	714	82	1394	698
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1491	194	1675	1839	1753	1675	1643
Q Serve(g_s), s	28.3	0.0	0.5	3.5	10.6	8.6	6.0	53.2	53.2	7.0	50.2	52.0
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.5	10.6	8.6	44.6	53.2	53.2	7.0	50.2	52.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.59
Lane Grp Cap(c), veh/h	661	0	286	203	213	172	84	1477	811	93	1777	871
V/C Ratio(X)	1.79	0.00	0.02	0.22	0.64	0.53	0.11	0.88	0.88	0.88	0.78	0.80
Avail Cap(c_a), veh/h	661	0	286	284	298	242	84	1477	811	93	1777	871
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	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	60.2	63.3	62.5	52.4	38.3	38.3	70.5	28.3	28.8
Incr Delay (d2), s/veh	363.5	0.0	0.1	1.3	7.4	5.8	2.6	7.8	13.1	55.4	3.6	7.7
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(95%),veh/ln	71.4	0.0	0.3	3.0	9.1	6.4	0.6	30.9	35.0	8.1	28.0	29.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	424.4	0.0	49.6	61.5	70.7	68.3	55.0	46.1	51.5	125.9	31.9	36.4
LnGrp LOS	F	A	D	E	E	E	E	D	D	F	C	D
Approach Vol, veh/h		1193			272			2024			2174	
Approach Delay, s/veh		422.5			68.4			48.1			36.9	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	4	6	8
Phs Duration (G+Y+Rc), s	13.4	75.6	27.0	89.0	34.0
Change Period (Y+Rc), s	* 5.4	* 9.4	* 9.7	* 9.4	5.7
Max Green Setting (Gmax), s	* 8	* 59	* 24	* 73	28.3
Max Q Clear Time (g_c+I1), s	9.6	55.2	12.6	54.0	30.3
Green Ext Time (p_c), s	0.0	3.8	1.9	16.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	123.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	88	48	76	125	64	81	812	129	20	533	23
Future Volume (veh/h)	46	88	48	76	125	64	81	812	129	20	533	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	101	18	87	144	25	93	933	102	23	613	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	81	115	454	83	101	453	323	930	767	120	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	356	1405	0	311	1402	786	1841	1520	536	1841	1520
Grp Volume(v), veh/h	154	0	18	231	0	25	93	933	102	23	613	13
Grp Sat Flow(s),veh/h/ln	356	0	1405	311	0	1402	786	1841	1520	536	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.7	6.0	30.3	2.1	0.0	14.8	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.7	20.8	30.3	2.1	30.3	14.8	0.3
Prop In Lane	0.34		1.00	0.38		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	0	454	183	0	453	323	930	767	120	930	767
V/C Ratio(X)	0.79	0.00	0.04	1.26	0.00	0.06	0.29	1.00	0.13	0.19	0.66	0.02
Avail Cap(c_a), veh/h	196	0	454	183	0	453	323	930	767	120	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	20.2	0.0	14.0	18.7	14.9	7.9	30.0	11.0	7.4
Incr Delay (d2), s/veh	3.0	0.0	0.0	153.9	0.0	0.2	2.2	30.4	0.4	3.5	3.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	0.3	17.6	0.0	0.4	2.1	24.4	1.1	0.8	9.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	0.0	13.9	174.2	0.0	14.2	21.0	45.3	8.2	33.5	14.7	7.5
LnGrp LOS	C	A	B	F	A	B	C	F	A	C	B	A
Approach Vol, veh/h		172			256			1128			649	
Approach Delay, s/veh		19.4			158.6			39.9			15.2	
Approach LOS		B			F			D			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	32.3	21.4	32.3	21.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	44.8
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	202	404	54	119	9	784	401	91	5	213	7
Future Volume (veh/h)	55	202	404	54	119	9	784	401	91	5	213	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	73	269	539	72	159	11	1045	535	109	7	284	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	198	172	1647	364	344	24	1165	1200	243	25	432	12
Arrive On Green	0.11	0.26	0.26	0.12	0.26	0.26	0.34	0.44	0.44	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2718	3018	1331	92	3428	2755	559	977	3558	100
Grp Volume(v), veh/h	73	269	539	72	0	170	1045	322	322	7	143	149
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1423	1714	1664	1650	977	1791	1867
Q Serve(g_s), s	4.7	32.0	12.4	2.7	0.0	12.5	36.0	16.9	17.0	0.9	9.5	9.5
Cycle Q Clear(g_c), s	4.7	32.0	12.4	2.7	0.0	12.5	36.0	16.9	17.0	0.9	9.5	9.5
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	198	172	1647	364	0	368	1165	725	719	25	217	227
V/C Ratio(X)	0.37	1.56	0.33	0.20	0.00	0.46	0.90	0.44	0.45	0.28	0.66	0.66
Avail Cap(c_a), veh/h	215	172	1647	364	0	368	1640	910	902	118	338	353
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	46.2	12.6	49.3	0.0	38.8	39.0	24.6	24.6	59.4	52.2	52.2
Incr Delay (d2), s/veh	1.1	278.7	0.1	0.3	0.0	0.9	5.2	0.4	0.4	5.8	3.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	31.2	6.9	1.9	0.0	8.0	22.2	10.9	10.9	0.5	7.9	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	324.8	12.7	49.5	0.0	39.7	44.2	25.0	25.1	65.2	55.5	55.4
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		881			242			1689			299	
Approach Delay, s/veh		111.3			42.6			36.9			55.7	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	59.7	19.0	37.0	47.8	20.6	18.8	37.2
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	12.5	19.0	4.7	34.0	38.0	11.5	6.7	14.5
Green Ext Time (p_c), s	0.0	4.4	0.1	0.0	4.3	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	60.2
HCM 6th LOS	E

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	46	697	10	6	3	659	1046	37	54	540	45
Future Volume (veh/h)	117	46	697	10	6	3	659	1046	37	54	540	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	144	57	427	12	7	0	814	1291	46	67	667	16
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	190	179	1318	62	65	131	1064	1954	70	204	1052	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3528	126	3428	3554	1317
Grp Volume(v), veh/h	144	57	427	12	7	0	814	655	682	67	667	16
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1862	1714	1777	1317
Q Serve(g_s), s	15.3	5.9	0.0	0.8	0.4	0.0	25.5	30.9	31.0	2.3	19.6	0.6
Cycle Q Clear(g_c), s	15.3	5.9	0.0	0.8	0.4	0.0	25.5	30.9	31.0	2.3	19.6	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	190	179	1318	62	65	131	1064	992	1031	204	1052	390
V/C Ratio(X)	0.76	0.32	0.32	0.19	0.11	0.00	0.76	0.66	0.66	0.33	0.63	0.04
Avail Cap(c_a), veh/h	190	179	1318	406	427	397	1263	992	1031	228	1052	390
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	47.0	43.2	19.0	56.5	56.3	0.0	37.8	18.9	18.9	54.3	36.7	11.5
Incr Delay (d2), s/veh	24.0	4.6	0.7	1.5	0.7	0.0	2.4	3.5	3.3	0.9	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	3.1	6.9	0.7	0.4	0.0	16.5	19.1	19.7	1.8	13.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	47.8	19.7	58.0	57.0	0.0	40.2	22.3	22.2	55.2	39.6	11.7
LnGrp LOS	E	D	B	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		628			19			2151			750	
Approach Delay, s/veh		34.0			57.6			29.1			40.4	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.3	33.0	2.8	7.9	27.5	21.6	17.3	2.4
Green Ext Time (p_c), s	0.0	20.6	0.0	3.4	2.9	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	172	23	7	1769	1094	21
Future Volume (veh/h)	172	23	7	1769	1094	21
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	189	18	8	1944	1202	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	229	22	356	2616	2625	50
Arrive On Green	0.15	0.15	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1576	150	448	3589	3602	67
Grp Volume(v), veh/h	208	0	8	1944	599	626
Grp Sat Flow(s),veh/h/ln	1735	0	448	1749	1749	1829
Q Serve(g_s), s	10.5	0.0	0.6	28.4	11.8	11.8
Cycle Q Clear(g_c), s	10.5	0.0	12.4	28.4	11.8	11.8
Prop In Lane	0.91	0.09	1.00			0.04
Lane Grp Cap(c), veh/h	252	0	356	2616	1308	1368
V/C Ratio(X)	0.82	0.00	0.02	0.74	0.46	0.46
Avail Cap(c_a), veh/h	578	0	356	2616	1308	1368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.82	0.82
Uniform Delay (d), s/veh	37.3	0.0	6.7	6.4	4.4	4.4
Incr Delay (d2), s/veh	6.7	0.0	0.1	2.0	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	0.0	0.1	12.2	5.8	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	0.0	6.9	8.4	5.3	5.3
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	208			1952	1225	
Approach Delay, s/veh	44.0			8.4	5.3	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	71.9		18.1		71.9
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	13.8		12.5		30.4
Green Ext Time (p_c), s	17.6		0.5		18.3

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	3	10	3	0	7	7	1123	6	19	1114	52
Future Volume (veh/h)	474	3	10	3	0	7	7	1123	6	19	1114	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	600	4	4	4	0	1	9	1422	8	24	1410	29
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	166	1638	9	70	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.46	0.46	0.46	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	365	3566	20	1753	3497	1556
Grp Volume(v), veh/h	600	0	8	4	0	1	9	697	733	24	1410	29
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	365	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	1.7	32.3	32.3	1.2	27.7	0.8
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	21.9	32.3	32.3	1.2	27.7	0.8
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	166	803	844	70	1902	847
V/C Ratio(X)	1.31	0.00	0.02	0.12	0.00	0.03	0.05	0.87	0.87	0.34	0.74	0.03
Avail Cap(c_a), veh/h	460	0	442	479	0	424	166	803	844	234	1902	847
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	26.9	21.9	21.9	42.0	15.7	9.5
Incr Delay (d2), s/veh	152.4	0.0	0.0	1.5	0.0	0.4	0.6	12.2	11.7	2.8	2.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.8	0.0	0.2	0.2	0.0	0.0	0.3	21.1	21.9	1.0	15.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.6	0.0	24.6	44.9	0.0	43.7	27.6	34.1	33.6	44.9	18.3	9.6
LnGrp LOS	F	A	C	D	A	D	C	C	C	D	B	A
Approach Vol, veh/h		608			5			1439			1463	
Approach Delay, s/veh		183.5			44.6			33.8			18.6	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	53.9		29.0	7.6	46.2		7.1					
Change Period (Y+Rc), s	4.9		* 5.4	4.0	4.9		5.4					
Max Green Setting (Gmax), s	26.1		* 24	12.0	10.1		24.6					
Max Q Clear Time (g_c+I1), s	29.7		25.6	3.2	34.3		2.2					
Green Ext Time (p_c), s	0.0		0.0	0.0	0.0		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	53.4	
HCM 6th LOS	D	

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	14	3	1120	924	212
Future Vol, veh/h	28	14	3	1120	924	212
Conflicting Peds, #/hr	0	2	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	34	17	4	1349	1113	255

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1925	687	1369	0	-	0
Stage 1	1242	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	57	385	487	-	-	-
Stage 1	232	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	56	384	487	-	-	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	230	-	-	-	-	-
Stage 2	458	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	97.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	487	-	56	384	-	-
HCM Lane V/C Ratio	0.007	-	0.602	0.044	-	-
HCM Control Delay (s)	12.4	-	139.3	14.8	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	2.4	0.1	-	-

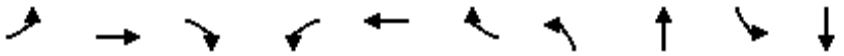


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1865	459	3416	887
v/c Ratio	0.74	0.39	1.25	0.52
Control Delay	18.7	24.1	125.3	25.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	24.1	125.3	25.4
Queue Length 50th (ft)	262	106	~463	150
Queue Length 95th (ft)	315	150	#603	192
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1191	2733	1711
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.39	1.25	0.52

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	597	605	26	45	136	202	9	2015	82	2121
v/c Ratio	1.92	1.94	0.06	0.20	0.58	0.67	0.19	0.95	0.89	0.86
Control Delay	457.1	465.3	0.3	58.6	70.4	34.0	41.9	51.8	136.3	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	457.1	465.3	0.3	58.6	70.4	34.0	41.9	51.8	136.3	35.4
Queue Length 50th (ft)	~943	~957	0	40	127	69	5	689	81	630
Queue Length 95th (ft)	#1194	#1209	0	78	194	156	24	#858	#190	749
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	312	415	281	295	347	48	2130	92	2480
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.92	1.94	0.06	0.16	0.46	0.58	0.19	0.95	0.89	0.86

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.

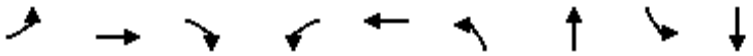


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	55	231	74	93	933	148	23	613	26
v/c Ratio	0.32	0.11	0.49	0.14	0.36	1.01	0.19	0.19	0.66	0.03
Control Delay	17.6	5.6	20.6	5.1	14.2	50.9	4.2	13.0	15.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	5.6	20.6	5.1	14.2	50.9	4.2	13.0	15.5	1.5
Queue Length 50th (ft)	41	0	66	0	19	~322	9	4	152	0
Queue Length 95th (ft)	80	19	119	22	49	#536	32	17	238	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	483	488	472	515	257	922	775	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.11	0.49	0.14	0.36	1.01	0.19	0.19	0.66	0.03

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	269	539	72	171	1045	656	7	293
v/c Ratio	0.35	1.03	0.31	0.21	0.47	0.82	0.39	0.05	0.61
Control Delay	62.9	112.0	10.5	58.3	49.5	43.3	19.9	59.2	60.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	112.0	10.5	58.3	49.5	43.3	19.9	59.2	60.3
Queue Length 50th (ft)	59	~255	106	29	125	417	161	5	127
Queue Length 95th (ft)	101	#381	122	50	185	408	216	19	155
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	209	262	1987	351	366	1597	1788	134	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.03	0.27	0.21	0.47	0.65	0.37	0.05	0.44

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.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	144	57	860	12	7	4	814	1337	67	667	56
v/c Ratio	0.67	0.27	0.49	0.06	0.03	0.02	0.76	0.65	0.29	0.63	0.12
Control Delay	66.4	52.9	2.6	52.7	52.5	0.0	43.9	21.6	62.6	42.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	52.9	2.6	52.7	52.5	0.0	43.9	21.6	62.6	42.4	0.5
Queue Length 50th (ft)	95	35	3	8	5	0	256	300	23	208	0
Queue Length 95th (ft)	#224	89	15	26	19	0	402	547	54	351	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	214	214	1833	412	434	256	1279	2187	230	1066	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.27	0.47	0.03	0.02	0.02	0.64	0.61	0.29	0.63	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	214	8	1944	1225
v/c Ratio	0.67	0.03	0.79	0.50
Control Delay	42.3	6.0	13.1	7.4
Queue Delay	0.0	0.0	0.7	0.0
Total Delay	42.3	6.0	13.8	7.4
Queue Length 50th (ft)	110	1	321	136
Queue Length 95th (ft)	165	7	580	245
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	578	250	2464	2456
Starvation Cap Reductn	0	0	224	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.87	0.50

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	600	17	4	9	9	1430	24	1410	66
v/c Ratio	1.32	0.04	0.01	0.02	0.10	1.02	0.15	0.89	0.09
Control Delay	188.5	14.8	25.7	0.0	35.1	61.3	40.2	34.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	0.0
Total Delay	188.5	14.8	25.7	0.0	35.1	61.3	40.2	81.9	2.8
Queue Length 50th (ft)	~445	2	2	0	3	385	13	376	0
Queue Length 95th (ft)	#535	15	8	0	18	#736	32	#571	10
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	433	474	645	92	1399	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	388	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.32	0.04	0.01	0.01	0.10	1.02	0.10	1.17	0.09

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.

HCM 6th Signalized Intersection Summary
1: Gaffey St & I-110/SR-47 Ramps

09/06/2022



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2008	89	453	2108	0	1140
Future Volume (veh/h)	2008	89	453	2108	0	1140
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2152	0	467	0	0	1175
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2436	723	1391		0	1999
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2152	0	467	0	0	1175
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	33.5	0.0	8.4	0.0	0.0	16.5
Cycle Q Clear(g_c), s	33.5	0.0	8.4	0.0	0.0	16.5
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2436	723	1391		0	1999
V/C Ratio(X)	0.88	0.00	0.34		0.00	0.59
Avail Cap(c_a), veh/h	2484	737	1391		0	1999
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	18.8	0.0	0.0	21.3
Incr Delay (d2), s/veh	4.3	0.0	0.7	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.9	0.0	6.0	0.0	0.0	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.2	0.0	19.5	0.0	0.0	22.6
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2152		467			1175
Approach Delay, s/veh	26.2		19.5			22.6
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.8		48.2		41.8
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.5		35.5		10.4
Green Ext Time (p_c), s		11.2		6.2		5.4

Intersection Summary	
HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	726	134	39	49	165	123	33	1501	18	111	1961	445
Future Volume (veh/h)	726	134	39	49	165	123	33	1501	18	111	1961	445
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	829	0	8	49	167	18	33	1516	18	112	1981	427
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	223	234	189	55	2197	26	93	2152	449
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1486	142	5116	61	1753	4149	865
Grp Volume(v), veh/h	829	0	8	49	167	18	33	993	541	112	1587	821
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1486	142	1675	1827	1753	1675	1663
Q Serve(g_s), s	28.3	0.0	0.6	3.8	13.1	1.6	7.4	36.0	36.0	8.0	64.9	70.4
Cycle Q Clear(g_c), s	28.3	0.0	0.6	3.8	13.1	1.6	64.4	36.0	36.0	8.0	64.9	70.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		0.52
Lane Grp Cap(c), veh/h	661	0	287	223	234	189	55	1439	785	93	1738	863
V/C Ratio(X)	1.25	0.00	0.03	0.22	0.71	0.10	0.60	0.69	0.69	1.20	0.91	0.95
Avail Cap(c_a), veh/h	661	0	287	284	298	241	55	1439	785	93	1738	863
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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.8	62.8	57.8	74.2	34.7	34.7	71.0	33.0	34.3
Incr Delay (d2), s/veh	126.1	0.0	0.1	1.2	10.2	0.5	40.1	2.7	4.9	155.7	8.9	20.9
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(95%),veh/ln	36.0	0.0	0.5	3.2	10.9	1.1	3.4	21.5	23.7	12.8	36.3	41.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	187.0	0.0	49.7	60.0	73.0	58.4	114.3	37.4	39.6	226.7	41.8	55.2
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	E
Approach Vol, veh/h		837			234			1567			2520	
Approach Delay, s/veh		185.7			69.2			39.8			54.4	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8
Phs Duration (G+Y+Rc), s	13.4	73.8		28.8		87.2		34.0
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3
Max Q Clear Time (g_c+I1), s	10.3	66.4		15.1		72.4		30.3
Green Ext Time (p_c), s	0.0	0.0		1.4		0.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	137	100	38	129	38	79	592	116	23	801	39
Future Volume (veh/h)	56	137	100	38	129	38	79	592	116	23	801	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	57	140	34	39	132	13	81	604	61	23	817	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	190	422	481	155	466	491	191	930	752	320	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	349	1306	1488	251	1440	1519	646	1841	1489	758	1841	1501
Grp Volume(v), veh/h	197	0	34	171	0	13	81	604	61	23	817	21
Grp Sat Flow(s),veh/h/ln	1655	0	1488	1691	0	1519	646	1841	1489	758	1841	1501
Q Serve(g_s), s	0.2	0.0	0.9	0.0	0.0	0.4	6.6	14.5	1.3	1.4	23.7	0.4
Cycle Q Clear(g_c), s	4.9	0.0	0.9	4.2	0.0	0.4	30.3	14.5	1.3	15.9	23.7	0.4
Prop In Lane	0.29		1.00	0.23		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	612	0	481	621	0	491	191	930	752	320	930	758
V/C Ratio(X)	0.32	0.00	0.07	0.28	0.00	0.03	0.42	0.65	0.08	0.07	0.88	0.03
Avail Cap(c_a), veh/h	612	0	481	621	0	491	191	930	752	320	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	14.1	15.1	0.0	13.9	27.1	10.9	7.7	16.8	13.2	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.1	6.8	3.5	0.2	0.4	11.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	0.0	0.5	3.3	0.0	0.2	2.6	9.4	0.7	0.5	15.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	14.1	16.2	0.0	14.0	33.9	14.5	7.9	17.2	24.8	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		231			184			746			861	
Approach Delay, s/veh		15.3			16.1			16.0			24.2	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	25.0	35.0	25.0
Change Period (Y+Rc), s	* 4.7	* 5.6	* 4.7	* 5.6
Max Green Setting (Gmax), s	* 30	* 19	* 30	* 19
Max Q Clear Time (g_c+I1), s	25.7	6.2	32.3	6.9
Green Ext Time (p_c), s	2.4	0.8	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	159	694	148	201	54	602	367	77	27	207	106
Future Volume (veh/h)	47	159	694	148	201	54	602	367	77	27	207	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	52	177	771	164	223	54	669	408	74	30	230	75
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	199	196	1457	432	352	85	790	818	147	81	382	121
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.23	0.29	0.29	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1120	271	3428	2818	507	977	2664	844
Grp Volume(v), veh/h	52	177	771	164	0	277	669	240	242	30	152	153
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1661	977	1791	1718
Q Serve(g_s), s	2.8	26.6	19.1	5.2	0.0	17.8	19.5	12.5	12.7	3.0	8.3	8.7
Cycle Q Clear(g_c), s	2.8	26.6	19.1	5.2	0.0	17.8	19.5	12.5	12.7	3.0	8.3	8.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.31	1.00		0.49
Lane Grp Cap(c), veh/h	199	196	1457	432	0	437	790	483	482	81	257	246
V/C Ratio(X)	0.26	0.90	0.53	0.38	0.00	0.63	0.85	0.50	0.50	0.37	0.59	0.62
Avail Cap(c_a), veh/h	357	211	1522	461	0	437	1752	946	944	201	470	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	35.7	16.5	40.6	0.0	30.8	38.5	30.8	30.9	45.4	42.0	42.2
Incr Delay (d2), s/veh	0.7	35.6	0.3	0.5	0.0	3.0	2.6	0.8	0.8	2.8	2.2	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(95%),veh/ln	2.3	10.3	10.1	3.5	0.0	10.5	13.0	8.7	8.8	1.4	6.8	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	71.3	16.8	41.2	0.0	33.7	41.1	31.6	31.7	48.1	44.2	44.7
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		1000			441			1151			335	
Approach Delay, s/veh		27.8			36.5			37.2			44.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	35.9	19.0	35.6	29.6	20.5	16.7	37.9
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 8	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.8	14.7	7.2	28.6	21.5	10.7	4.8	19.8
Green Ext Time (p_c), s	0.0	3.1	0.3	2.0	2.6	1.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	155	772	16	55	84	481	697	222	121	719	78
Future Volume (veh/h)	100	155	772	16	55	84	481	697	222	121	719	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	102	158	446	16	56	16	491	711	211	123	734	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	132	1173	61	168	207	1021	1651	490	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2723	808	3428	3554	1298
Grp Volume(v), veh/h	102	158	446	16	56	16	491	468	454	123	734	29
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1740	1714	1777	1298
Q Serve(g_s), s	10.0	16.7	2.0	1.1	3.5	1.3	14.8	17.8	17.8	4.5	21.2	1.4
Cycle Q Clear(g_c), s	10.0	16.7	2.0	1.1	3.5	1.3	14.8	17.8	17.8	4.5	21.2	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	84	132	1173	61	168	207	1021	1086	1055	212	1294	473
V/C Ratio(X)	1.21	1.20	0.38	0.26	0.33	0.08	0.48	0.43	0.43	0.58	0.57	0.06
Avail Cap(c_a), veh/h	84	132	1173	382	495	441	1024	1086	1055	214	1294	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	59.0	55.6	13.1	60.2	54.7	46.7	37.2	13.4	13.4	58.4	32.6	14.5
Incr Delay (d2), s/veh	166.3	140.8	0.9	2.2	1.1	0.2	0.4	1.2	1.3	3.8	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.5	15.5	5.9	1.0	3.2	0.8	10.5	11.7	11.4	3.7	14.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	225.3	196.4	14.0	62.5	55.9	46.9	37.6	14.7	14.7	62.2	34.4	14.8
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	C	B
Approach Vol, veh/h		706			88			1413			886	
Approach Delay, s/veh		85.4			55.4			22.6			37.6	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.3	22.7	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	5.5	19.8	3.1	18.7	16.8	23.2	12.0	5.5
Green Ext Time (p_c), s	0.0	15.5	0.0	0.0	1.7	5.2	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	23	14	1337	1871	15
Future Volume (veh/h)	100	23	14	1337	1871	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	104	17	15	1393	1949	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	142	23	200	2786	2832	23
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1468	240	219	3589	3647	29
Grp Volume(v), veh/h	122	0	15	1393	957	1008
Grp Sat Flow(s),veh/h/ln	1722	0	219	1749	1749	1835
Q Serve(g_s), s	6.2	0.0	3.0	12.1	22.1	22.3
Cycle Q Clear(g_c), s	6.2	0.0	25.3	12.1	22.1	22.3
Prop In Lane	0.85	0.14	1.00			0.02
Lane Grp Cap(c), veh/h	166	0	200	2786	1393	1462
V/C Ratio(X)	0.73	0.00	0.07	0.50	0.69	0.69
Avail Cap(c_a), veh/h	574	0	200	2786	1393	1462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.85	0.85
Uniform Delay (d), s/veh	39.5	0.0	9.8	3.1	4.1	4.1
Incr Delay (d2), s/veh	6.1	0.0	0.7	0.6	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	0.0	0.3	4.6	8.6	8.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.6	0.0	10.5	3.7	6.5	6.4
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	122			1408	1965	
Approach Delay, s/veh	45.6			3.8	6.4	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	76.3		13.7		76.3
Change Period (Y+Rc), s	* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s	* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s	24.3		8.2		27.3
Green Ext Time (p_c), s	23.0		0.3		17.8

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	298	50	29	32	30	29	26	1067	42	3	1348	57
Future Volume (veh/h)	298	50	29	32	30	29	26	1067	42	3	1348	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	304	51	8	33	31	6	27	1089	42	3	1376	26
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	419	363	57	276	232	45	102	1297	50	11	1499	663
Arrive On Green	0.24	0.24	0.24	0.16	0.16	0.16	0.38	0.38	0.38	0.01	0.43	0.43
Sat Flow, veh/h	1753	1516	238	1753	1474	285	378	3432	132	1753	3497	1546
Grp Volume(v), veh/h	304	0	59	33	0	37	27	555	576	3	1376	26
Grp Sat Flow(s),veh/h/ln	1753	0	1754	1753	0	1759	378	1749	1816	1753	1749	1546
Q Serve(g_s), s	14.4	0.0	2.4	1.5	0.0	1.6	5.2	26.0	26.0	0.2	33.4	0.9
Cycle Q Clear(g_c), s	14.4	0.0	2.4	1.5	0.0	1.6	34.0	26.0	26.0	0.2	33.4	0.9
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	419	0	420	276	0	277	102	661	686	11	1499	663
V/C Ratio(X)	0.72	0.00	0.14	0.12	0.00	0.13	0.26	0.84	0.84	0.27	0.92	0.04
Avail Cap(c_a), veh/h	460	0	460	479	0	481	102	661	686	234	1499	663
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	26.9	32.5	0.0	32.6	42.9	25.5	25.5	44.5	24.2	14.9
Incr Delay (d2), s/veh	5.1	0.0	0.2	0.2	0.0	0.2	6.2	12.2	11.8	12.1	10.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	1.8	1.1	0.0	1.3	1.4	18.1	18.6	0.2	21.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	0.0	27.1	32.7	0.0	32.8	49.1	37.7	37.3	56.6	34.7	15.0
LnGrp LOS	D	A	C	C	A	C	D	D	D	E	C	B
Approach Vol, veh/h		363			70			1158			1405	
Approach Delay, s/veh		35.0			32.8			37.8			34.3	
Approach LOS		D			C			D			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		43.5		26.9	4.6	38.9		19.6				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		35.4		16.4	2.2	36.0		3.6				
Green Ext Time (p_c), s		0.0		0.8	0.0	0.0		0.2				

Intersection Summary		
HCM 6th Ctrl Delay	35.7	
HCM 6th LOS	D	

Notes

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

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	54	18	6	1083	1274	80
Future Vol, veh/h	54	18	6	1083	1274	80
Conflicting Peds, #/hr	0	0	0	0	0	29
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	55	18	6	1094	1287	101

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1926	723	1417	0	-	0
Stage 1	1367	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.18	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.24	-	-	-
Pot Cap-1 Maneuver	57	364	467	-	-	-
Stage 1	198	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 54	355	456	-	-	-
Mov Cap-2 Maneuver	~ 54	-	-	-	-	-
Stage 1	191	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	189.9	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	456	-	54	355	-	-
HCM Lane V/C Ratio	0.013	-	1.01	0.051	-	-
HCM Control Delay (s)	13	-	248	15.7	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0	-	4.6	0.2	-	-

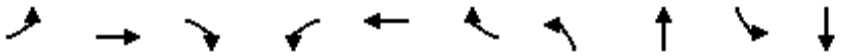
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2162	467	2173	1175
v/c Ratio	0.94	0.35	0.81	0.61
Control Delay	31.7	20.3	2.8	23.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.7	20.3	2.8	23.6
Queue Length 50th (ft)	394	96	0	191
Queue Length 95th (ft)	#518	136	0	237
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.94	0.35	0.81	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	432	436	39	49	167	124	33	1534	112	2430
v/c Ratio	1.39	1.38	0.10	0.20	0.66	0.40	0.69	0.74	1.22	0.98
Control Delay	237.3	233.4	0.5	57.9	73.7	11.9	100.9	39.8	219.1	49.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	237.3	233.4	0.5	57.9	73.7	11.9	100.9	39.8	219.1	49.9
Queue Length 50th (ft)	~590	~592	0	43	156	0	26	465	~133	841
Queue Length 95th (ft)	#818	#823	0	84	234	58	#97	539	#265	#1005
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		248	
Base Capacity (vph)	311	316	406	281	295	345	48	2080	92	2474
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.38	0.10	0.17	0.57	0.36	0.69	0.74	1.22	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

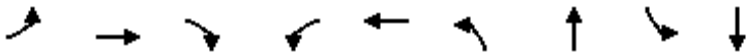
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	197	102	171	39	81	604	118	23	817	40
v/c Ratio	0.39	0.19	0.32	0.08	0.67	0.66	0.15	0.09	0.89	0.05
Control Delay	18.5	4.8	17.5	6.0	44.4	15.2	2.5	8.8	27.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	4.8	17.5	6.0	44.4	15.2	2.5	8.8	27.8	2.7
Queue Length 50th (ft)	54	0	46	0	20	149	0	4	244	0
Queue Length 95th (ft)	103	28	90	17	#90	248	20	15	#468	11
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	510	537	528	505	121	922	788	265	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.19	0.32	0.08	0.67	0.66	0.15	0.09	0.89	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	177	771	164	283	669	494	30	348
v/c Ratio	0.21	0.71	0.49	0.39	0.68	0.71	0.40	0.19	0.61
Control Delay	50.4	56.0	15.3	49.9	47.2	41.1	27.8	51.8	43.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	56.0	15.3	49.9	47.2	41.1	27.8	51.8	43.6
Queue Length 50th (ft)	33	111	166	54	180	215	146	19	104
Queue Length 95th (ft)	85	#233	248	106	#355	318	210	57	178
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	345	318	2190	441	414	1689	1775	226	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.56	0.35	0.37	0.68	0.40	0.28	0.13	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	102	158	788	16	56	86	491	938	123	734	80
v/c Ratio	0.98	0.77	0.47	0.11	0.27	0.28	0.49	0.45	0.58	0.57	0.14
Control Delay	141.8	77.3	4.2	61.3	55.7	7.8	41.0	15.2	72.6	36.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	141.8	77.3	4.2	61.3	55.7	7.8	41.0	15.2	72.6	36.6	0.5
Queue Length 50th (ft)	~94	120	35	12	44	0	170	192	51	250	0
Queue Length 95th (ft)	#244	#240	67	40	86	33	262	326	#98	378	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1676	378	491	309	1011	2092	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.77	0.47	0.04	0.11	0.28	0.49	0.45	0.58	0.57	0.14

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.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	128	15	1393	1965
v/c Ratio	0.49	0.17	0.54	0.76
Control Delay	37.4	11.1	6.8	11.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.4	11.1	6.8	11.0
Queue Length 50th (ft)	64	2	130	253
Queue Length 95th (ft)	101	17	301	#604
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	575	88	2583	2580
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.17	0.54	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	304	81	33	61	27	1132	3	1376	58
v/c Ratio	0.78	0.21	0.11	0.20	0.30	0.76	0.02	0.86	0.08
Control Delay	46.2	19.2	28.8	18.2	42.4	31.5	38.0	33.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.5	0.0
Total Delay	46.2	19.2	28.8	18.2	42.4	31.5	38.0	81.2	2.1
Queue Length 50th (ft)	156	22	17	16	9	262	2	355	0
Queue Length 95th (ft)	245	58	37	44	#67	#671	10	#673	11
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		25
Base Capacity (vph)	455	451	474	471	91	1496	231	1597	730
Starvation Cap Reductn	0	0	0	0	0	0	0	403	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.18	0.07	0.13	0.30	0.76	0.01	1.15	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Future Year (2030)
Plus Project
Scenario A
OSP Specific Plan Site Phase 1 &
327 Harbor Site

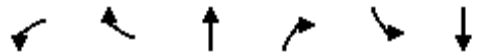


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1843	455	3366	871
v/c Ratio	0.73	0.38	1.23	0.51
Control Delay	18.6	24.0	116.8	25.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.6	24.0	116.8	25.2
Queue Length 50th (ft)	256	105	~430	147
Queue Length 95th (ft)	310	148	#570	188
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1195	2733	1718
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.38	1.23	0.51

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.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1641	73	423	3130	0	810
Future Volume (veh/h)	1641	73	423	3130	0	810
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1833	0	455	0	0	871
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2439	723	1390		0	1997
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1833	0	455	0	0	871
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	25.8	0.0	8.1	0.0	0.0	11.4
Cycle Q Clear(g_c), s	25.8	0.0	8.1	0.0	0.0	11.4
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2439	723	1390		0	1997
V/C Ratio(X)	0.75	0.00	0.33		0.00	0.44
Avail Cap(c_a), veh/h	2834	841	1390		0	1997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	18.8	0.0	0.0	19.8
Incr Delay (d2), s/veh	1.2	0.0	0.6	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.6	0.0	5.8	0.0	0.0	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.1	0.0	19.4	0.0	0.0	20.5
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	1833		455			871
Approach Delay, s/veh	21.1		19.4			20.5
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.8		48.2		41.8
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.4		27.8		10.1
Green Ext Time (p_c), s		8.4		13.9		4.6

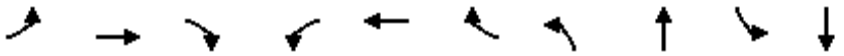
Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

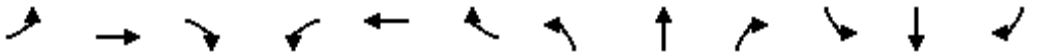


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	584	595	26	45	136	203	9	1991	85	2092
v/c Ratio	1.88	1.90	0.06	0.20	0.58	0.67	0.19	0.93	0.92	0.84
Control Delay	439.2	449.0	0.3	58.6	70.4	34.3	41.9	50.4	143.5	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	439.2	449.0	0.3	58.6	70.4	34.3	41.9	50.4	143.5	34.8
Queue Length 50th (ft)	~914	~935	0	40	127	70	5	675	84	614
Queue Length 95th (ft)	#1164	#1187	0	78	194	157	24	#841	#196	731
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	313	415	281	295	347	48	2130	92	2480
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.88	1.90	0.06	0.16	0.46	0.59	0.19	0.93	0.92	0.84

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1068	52	25	43	129	193	9	1888	4	81	1574	413
Future Volume (veh/h)	1068	52	25	43	129	193	9	1888	4	81	1574	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1163	0	6	45	136	92	9	1987	4	85	1657	407
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	203	213	173	86	2283	5	93	2132	516
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1491	199	5178	10	1753	4021	973
Grp Volume(v), veh/h	1163	0	6	45	136	92	9	1285	706	85	1376	688
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1491	199	1675	1839	1753	1675	1644
Q Serve(g_s), s	28.3	0.0	0.5	3.5	10.6	8.7	5.7	52.2	52.2	7.2	49.1	50.7
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.5	10.6	8.7	43.0	52.2	52.2	7.2	49.1	50.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.59
Lane Grp Cap(c), veh/h	661	0	286	203	213	173	86	1477	811	93	1777	872
V/C Ratio(X)	1.76	0.00	0.02	0.22	0.64	0.53	0.10	0.87	0.87	0.91	0.77	0.79
Avail Cap(c_a), veh/h	661	0	286	284	298	242	86	1477	811	93	1777	872
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	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	60.2	63.3	62.5	51.2	38.0	38.0	70.6	28.1	28.5
Incr Delay (d2), s/veh	347.4	0.0	0.1	1.3	7.4	6.0	2.4	7.3	12.3	64.2	3.4	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(95%),veh/ln	69.0	0.0	0.3	3.0	9.1	6.5	0.6	30.3	34.2	8.5	27.4	28.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	408.2	0.0	49.6	61.5	70.7	68.5	53.7	45.3	50.3	134.9	31.5	35.6
LnGrp LOS	F	A	D	E	E	E	D	D	D	F	C	D
Approach Vol, veh/h		1169			273			2000			2149	
Approach Delay, s/veh		406.4			68.4			47.1			36.9	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	75.5		27.1		88.9		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	9.2	54.2		12.6		52.7		30.3				
Green Ext Time (p_c), s	0.0	4.7		1.9		17.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		119.3
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

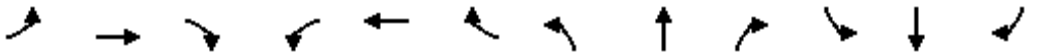
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	161	54	238	76	91	917	148	25	603	26
v/c Ratio	0.33	0.11	0.50	0.15	0.34	0.99	0.19	0.21	0.65	0.03
Control Delay	17.8	5.6	20.8	5.1	13.6	46.4	4.1	13.5	15.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	5.6	20.8	5.1	13.6	46.4	4.1	13.5	15.2	1.5
Queue Length 50th (ft)	43	0	68	0	18	303	9	5	148	0
Queue Length 95th (ft)	83	19	122	22	47	#524	31	19	233	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	487	487	476	516	264	922	776	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.11	0.50	0.15	0.34	0.99	0.19	0.21	0.65	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



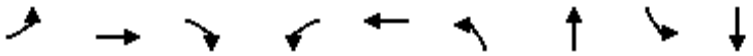
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	95	47	74	133	66	79	798	129	22	525	23
Future Volume (veh/h)	45	95	47	74	133	66	79	798	129	22	525	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	52	109	17	85	153	25	91	917	101	25	603	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	79	126	454	81	109	453	329	930	767	127	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	389	1405	0	337	1402	794	1841	1520	545	1841	1520
Grp Volume(v), veh/h	161	0	17	238	0	25	91	917	101	25	603	13
Grp Sat Flow(s),veh/h/ln	389	0	1405	337	0	1402	794	1841	1520	545	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.7	5.7	29.5	2.1	0.8	14.5	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.7	20.2	29.5	2.1	30.3	14.5	0.3
Prop In Lane	0.32		1.00	0.36		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	0	454	190	0	453	329	930	767	127	930	767
V/C Ratio(X)	0.79	0.00	0.04	1.25	0.00	0.06	0.28	0.99	0.13	0.20	0.65	0.02
Avail Cap(c_a), veh/h	205	0	454	190	0	453	329	930	767	127	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	19.9	0.0	14.0	18.4	14.6	7.9	29.9	10.9	7.4
Incr Delay (d2), s/veh	2.8	0.0	0.0	148.5	0.0	0.2	2.1	26.4	0.4	3.4	3.5	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.0	0.3	16.5	0.0	0.4	2.0	22.8	1.1	0.8	9.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	13.9	168.4	0.0	14.2	20.4	41.1	8.2	33.3	14.4	7.5
LnGrp LOS	B	A	B	F	A	B	C	D	A	C	B	A
Approach Vol, veh/h		178			263			1109			641	
Approach Delay, s/veh		19.2			153.7			36.4			15.0	
Approach LOS		B			F			D			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		32.3		21.4		31.5		21.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	42.8	
HCM 6th LOS	D	

Notes

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

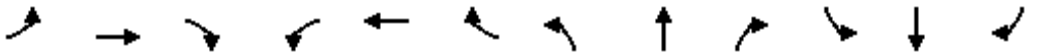


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	264	549	71	167	1047	643	7	289
v/c Ratio	0.33	0.99	0.32	0.20	0.45	0.84	0.39	0.05	0.60
Control Delay	62.5	103.2	10.5	58.3	48.8	44.4	19.9	59.0	59.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	103.2	10.5	58.3	48.8	44.4	19.9	59.0	59.7
Queue Length 50th (ft)	57	~246	107	28	122	417	156	5	125
Queue Length 95th (ft)	97	#370	123	48	180	408	212	19	153
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	213	266	2002	357	372	1625	1817	136	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.99	0.27	0.20	0.45	0.64	0.35	0.05	0.43

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	198	412	53	116	9	785	393	89	5	210	7
Future Volume (veh/h)	53	198	412	53	116	9	785	393	89	5	210	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	71	264	549	71	155	11	1047	524	107	7	280	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	196	172	1648	364	344	24	1167	1201	244	25	431	12
Arrive On Green	0.11	0.26	0.26	0.12	0.26	0.26	0.34	0.44	0.44	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2718	3018	1328	94	3428	2754	560	977	3556	101
Grp Volume(v), veh/h	71	264	549	71	0	166	1047	316	315	7	141	147
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1422	1714	1664	1650	977	1791	1867
Q Serve(g_s), s	4.6	32.0	12.7	2.6	0.0	12.2	36.1	16.4	16.6	0.9	9.3	9.4
Cycle Q Clear(g_c), s	4.6	32.0	12.7	2.6	0.0	12.2	36.1	16.4	16.6	0.9	9.3	9.4
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	196	172	1648	364	0	369	1167	725	719	25	217	226
V/C Ratio(X)	0.36	1.53	0.33	0.20	0.00	0.45	0.90	0.44	0.44	0.28	0.65	0.65
Avail Cap(c_a), veh/h	215	172	1648	364	0	369	1639	909	901	118	338	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	46.2	12.6	49.3	0.0	38.7	39.0	24.4	24.5	59.5	52.2	52.2
Incr Delay (d2), s/veh	1.1	266.9	0.1	0.3	0.0	0.9	5.2	0.4	0.4	5.8	3.2	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(95%),veh/ln	3.9	30.2	7.0	1.8	0.0	7.8	22.2	10.6	10.7	0.5	7.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	313.1	12.8	49.6	0.0	39.5	44.2	24.9	24.9	65.3	55.4	55.3
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		884			237			1678			295	
Approach Delay, s/veh		105.6			42.5			36.9			55.6	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	59.8	19.0	37.0	47.9	20.6	18.7	37.3
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	2.9	18.6	4.6	34.0	38.1	11.4	6.6	14.2
Green Ext Time (p_c), s	0.0	4.3	0.1	0.0	4.3	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	58.8
HCM 6th LOS	E

Notes

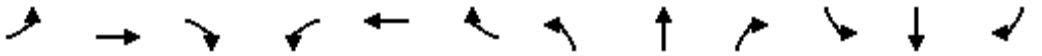
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	142	56	860	12	7	4	825	1332	64	673	54
v/c Ratio	0.67	0.26	0.49	0.06	0.03	0.02	0.77	0.65	0.28	0.63	0.12
Control Delay	66.0	52.9	2.6	52.8	52.5	0.0	44.2	21.5	62.6	42.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	52.9	2.6	52.8	52.5	0.0	44.2	21.5	62.6	42.6	0.5
Queue Length 50th (ft)	94	34	3	8	5	0	261	298	22	211	0
Queue Length 95th (ft)	#220	87	15	26	19	0	408	544	52	354	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	213	213	1832	412	434	256	1278	2184	230	1065	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.26	0.47	0.03	0.02	0.02	0.65	0.61	0.28	0.63	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	45	697	10	6	3	668	1043	36	52	545	44
Future Volume (veh/h)	115	45	697	10	6	3	668	1043	36	52	545	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	142	56	428	12	7	0	825	1288	44	64	673	17
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	191	179	1317	62	65	130	1062	1958	67	201	1053	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3534	121	3428	3554	1317
Grp Volume(v), veh/h	142	56	428	12	7	0	825	652	680	64	673	17
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1863	1714	1777	1317
Q Serve(g_s), s	15.0	5.8	0.0	0.8	0.4	0.0	25.9	30.7	30.8	2.2	19.8	0.7
Cycle Q Clear(g_c), s	15.0	5.8	0.0	0.8	0.4	0.0	25.9	30.7	30.8	2.2	19.8	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	191	179	1317	62	65	130	1062	993	1033	201	1053	390
V/C Ratio(X)	0.74	0.31	0.32	0.19	0.11	0.00	0.78	0.66	0.66	0.32	0.64	0.04
Avail Cap(c_a), veh/h	191	179	1317	407	427	396	1264	993	1033	228	1053	390
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	46.9	43.1	19.1	56.4	56.2	0.0	38.0	18.8	18.8	54.3	36.7	11.5
Incr Delay (d2), s/veh	23.0	4.5	0.7	1.5	0.7	0.0	2.6	3.4	3.3	0.9	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	3.0	6.9	0.7	0.4	0.0	16.7	18.9	19.6	1.7	13.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	47.6	19.7	57.9	57.0	0.0	40.6	22.2	22.1	55.1	39.7	11.7
LnGrp LOS	E	D	B	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		626			19			2157			754	
Approach Delay, s/veh		33.6			57.6			29.2			40.4	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.2	32.8	2.8	7.8	27.9	21.8	17.0	2.4
Green Ext Time (p_c), s	0.0	20.6	0.0	3.4	2.9	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

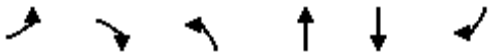
Notes

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



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	216	8	1945	1236
v/c Ratio	0.67	0.03	0.79	0.50
Control Delay	42.4	6.0	13.2	7.5
Queue Delay	0.0	0.0	0.7	0.0
Total Delay	42.4	6.0	13.9	7.5
Queue Length 50th (ft)	112	1	323	139
Queue Length 95th (ft)	167	7	580	248
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	578	246	2461	2453
Starvation Cap Reductn	0	0	223	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.87	0.50

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	174	23	7	1770	1100	25
Future Volume (veh/h)	174	23	7	1770	1100	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	191	18	8	1945	1209	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	231	22	352	2611	2611	58
Arrive On Green	0.15	0.15	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1578	149	443	3589	3589	78
Grp Volume(v), veh/h	210	0	8	1945	604	632
Grp Sat Flow(s),veh/h/ln	1735	0	443	1749	1749	1827
Q Serve(g_s), s	10.6	0.0	0.6	28.6	12.0	12.1
Cycle Q Clear(g_c), s	10.6	0.0	12.7	28.6	12.0	12.1
Prop In Lane	0.91	0.09	1.00			0.04
Lane Grp Cap(c), veh/h	254	0	352	2611	1306	1364
V/C Ratio(X)	0.83	0.00	0.02	0.74	0.46	0.46
Avail Cap(c_a), veh/h	578	0	352	2611	1306	1364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.82	0.82
Uniform Delay (d), s/veh	37.3	0.0	6.9	6.5	4.4	4.4
Incr Delay (d2), s/veh	6.7	0.0	0.1	2.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	0.1	12.3	6.0	6.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.9	0.0	7.0	8.5	5.4	5.3
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	210			1953	1236	
Approach Delay, s/veh	43.9			8.5	5.4	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.8		18.2		71.8
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		14.1		12.6		30.6
Green Ext Time (p_c), s		17.7		0.6		18.2

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

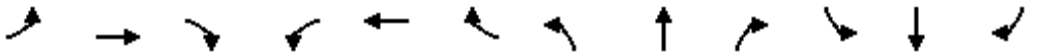


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	634	17	4	9	14	1403	23	1391	90
v/c Ratio	1.39	0.04	0.01	0.02	0.15	1.00	0.15	0.87	0.12
Control Delay	219.4	14.8	25.7	0.0	38.1	56.5	40.1	34.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.2	0.0
Total Delay	219.4	14.8	25.7	0.0	38.1	56.5	40.1	81.3	5.4
Queue Length 50th (ft)	~486	2	2	0	5	373	12	367	0
Queue Length 95th (ft)	#574	15	8	0	#29	#720	31	#560	22
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	433	474	642	93	1400	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	391	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	0.04	0.01	0.01	0.15	1.00	0.10	1.16	0.12

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	501	3	10	3	0	7	11	1102	6	18	1099	71
Future Volume (veh/h)	501	3	10	3	0	7	11	1102	6	18	1099	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	634	4	4	4	0	1	14	1395	8	23	1391	39
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	169	1642	9	68	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.31	0.31	0.31	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	368	3565	20	1753	3497	1556
Grp Volume(v), veh/h	634	0	8	4	0	1	14	684	719	23	1391	39
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	368	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	2.9	33.0	33.0	1.1	27.1	1.1
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	22.5	33.0	33.0	1.1	27.1	1.1
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	169	805	846	68	1902	847
V/C Ratio(X)	1.38	0.00	0.02	0.12	0.00	0.03	0.08	0.85	0.85	0.34	0.73	0.05
Avail Cap(c_a), veh/h	460	0	442	479	0	424	169	805	846	234	1902	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	33.0	28.2	28.2	42.1	15.5	9.6
Incr Delay (d2), s/veh	183.8	0.0	0.0	1.5	0.0	0.4	1.0	10.9	10.4	2.9	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	50.3	0.0	0.2	0.2	0.0	0.0	0.6	23.2	24.1	1.0	15.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	217.0	0.0	24.6	44.9	0.0	43.7	34.0	39.1	38.6	45.0	18.1	9.7
LnGrp LOS	F	A	C	D	A	D	C	D	D	D	B	A
Approach Vol, veh/h		642			5			1417			1453	
Approach Delay, s/veh		214.7			44.6			38.8			18.3	
Approach LOS		F			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		53.9		29.0	7.5	46.4		7.1				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		29.1		25.6	3.1	35.0		2.2				
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	62.4	
HCM 6th LOS	E	

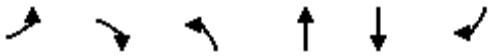
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	41	16	5	1324	1343
v/c Ratio	0.17	0.07	0.02	0.46	0.48
Control Delay	33.3	13.7	5.0	4.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	13.7	5.0	4.9	4.9
Queue Length 50th (ft)	22	0	0	108	106
Queue Length 95th (ft)	40	14	5	242	241
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	438	279	2905	2821
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.04	0.02	0.46	0.48

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	13	4	1099	908	207
Future Volume (veh/h)	34	13	4	1099	908	207
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	41	2	5	1324	1094	237
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	128	114	411	2861	2340	504
Arrive On Green	0.07	0.07	0.82	0.82	1.00	1.00
Sat Flow, veh/h	1753	1560	405	3589	2953	617
Grp Volume(v), veh/h	41	2	5	1324	666	665
Grp Sat Flow(s),veh/h/ln	1753	1560	405	1749	1749	1729
Q Serve(g_s), s	2.0	0.1	0.2	10.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.1	0.2	10.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	128	114	411	2861	1430	1414
V/C Ratio(X)	0.32	0.02	0.01	0.46	0.47	0.47
Avail Cap(c_a), veh/h	489	435	411	2861	1430	1414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	38.7	1.5	2.4	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.1	0.1	0.5	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.1	0.0	3.1	0.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	38.8	1.6	2.9	1.1	1.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	43			1329	1331	
Approach Delay, s/veh	40.9			2.9	1.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		78.5		11.5		78.5
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		12.0		4.0		2.0
Green Ext Time (p_c), s		13.6		0.1		13.0

Intersection Summary	
HCM 6th Ctrl Delay	2.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	393	9	22	70	0	12	0	26	0	0	0
Future Vol, veh/h	0	393	9	22	70	0	12	0	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	497	11	28	89	0	15	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	89	0	0	508	0	0	648	648	503	664	653	89
Stage 1	-	-	-	-	-	-	503	503	-	145	145	-
Stage 2	-	-	-	-	-	-	145	145	-	519	508	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1494	-	-	1047	-	-	381	387	565	371	384	964
Stage 1	-	-	-	-	-	-	547	538	-	853	773	-
Stage 2	-	-	-	-	-	-	853	773	-	536	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1494	-	-	1047	-	-	373	376	565	342	373	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	373	376	-	342	373	-
Stage 1	-	-	-	-	-	-	547	538	-	853	751	-
Stage 2	-	-	-	-	-	-	829	751	-	505	535	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2	13.2	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	486	1494	-	-	1047	-	-	-
HCM Lane V/C Ratio	0.099	-	-	-	0.027	-	-	-
HCM Control Delay (s)	13.2	0	-	-	8.5	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	269	0	0	60	0	0	0	0	2	0	19
Future Vol, veh/h	15	269	0	0	60	0	0	0	0	2	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	19	341	0	0	76	0	0	0	0	3	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	341	0	0	467	455	341	455	455	76
Stage 1	-	-	-	-	-	-	379	379	-	76	76	-
Stage 2	-	-	-	-	-	-	88	76	-	379	379	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1510	-	-	1207	-	-	503	498	697	512	498	980
Stage 1	-	-	-	-	-	-	639	611	-	928	828	-
Stage 2	-	-	-	-	-	-	915	828	-	639	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1510	-	-	1207	-	-	485	490	697	506	490	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	490	-	506	490	-
Stage 1	-	-	-	-	-	-	629	601	-	913	828	-
Stage 2	-	-	-	-	-	-	893	828	-	629	601	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	0	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1510	-	-	1207	-	-	900
HCM Lane V/C Ratio	-	0.013	-	-	-	-	-	0.03
HCM Control Delay (s)	0	7.4	0	-	0	-	-	9.1
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	283	67	18	24	17
Future Vol, veh/h	14	283	67	18	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	18	358	85	23	30	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	491	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	394	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1470	-	-	-	533	954
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	677	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1470	-	-	-	525	954
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	645
HCM Lane V/C Ratio	0.012	-	-	-	0.08
HCM Control Delay (s)	7.5	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	7.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	10	0	1	9	0
Future Vol, veh/h	2	10	0	1	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	3	13	0	1	11	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	23	1	0	0	1	0
Stage 1	1	-	-	-	-	-
Stage 2	22	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	988	1078	-	-	1609	-
Stage 1	1017	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	981	1078	-	-	1609	-
Mov Cap-2 Maneuver	981	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1061	1609	-
HCM Lane V/C Ratio	-	-	0.014	0.007	-
HCM Control Delay (s)	-	-	8.4	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	290	78	6	6	6
Future Vol, veh/h	4	290	78	6	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	5	367	99	8	8	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	107	0	-	0	480	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1471	-	-	-	541	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1471	-	-	-	539	946
Mov Cap-2 Maneuver	-	-	-	-	539	-
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1471	-	-	-	687
HCM Lane V/C Ratio	0.003	-	-	-	0.022
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	48	211	0	0	0
Future Vol, veh/h	0	48	211	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	61	267	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	267	0	-	0	328	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1285	-	-	-	662	767
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1285	-	-	-	662	767
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1285	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1133	1117	0
Future Vol, veh/h	0	0	0	1133	1117	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1434	1414	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	707	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	373	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	373	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	47	211	0	0	0
Future Vol, veh/h	0	47	211	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	59	267	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	267	0	-	0	326	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1285	-	-	-	664	767
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1285	-	-	-	664	767
Mov Cap-2 Maneuver	-	-	-	-	664	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	959	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1285	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	403	83	0	0	0
Future Vol, veh/h	0	403	83	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	510	105	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	105	0	-	0	615	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	510	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1474	-	-	-	451	944
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1474	-	-	-	451	944
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	599	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1474	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	532	0	0	93	0	0
Future Vol, veh/h	532	0	0	93	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	673	0	0	118	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	673	0	791	673
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	118	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	908	-	356	452
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	908	-	356	452
Mov Cap-2 Maneuver	-	-	-	-	356	-
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	908	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1133	1124	0
Future Vol, veh/h	0	0	0	1133	1124	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1434	1423	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	712	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	370	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	370	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	0	0	52	0	0
Future Vol, veh/h	271	0	0	52	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	343	0	0	66	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	343	0	409	343
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1205	-	595	695
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1205	-	595	695
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1205	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	186	5	4	28	7	7
Future Vol, veh/h	186	5	4	28	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	235	6	5	35	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	241	0	283	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1314	-	703	796
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1314	-	700	796
Mov Cap-2 Maneuver	-	-	-	-	700	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	745	-	-	1314	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2133	461	2142	1154
v/c Ratio	0.92	0.34	0.80	0.60
Control Delay	30.3	20.3	2.6	23.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.3	20.3	2.6	23.4
Queue Length 50th (ft)	385	95	0	187
Queue Length 95th (ft)	#478	134	0	232
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.92	0.34	0.80	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1982	87	447	2078	0	1119
Future Volume (veh/h)	1982	87	447	2078	0	1119
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2123	0	461	0	0	1154
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2427	720	1398		0	2008
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2123	0	461	0	0	1154
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	32.8	0.0	8.2	0.0	0.0	16.1
Cycle Q Clear(g_c), s	32.8	0.0	8.2	0.0	0.0	16.1
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2427	720	1398		0	2008
V/C Ratio(X)	0.87	0.00	0.33		0.00	0.57
Avail Cap(c_a), veh/h	2484	737	1398		0	2008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	18.7	0.0	0.0	21.1
Incr Delay (d2), s/veh	4.0	0.0	0.6	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.5	0.0	5.9	0.0	0.0	10.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.8	0.0	19.3	0.0	0.0	22.3
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2123		461			1154
Approach Delay, s/veh	25.8		19.3			22.3
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.0		48.0		42.0
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.1		34.8		10.2
Green Ext Time (p_c), s		11.2		6.7		5.3

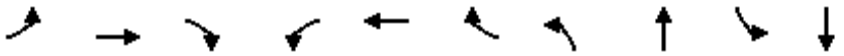
Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

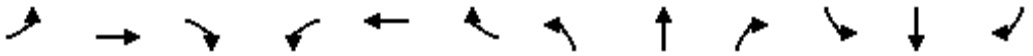


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	424	429	38	49	166	125	32	1518	115	2394
v/c Ratio	1.36	1.36	0.09	0.21	0.66	0.40	0.65	0.73	1.25	0.97
Control Delay	227.3	224.8	0.4	58.0	73.7	12.1	96.8	39.5	229.4	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	227.3	224.8	0.4	58.0	73.7	12.1	96.8	39.5	229.4	47.0
Queue Length 50th (ft)	~573	~577	0	43	155	0	25	457	~139	815
Queue Length 95th (ft)	#802	#806	0	84	233	58	#95	532	#273	#979
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	316	406	281	295	345	49	2082	92	2476
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	1.36	0.09	0.17	0.56	0.36	0.65	0.73	1.25	0.97

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	134	38	49	164	124	32	1484	19	114	1934	436
Future Volume (veh/h)	711	134	38	49	164	124	32	1484	19	114	1934	436
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	814	0	8	49	166	18	32	1499	19	115	1954	418
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	222	233	189	58	2197	28	93	2156	447
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1486	147	5111	65	1753	4153	861
Grp Volume(v), veh/h	814	0	8	49	166	18	32	982	536	115	1565	807
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1486	147	1675	1826	1753	1675	1664
Q Serve(g_s), s	28.3	0.0	0.6	3.8	13.0	1.6	9.9	35.5	35.5	8.0	63.2	68.0
Cycle Q Clear(g_c), s	28.3	0.0	0.6	3.8	13.0	1.6	64.5	35.5	35.5	8.0	63.2	68.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.52
Lane Grp Cap(c), veh/h	661	0	287	222	233	189	58	1440	785	93	1739	864
V/C Ratio(X)	1.23	0.00	0.03	0.22	0.71	0.10	0.55	0.68	0.68	1.23	0.90	0.93
Avail Cap(c_a), veh/h	661	0	287	284	298	241	58	1440	785	93	1739	864
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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.8	62.8	57.9	73.5	34.5	34.5	71.0	32.5	33.7
Incr Delay (d2), s/veh	116.7	0.0	0.1	1.2	10.1	0.5	33.3	2.6	4.8	167.2	7.9	18.3
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(95%),veh/ln	34.6	0.0	0.5	3.2	10.9	1.1	3.2	21.2	23.4	13.3	35.2	40.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.5	0.0	49.7	60.0	72.9	58.4	106.8	37.1	39.3	238.2	40.4	52.0
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	D
Approach Vol, veh/h		822			233			1550			2487	
Approach Delay, s/veh		176.3			69.1			39.3			53.3	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	73.9		28.7		87.3		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.0	66.5		15.0		70.0		30.3				
Green Ext Time (p_c), s	0.0	0.0		1.4		2.6		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	69.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

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



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	100	176	40	79	593	118	26	803	39
v/c Ratio	0.39	0.19	0.33	0.08	0.65	0.64	0.15	0.09	0.87	0.05
Control Delay	18.6	4.9	17.6	6.0	41.8	14.9	2.4	8.9	26.2	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	4.9	17.6	6.0	41.8	14.9	2.4	8.9	26.2	2.6
Queue Length 50th (ft)	56	0	47	0	19	145	0	4	236	0
Queue Length 95th (ft)	106	27	92	17	#87	241	20	16	#457	10
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	515	536	530	505	122	922	789	274	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.19	0.33	0.08	0.65	0.64	0.15	0.09	0.87	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

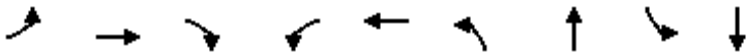
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	144	98	37	135	39	77	581	116	25	787	38
Future Volume (veh/h)	54	144	98	37	135	39	77	581	116	25	787	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	55	147	33	38	138	13	79	593	61	26	803	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	180	435	481	148	475	491	200	930	752	327	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	322	1344	1488	232	1468	1519	654	1841	1489	766	1841	1501
Grp Volume(v), veh/h	202	0	33	176	0	13	79	593	61	26	803	21
Grp Sat Flow(s),veh/h/ln	1666	0	1488	1701	0	1519	654	1841	1489	766	1841	1501
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.4	7.2	14.1	1.3	1.5	23.0	0.4
Cycle Q Clear(g_c), s	5.0	0.0	0.9	4.3	0.0	0.4	30.2	14.1	1.3	15.7	23.0	0.4
Prop In Lane	0.27		1.00	0.22		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	615	0	481	623	0	491	200	930	752	327	930	758
V/C Ratio(X)	0.33	0.00	0.07	0.28	0.00	0.03	0.40	0.64	0.08	0.08	0.86	0.03
Avail Cap(c_a), veh/h	615	0	481	623	0	491	200	930	752	327	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	14.0	15.2	0.0	13.9	26.3	10.8	7.7	16.6	13.0	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.1	5.8	3.3	0.2	0.5	10.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	0.0	0.5	3.4	0.0	0.2	2.4	9.1	0.7	0.5	15.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	14.1	16.3	0.0	14.0	32.1	14.2	7.9	17.0	23.5	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		235			189			733			850	
Approach Delay, s/veh		15.3			16.2			15.6			22.9	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		25.0		6.3		32.2		7.0				
Green Ext Time (p_c), s		2.6		0.8		0.0		1.0				

Intersection Summary		
HCM 6th Ctrl Delay		18.7
HCM 6th LOS		B

Notes

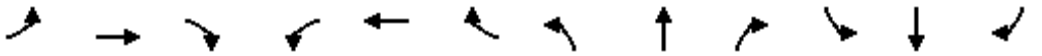
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	173	778	161	278	671	484	30	343
v/c Ratio	0.21	0.69	0.49	0.38	0.67	0.72	0.40	0.19	0.61
Control Delay	50.1	55.1	15.3	49.6	46.6	41.0	27.6	51.5	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	55.1	15.3	49.6	46.6	41.0	27.6	51.5	43.5
Queue Length 50th (ft)	32	108	167	53	174	215	143	19	102
Queue Length 95th (ft)	83	222	250	104	#345	318	205	57	176
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	346	319	2192	442	413	1694	1780	227	903
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.54	0.35	0.36	0.67	0.40	0.27	0.13	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	156	700	145	197	53	604	360	76	27	204	104
Future Volume (veh/h)	46	156	700	145	197	53	604	360	76	27	204	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	51	173	778	161	219	53	671	400	72	30	227	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	198	193	1450	435	349	85	793	823	147	82	384	122
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.23	0.29	0.29	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1121	271	3428	2822	504	977	2665	844
Grp Volume(v), veh/h	51	173	778	161	0	272	671	235	237	30	150	151
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1661	977	1791	1718
Q Serve(g_s), s	2.7	25.8	19.3	5.0	0.0	17.4	19.5	12.1	12.3	3.0	8.2	8.6
Cycle Q Clear(g_c), s	2.7	25.8	19.3	5.0	0.0	17.4	19.5	12.1	12.3	3.0	8.2	8.6
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.30	1.00		0.49
Lane Grp Cap(c), veh/h	198	193	1450	435	0	434	793	486	485	82	258	248
V/C Ratio(X)	0.26	0.90	0.54	0.37	0.00	0.63	0.85	0.48	0.49	0.37	0.58	0.61
Avail Cap(c_a), veh/h	359	212	1530	464	0	434	1762	951	949	202	473	454
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	35.5	16.6	40.3	0.0	30.6	38.2	30.4	30.5	45.1	41.6	41.8
Incr Delay (d2), s/veh	0.7	33.2	0.3	0.5	0.0	2.8	2.6	0.7	0.8	2.7	2.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	10.0	10.2	3.4	0.0	10.2	13.0	8.5	8.6	1.4	6.7	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	68.7	17.0	40.8	0.0	33.5	40.8	31.1	31.2	47.8	43.7	44.2
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		1002			433			1143			331	
Approach Delay, s/veh		27.2			36.2			36.9			44.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	35.9	19.0	35.0	29.6	20.5	16.6	37.5
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 22	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.0	14.3	7.0	27.8	21.5	10.6	4.7	19.4
Green Ext Time (p_c), s	0.0	3.0	0.3	2.2	2.6	1.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

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

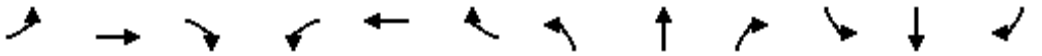


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	100	157	786	15	56	86	496	933	122	739	78
v/c Ratio	0.96	0.77	0.47	0.11	0.27	0.28	0.49	0.45	0.58	0.58	0.14
Control Delay	137.0	76.8	4.1	61.2	55.7	7.8	41.1	15.2	72.4	36.7	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	137.0	76.8	4.1	61.2	55.7	7.8	41.1	15.2	72.4	36.7	0.5
Queue Length 50th (ft)	~91	119	34	12	44	0	172	191	51	253	0
Queue Length 95th (ft)	#238	#238	65	38	86	33	265	324	#95	382	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1677	378	491	309	1011	2091	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.77	0.47	0.04	0.11	0.28	0.49	0.45	0.58	0.58	0.14

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	154	770	15	55	84	486	697	218	120	724	76
Future Volume (veh/h)	98	154	770	15	55	84	486	697	218	120	724	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	100	157	443	15	56	16	496	711	206	122	739	28
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	134	1177	58	168	207	1021	1662	481	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2740	794	3428	3554	1298
Grp Volume(v), veh/h	100	157	443	15	56	16	496	465	452	122	739	28
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1742	1714	1777	1298
Q Serve(g_s), s	10.0	16.9	1.9	1.0	3.5	1.3	15.0	17.6	17.6	4.4	21.4	1.3
Cycle Q Clear(g_c), s	10.0	16.9	1.9	1.0	3.5	1.3	15.0	17.6	17.6	4.4	21.4	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	84	134	1177	58	168	207	1021	1086	1057	212	1294	473
V/C Ratio(X)	1.19	1.18	0.38	0.26	0.33	0.08	0.49	0.43	0.43	0.58	0.57	0.06
Avail Cap(c_a), veh/h	84	134	1177	382	495	441	1024	1086	1057	214	1294	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	59.0	55.5	13.1	60.4	54.7	46.7	37.3	13.4	13.4	58.4	32.6	14.5
Incr Delay (d2), s/veh	157.9	132.5	0.9	2.3	1.1	0.2	0.4	1.2	1.3	3.7	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	15.1	5.9	0.9	3.2	0.8	10.6	11.6	11.4	3.6	14.5	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	216.8	188.0	14.0	62.7	55.9	46.9	37.6	14.6	14.6	62.1	34.5	14.7
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	C	B
Approach Vol, veh/h		700			87			1413			889	
Approach Delay, s/veh		82.0			55.4			22.7			37.6	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.1	22.9	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	6.4	19.6	3.0	18.9	17.0	23.4	12.0	5.5
Green Ext Time (p_c), s	0.0	15.4	0.0	0.0	1.7	5.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

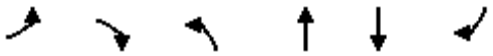
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	129	14	1391	1961
v/c Ratio	0.49	0.16	0.54	0.76
Control Delay	37.5	10.4	6.8	10.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.5	10.4	6.8	10.9
Queue Length 50th (ft)	65	2	130	253
Queue Length 95th (ft)	102	15	300	#598
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	575	90	2583	2580
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.16	0.54	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	22	13	1335	1864	18
Future Volume (veh/h)	102	22	13	1335	1864	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	106	16	14	1391	1942	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	144	22	201	2784	2825	28
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1485	224	220	3589	3641	35
Grp Volume(v), veh/h	123	0	14	1391	955	1006
Grp Sat Flow(s),veh/h/ln	1724	0	220	1749	1749	1834
Q Serve(g_s), s	6.2	0.0	2.8	12.1	22.1	22.3
Cycle Q Clear(g_c), s	6.2	0.0	25.0	12.1	22.1	22.3
Prop In Lane	0.86	0.13	1.00			0.02
Lane Grp Cap(c), veh/h	168	0	201	2784	1392	1460
V/C Ratio(X)	0.73	0.00	0.07	0.50	0.69	0.69
Avail Cap(c_a), veh/h	575	0	201	2784	1392	1460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.84	0.84
Uniform Delay (d), s/veh	39.5	0.0	9.8	3.1	4.1	4.1
Incr Delay (d2), s/veh	6.1	0.0	0.7	0.6	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	0.0	0.3	4.6	8.5	8.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.6	0.0	10.5	3.8	6.5	6.4
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	123			1405	1961	
Approach Delay, s/veh	45.6			3.8	6.4	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		76.2		13.8		76.2
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		24.3		8.2		27.0
Green Ext Time (p_c), s		22.9		0.3		17.9

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

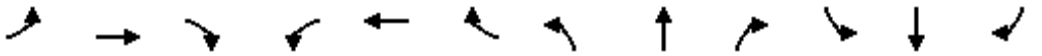
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	326	81	33	61	32	1109	3	1358	78
v/c Ratio	0.81	0.20	0.11	0.20	0.35	0.75	0.02	0.86	0.11
Control Delay	48.9	19.1	28.8	18.2	45.1	31.5	38.0	33.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	0.0
Total Delay	48.9	19.1	28.8	18.2	45.1	31.5	38.0	81.3	4.3
Queue Length 50th (ft)	170	22	17	16	11	254	2	348	0
Queue Length 95th (ft)	#271	58	37	44	#77	#655	10	#661	24
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	451	474	471	91	1478	231	1578	723
Starvation Cap Reductn	0	0	0	0	0	0	0	407	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.18	0.07	0.13	0.35	0.75	0.01	1.16	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	50	29	32	30	29	31	1045	42	3	1331	76
Future Volume (veh/h)	319	50	29	32	30	29	31	1045	42	3	1331	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	326	51	8	33	31	6	32	1066	42	3	1358	35
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	425	368	58	276	232	45	103	1284	51	11	1488	658
Arrive On Green	0.24	0.24	0.24	0.16	0.16	0.16	0.75	0.75	0.75	0.01	0.43	0.43
Sat Flow, veh/h	1753	1516	238	1753	1474	285	382	3429	135	1753	3497	1546
Grp Volume(v), veh/h	326	0	59	33	0	37	32	544	564	3	1358	35
Grp Sat Flow(s),veh/h/ln	1753	0	1754	1753	0	1759	382	1749	1816	1753	1749	1546
Q Serve(g_s), s	15.6	0.0	2.4	1.5	0.0	1.6	5.5	18.5	18.6	0.2	32.8	1.2
Cycle Q Clear(g_c), s	15.6	0.0	2.4	1.5	0.0	1.6	33.7	18.5	18.6	0.2	32.8	1.2
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	425	0	425	276	0	277	103	655	680	11	1488	658
V/C Ratio(X)	0.77	0.00	0.14	0.12	0.00	0.13	0.31	0.83	0.83	0.27	0.91	0.05
Avail Cap(c_a), veh/h	460	0	460	479	0	481	103	655	680	234	1488	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	0.0	26.7	32.5	0.0	32.6	26.2	9.4	9.4	44.5	24.3	15.2
Incr Delay (d2), s/veh	7.1	0.0	0.1	0.2	0.0	0.2	7.7	11.6	11.3	12.1	10.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.7	0.0	1.8	1.1	0.0	1.3	1.5	9.0	9.2	0.2	20.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.0	26.9	32.7	0.0	32.8	33.8	21.0	20.7	56.6	34.3	15.4
LnGrp LOS	D	A	C	C	A	C	C	C	C	E	C	B
Approach Vol, veh/h		385			70			1140			1396	
Approach Delay, s/veh		37.0			32.8			21.2			33.9	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		43.2		27.2	4.6	38.6		19.6				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		34.8		17.6	2.2	35.7		3.6				
Green Ext Time (p_c), s		0.0		0.7	0.0	0.0		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			29.4									
HCM 6th LOS			C									

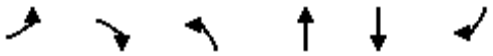
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	17	8	1074	1346
v/c Ratio	0.24	0.07	0.03	0.39	0.50
Control Delay	34.7	13.6	5.1	4.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	13.6	5.1	4.9	5.7
Queue Length 50th (ft)	31	0	1	78	110
Queue Length 95th (ft)	55	16	7	204	286
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	445	257	2752	2716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.04	0.03	0.39	0.50

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	57	17	8	1063	1254	78
Future Volume (veh/h)	57	17	8	1063	1254	78
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	58	2	8	1074	1267	76
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	151	135	401	2815	2695	161
Arrive On Green	0.09	0.09	0.80	0.80	1.00	1.00
Sat Flow, veh/h	1753	1560	399	3589	3440	201
Grp Volume(v), veh/h	58	2	8	1074	661	682
Grp Sat Flow(s),veh/h/ln	1753	1560	399	1749	1749	1800
Q Serve(g_s), s	2.8	0.1	0.4	7.8	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.1	0.4	7.8	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	151	135	401	2815	1407	1449
V/C Ratio(X)	0.38	0.01	0.02	0.38	0.47	0.47
Avail Cap(c_a), veh/h	489	435	401	2815	1407	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	37.6	1.7	2.5	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.4	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.1	0.0	2.7	0.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.4	37.7	1.8	2.9	1.1	1.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	60			1082	1343	
Approach Delay, s/veh	40.3			2.9	1.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		77.3		12.7		77.3
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		9.8		4.8		2.0
Green Ext Time (p_c), s		10.0		0.1		12.9

Intersection Summary		
HCM 6th Ctrl Delay		2.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	367	10	22	124	0	8	0	18	0	0	0
Future Vol, veh/h	0	367	10	22	124	0	8	0	18	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	465	13	28	157	0	10	0	23	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	157	0	0	478	0	0	685	685	472	696	691	157
Stage 1	-	-	-	-	-	-	472	472	-	213	213	-
Stage 2	-	-	-	-	-	-	213	213	-	483	478	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1411	-	-	1074	-	-	360	368	588	353	365	883
Stage 1	-	-	-	-	-	-	569	556	-	785	722	-
Stage 2	-	-	-	-	-	-	785	722	-	561	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1411	-	-	1074	-	-	352	357	588	332	354	883
Mov Cap-2 Maneuver	-	-	-	-	-	-	352	357	-	332	354	-
Stage 1	-	-	-	-	-	-	569	556	-	785	701	-
Stage 2	-	-	-	-	-	-	762	701	-	539	552	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.3	12.9	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	487	1411	-	-	1074	-	-	-
HCM Lane V/C Ratio	0.068	-	-	-	0.026	-	-	-
HCM Control Delay (s)	12.9	0	-	-	8.4	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	213	0	0	90	0	0	0	0	1	0	14
Future Vol, veh/h	15	213	0	0	90	0	0	0	0	1	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	19	270	0	0	114	0	0	0	0	1	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	270	0	0	431	422	270	422	422	114
Stage 1	-	-	-	-	-	-	308	308	-	114	114	-
Stage 2	-	-	-	-	-	-	123	114	-	308	308	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1463	-	-	1282	-	-	531	520	764	539	520	933
Stage 1	-	-	-	-	-	-	698	657	-	886	797	-
Stage 2	-	-	-	-	-	-	876	797	-	698	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1463	-	-	1282	-	-	515	512	764	533	512	933
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	512	-	533	512	-
Stage 1	-	-	-	-	-	-	688	647	-	873	797	-
Stage 2	-	-	-	-	-	-	859	797	-	688	647	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	0	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1463	-	-	1282	-	-	889
HCM Lane V/C Ratio	-	0.013	-	-	-	-	-	0.021
HCM Control Delay (s)	0	7.5	0	-	0	-	-	9.1
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	225	93	19	17	12
Future Vol, veh/h	14	225	93	19	17	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	18	285	118	24	22	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	142	0	-	0	451	130
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1429	-	-	-	562	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	554	914
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	731	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1429	-	-	-	662
HCM Lane V/C Ratio	0.012	-	-	-	0.055
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	7	0	1	9	0
Future Vol, veh/h	1	7	0	1	9	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	1	9	0	1	11	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	23	1	0	0	1	0
Stage 1	1	-	-	-	-	-
Stage 2	22	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	988	1078	-	-	1609	-
Stage 1	1017	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	981	1078	-	-	1609	-
Mov Cap-2 Maneuver	981	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1065	1609	-
HCM Lane V/C Ratio	-	-	0.01	0.007	-
HCM Control Delay (s)	-	-	8.4	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	235	99	6	4	4
Future Vol, veh/h	4	235	99	6	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	5	297	125	8	5	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	133	0	-	0	436	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	307	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1440	-	-	-	574	916
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	742	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	572	916
Mov Cap-2 Maneuver	-	-	-	-	572	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	742	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1440	-	-	-	704
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.5	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	77	85	0	0	0
Future Vol, veh/h	0	77	85	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	97	108	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	205	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1470	-	-	-	779	940
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1470	-	-	-	779	940
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1081	1320	0
Future Vol, veh/h	0	0	0	1081	1320	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1368	1671	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	836	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	306	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	306	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	75	85	0	0	0
Future Vol, veh/h	0	75	85	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	95	108	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	203	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1470	-	-	-	781	940
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1470	-	-	-	781	940
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	377	132	0	0	0
Future Vol, veh/h	0	377	132	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	477	167	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	167	0	-	0	644	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	477	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1399	-	-	-	434	872
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1399	-	-	-	434	872
Mov Cap-2 Maneuver	-	-	-	-	434	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1399	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	409	0	0	147	0	0
Future Vol, veh/h	409	0	0	147	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	518	0	0	186	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	518	0	704	518
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	186	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1038	-	400	554
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1038	-	400	554
Mov Cap-2 Maneuver	-	-	-	-	400	-
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1038	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1081	1328	0
Future Vol, veh/h	0	0	0	1081	1328	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1368	1681	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	841	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	304	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	304	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	219	0	0	80	0	0
Future Vol, veh/h	219	0	0	80	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	277	0	0	101	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	277	0	378	277
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1274	-	620	757
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1274	-	620	757
Mov Cap-2 Maneuver	-	-	-	-	620	-
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	918	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1274	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	4	4	28	5	4
Future Vol, veh/h	113	4	4	28	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	143	5	5	35	6	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	191	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1421	-	793	896
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	790	896
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1421	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Future Year (2035)
Plus Project
Scenario A
OSP Specific Plan Site Phase 1, 2, & 327 Harbor Site

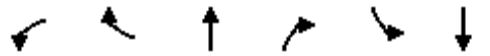


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1891	468	3446	890
v/c Ratio	0.74	0.40	1.26	0.53
Control Delay	18.6	24.4	130.3	25.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.6	24.4	130.3	25.7
Queue Length 50th (ft)	267	108	~484	151
Queue Length 95th (ft)	322	153	#623	193
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1177	2733	1692
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	0.40	1.26	0.53

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.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1684	74	435	3205	0	828
Future Volume (veh/h)	1684	74	435	3205	0	828
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1881	0	468	0	0	890
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2479	735	1363		0	1959
Arrive On Green	0.47	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1881	0	468	0	0	890
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	26.5	0.0	8.5	0.0	0.0	11.8
Cycle Q Clear(g_c), s	26.5	0.0	8.5	0.0	0.0	11.8
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2479	735	1363		0	1959
V/C Ratio(X)	0.76	0.00	0.34		0.00	0.45
Avail Cap(c_a), veh/h	2834	841	1363		0	1959
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	19.3	0.0	0.0	20.4
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.8	0.0	6.1	0.0	0.0	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.9	0.0	20.0	0.0	0.0	21.1
LnGrp LOS	C	A	C		A	C
Approach Vol, veh/h	1881		468			890
Approach Delay, s/veh	20.9		20.0			21.1
Approach LOS	C		C			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.1		48.9		41.1
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.8		28.5		10.5
Green Ext Time (p_c), s		8.3		13.9		4.7

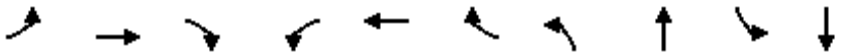
Intersection Summary		
HCM 6th Ctrl Delay		20.8
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

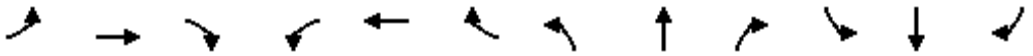


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	594	607	26	46	141	212	9	2060	89	2150
v/c Ratio	1.91	1.94	0.06	0.20	0.59	0.70	0.19	0.97	0.97	0.87
Control Delay	452.9	465.4	0.3	58.5	71.0	36.8	41.6	55.6	153.9	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	452.9	465.4	0.3	58.5	71.0	36.8	41.6	55.6	153.9	36.3
Queue Length 50th (ft)	~935	~961	0	41	132	79	6	718	89	650
Queue Length 95th (ft)	#1186	#1213	0	80	200	169	24	#890	#208	769
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	313	415	281	295	347	48	2124	92	2474
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.91	1.94	0.06	0.16	0.48	0.61	0.19	0.97	0.97	0.87

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1085	56	25	44	134	201	9	1952	5	85	1624	419
Future Volume (veh/h)	1085	56	25	44	134	201	9	1952	5	85	1624	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1184	0	6	46	141	103	9	2055	5	89	1709	413
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	207	217	176	80	2271	6	93	2132	506
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1492	188	5176	13	1753	4038	958
Grp Volume(v), veh/h	1184	0	6	46	141	103	9	1330	730	89	1412	710
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1492	188	1675	1838	1753	1675	1646
Q Serve(g_s), s	28.3	0.0	0.5	3.6	11.0	9.8	6.3	55.4	55.5	7.6	51.6	53.6
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.6	11.0	9.8	46.5	55.4	55.5	7.6	51.6	53.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.58
Lane Grp Cap(c), veh/h	661	0	286	207	217	176	80	1470	806	93	1769	869
V/C Ratio(X)	1.79	0.00	0.02	0.22	0.65	0.59	0.11	0.90	0.91	0.95	0.80	0.82
Avail Cap(c_a), veh/h	661	0	286	284	298	242	80	1470	806	93	1769	869
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	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	59.9	63.2	62.7	54.2	39.2	39.2	70.8	28.9	29.4
Incr Delay (d2), s/veh	361.5	0.0	0.1	1.3	7.4	7.0	2.8	9.5	15.6	77.2	3.9	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	71.1	0.0	0.3	3.0	9.3	7.2	0.6	32.4	36.7	9.2	28.7	30.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	422.4	0.0	49.6	61.2	70.6	69.7	57.0	48.7	54.8	148.0	32.7	37.7
LnGrp LOS	F	A	D	E	E	E	E	D	D	F	C	D
Approach Vol, veh/h		1190			290			2069			2211	
Approach Delay, s/veh		420.5			68.8			50.9			39.0	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	75.2		27.4		88.6		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	9.6	57.5		13.0		55.6		30.3				
Green Ext Time (p_c), s	0.0	1.7		2.0		15.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		123.6
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

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

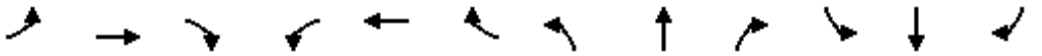


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	169	55	252	80	92	934	148	29	614	26
v/c Ratio	0.35	0.11	0.53	0.15	0.36	1.01	0.19	0.24	0.67	0.03
Control Delay	18.0	5.6	21.4	5.1	14.1	51.2	4.2	14.6	15.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	5.6	21.4	5.1	14.1	51.2	4.2	14.6	15.5	1.5
Queue Length 50th (ft)	46	0	73	0	19	~323	9	5	152	0
Queue Length 95th (ft)	87	19	129	23	48	#537	32	22	240	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	486	488	479	519	256	922	775	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.11	0.53	0.15	0.36	1.01	0.19	0.24	0.67	0.03

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.



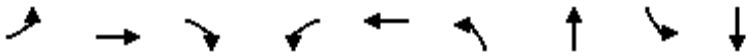
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	101	48	75	144	70	80	813	129	25	534	23
Future Volume (veh/h)	46	101	48	75	144	70	80	813	129	25	534	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	116	18	86	166	27	92	934	102	29	614	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	79	131	454	80	116	453	322	930	767	120	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	405	1405	0	360	1402	786	1841	1520	536	1841	1520
Grp Volume(v), veh/h	169	0	18	252	0	27	92	934	102	29	614	13
Grp Sat Flow(s),veh/h/ln	405	0	1405	360	0	1402	786	1841	1520	536	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.8	5.9	30.3	2.1	0.0	14.9	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.8	20.8	30.3	2.1	30.3	14.9	0.3
Prop In Lane	0.31		1.00	0.34		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	0	454	197	0	453	322	930	767	120	930	767
V/C Ratio(X)	0.81	0.00	0.04	1.28	0.00	0.06	0.29	1.00	0.13	0.24	0.66	0.02
Avail Cap(c_a), veh/h	210	0	454	197	0	453	322	930	767	120	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	19.7	0.0	14.0	18.7	14.9	7.9	30.0	11.0	7.4
Incr Delay (d2), s/veh	3.1	0.0	0.0	159.2	0.0	0.3	2.2	30.7	0.4	4.7	3.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	0.0	0.3	18.1	0.0	0.5	2.1	24.5	1.1	1.0	9.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	13.9	178.8	0.0	14.3	21.0	45.5	8.2	34.7	14.7	7.5
LnGrp LOS	C	A	B	F	A	B	C	F	A	C	B	A
Approach Vol, veh/h		187			279			1128			656	
Approach Delay, s/veh		19.5			162.9			40.2			15.4	
Approach LOS		B			F			D			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		32.3		21.4		32.3		21.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		46.5
HCM 6th LOS		D

Notes

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

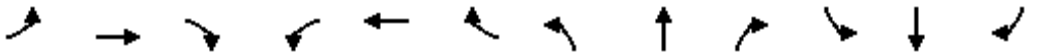


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	268	581	72	169	1100	656	7	296
v/c Ratio	0.35	1.04	0.33	0.21	0.47	0.84	0.38	0.05	0.62
Control Delay	64.1	117.6	10.6	59.5	50.8	44.2	19.6	60.2	61.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	117.6	10.6	59.5	50.8	44.2	19.6	60.2	61.7
Queue Length 50th (ft)	60	~266	117	30	128	452	161	6	132
Queue Length 95th (ft)	100	#379	132	50	183	436	217	19	156
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	205	257	1948	344	359	1566	1787	131	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.04	0.30	0.21	0.47	0.70	0.37	0.05	0.46

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	201	436	54	118	9	825	402	90	5	215	7
Future Volume (veh/h)	54	201	436	54	118	9	825	402	90	5	215	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	72	268	581	72	157	11	1100	536	109	7	287	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	193	168	1674	356	336	24	1217	1235	250	25	422	12
Arrive On Green	0.11	0.25	0.25	0.12	0.25	0.25	0.36	0.45	0.45	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2717	3018	1329	93	3428	2756	558	977	3559	99
Grp Volume(v), veh/h	72	268	581	72	0	168	1100	323	322	7	144	151
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1422	1714	1664	1651	977	1791	1867
Q Serve(g_s), s	4.8	32.0	13.6	2.7	0.0	12.7	38.8	16.9	17.1	0.9	9.8	9.9
Cycle Q Clear(g_c), s	4.8	32.0	13.6	2.7	0.0	12.7	38.8	16.9	17.1	0.9	9.8	9.9
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	193	168	1674	356	0	359	1217	745	739	25	213	222
V/C Ratio(X)	0.37	1.59	0.35	0.20	0.00	0.47	0.90	0.43	0.44	0.28	0.68	0.68
Avail Cap(c_a), veh/h	210	168	1674	356	0	359	1602	889	882	115	331	345
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	47.7	12.5	50.8	0.0	40.3	39.0	24.1	24.1	60.8	53.8	53.8
Incr Delay (d2), s/veh	1.2	292.4	0.1	0.3	0.0	0.9	6.2	0.4	0.4	5.8	3.8	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(95%),veh/ln	4.0	31.8	7.5	1.9	0.0	8.1	23.8	10.9	10.9	0.5	8.1	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	340.0	12.7	51.0	0.0	41.3	45.2	24.5	24.5	66.7	57.5	57.5
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		921			240			1745			302	
Approach Delay, s/veh		111.1			44.2			37.5			57.7	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	62.5	19.0	37.0	50.7	20.6	18.8	37.2
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	2.9	19.1	4.7	34.0	40.8	11.9	6.8	14.7
Green Ext Time (p_c), s	0.0	4.4	0.1	0.0	4.4	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	61.1
HCM 6th LOS	E

Notes

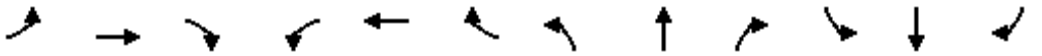
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	144	57	896	12	7	4	867	1388	65	710	56
v/c Ratio	0.68	0.27	0.51	0.06	0.03	0.02	0.80	0.67	0.28	0.67	0.12
Control Delay	66.9	53.0	3.1	52.8	52.5	0.0	45.5	22.2	62.7	43.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	53.0	3.1	52.8	52.5	0.0	45.5	22.2	62.7	43.6	0.6
Queue Length 50th (ft)	95	35	10	8	5	0	278	318	23	225	0
Queue Length 95th (ft)	#224	89	27	26	19	0	432	578	52	376	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	212	212	1833	410	432	256	1272	2174	229	1061	458
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.27	0.49	0.03	0.02	0.02	0.68	0.64	0.28	0.67	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	46	726	10	6	3	702	1089	36	53	575	45
Future Volume (veh/h)	117	46	726	10	6	3	702	1089	36	53	575	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	144	57	468	12	7	0	867	1344	44	65	710	16
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	191	179	1317	62	65	130	1063	1961	64	202	1052	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3539	116	3428	3554	1317
Grp Volume(v), veh/h	144	57	468	12	7	0	867	679	709	65	710	16
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1864	1714	1777	1317
Q Serve(g_s), s	15.3	5.9	0.0	0.8	0.4	0.0	27.7	32.8	32.9	2.2	21.1	0.6
Cycle Q Clear(g_c), s	15.3	5.9	0.0	0.8	0.4	0.0	27.7	32.8	32.9	2.2	21.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	191	179	1317	62	65	130	1063	992	1033	202	1052	390
V/C Ratio(X)	0.76	0.32	0.36	0.19	0.11	0.00	0.82	0.68	0.69	0.32	0.67	0.04
Avail Cap(c_a), veh/h	191	179	1317	406	427	396	1263	992	1033	228	1052	390
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	47.0	43.1	19.4	56.4	56.3	0.0	38.6	19.3	19.3	54.3	37.2	11.5
Incr Delay (d2), s/veh	24.0	4.6	0.8	1.5	0.7	0.0	3.6	3.8	3.7	0.9	3.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	3.1	7.6	0.7	0.4	0.0	17.8	20.1	20.8	1.7	14.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	47.7	20.1	57.9	57.0	0.0	42.3	23.1	23.0	55.2	40.7	11.7
LnGrp LOS	E	D	C	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		669			19			2255			791	
Approach Delay, s/veh		33.4			57.6			30.4			41.3	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.2	34.9	2.8	7.9	29.7	23.1	17.3	2.4
Green Ext Time (p_c), s	0.0	20.7	0.0	3.7	3.0	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

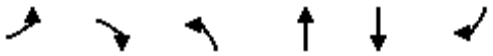
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	220	8	2035	1300
v/c Ratio	0.67	0.04	0.83	0.53
Control Delay	42.5	6.1	14.7	7.9
Queue Delay	0.0	0.0	1.1	0.0
Total Delay	42.5	6.1	15.9	7.9
Queue Length 50th (ft)	114	1	362	152
Queue Length 95th (ft)	170	7	#733	269
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	579	224	2455	2447
Starvation Cap Reductn	0	0	206	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.04	0.90	0.53

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	177	23	7	1852	1158	25
Future Volume (veh/h)	177	23	7	1852	1158	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	195	18	8	2035	1273	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	236	22	330	2603	2606	55
Arrive On Green	0.15	0.15	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1581	146	417	3589	3594	74
Grp Volume(v), veh/h	214	0	8	2035	635	665
Grp Sat Flow(s),veh/h/ln	1735	0	417	1749	1749	1827
Q Serve(g_s), s	10.8	0.0	0.7	32.0	13.1	13.2
Cycle Q Clear(g_c), s	10.8	0.0	13.9	32.0	13.1	13.2
Prop In Lane	0.91	0.08	1.00			0.04
Lane Grp Cap(c), veh/h	259	0	330	2603	1302	1360
V/C Ratio(X)	0.83	0.00	0.02	0.78	0.49	0.49
Avail Cap(c_a), veh/h	578	0	330	2603	1302	1360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.79	0.79
Uniform Delay (d), s/veh	37.2	0.0	7.4	7.0	4.6	4.6
Incr Delay (d2), s/veh	6.7	0.0	0.1	2.4	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	0.0	0.1	13.8	6.4	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.8	0.0	7.5	9.5	5.7	5.6
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	214			2043	1300	
Approach Delay, s/veh	43.8			9.4	5.6	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.6		18.4		71.6
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		15.2		12.8		34.0
Green Ext Time (p_c), s		18.7		0.6		15.3

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

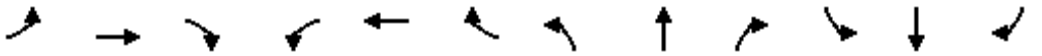


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	680	17	4	9	25	1451	24	1446	113
v/c Ratio	1.49	0.04	0.01	0.02	0.27	1.04	0.15	0.91	0.15
Control Delay	262.0	14.8	25.7	0.0	44.7	65.4	40.2	36.8	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.3	0.0
Total Delay	262.0	14.8	25.7	0.0	44.7	65.4	40.2	83.1	7.5
Queue Length 50th (ft)	~541	2	2	0	8	394	13	392	6
Queue Length 95th (ft)	#626	15	8	0	#52	#747	32	#591	35
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	433	474	638	92	1399	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	381	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.04	0.01	0.01	0.27	1.04	0.10	1.20	0.15

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	537	3	10	3	0	7	20	1140	6	19	1142	89
Future Volume (veh/h)	537	3	10	3	0	7	20	1140	6	19	1142	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		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	680	4	4	4	0	1	25	1443	8	24	1446	60
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	156	1638	9	70	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.31	0.31	0.31	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	342	3566	20	1753	3497	1556
Grp Volume(v), veh/h	680	0	8	4	0	1	25	707	744	24	1446	60
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	342	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	5.9	34.6	34.6	1.2	28.9	1.6
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	27.2	34.6	34.6	1.2	28.9	1.6
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	156	803	844	70	1902	847
V/C Ratio(X)	1.48	0.00	0.02	0.12	0.00	0.03	0.16	0.88	0.88	0.34	0.76	0.07
Avail Cap(c_a), veh/h	460	0	442	479	0	424	156	803	844	234	1902	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	35.8	28.8	28.8	42.0	16.0	9.7
Incr Delay (d2), s/veh	227.1	0.0	0.0	1.5	0.0	0.4	2.2	13.3	12.8	2.8	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	59.3	0.0	0.2	0.2	0.0	0.0	1.1	24.6	25.6	1.0	16.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	260.3	0.0	24.6	44.9	0.0	43.7	38.0	42.1	41.6	44.9	18.9	9.9
LnGrp LOS	F	A	C	D	A	D	D	D	D	D	B	A
Approach Vol, veh/h		688			5			1476			1530	
Approach Delay, s/veh		257.6			44.6			41.8			18.9	
Approach LOS		F			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		53.9		29.0	7.6	46.2		7.1				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		30.9		25.6	3.2	36.6		2.2				
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		72.5
HCM 6th LOS		E

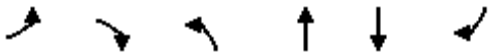
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	82	23	17	1345	1388
v/c Ratio	0.33	0.10	0.07	0.49	0.52
Control Delay	36.5	12.4	5.6	5.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	12.4	5.6	5.8	5.9
Queue Length 50th (ft)	44	0	2	111	111
Queue Length 95th (ft)	66	16	12	247	253
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	443	242	2743	2660
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.05	0.07	0.49	0.52

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	19	14	1116	915	237
Future Volume (veh/h)	68	19	14	1116	915	237
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	82	3	17	1345	1102	272
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	172	153	388	2774	2208	541
Arrive On Green	0.10	0.10	0.79	0.79	1.00	1.00
Sat Flow, veh/h	1753	1560	389	3589	2876	682
Grp Volume(v), veh/h	82	3	17	1345	689	685
Grp Sat Flow(s),veh/h/ln	1753	1560	389	1749	1749	1717
Q Serve(g_s), s	4.0	0.2	0.9	11.6	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.2	0.9	11.6	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.40
Lane Grp Cap(c), veh/h	172	153	388	2774	1387	1362
V/C Ratio(X)	0.48	0.02	0.04	0.48	0.50	0.50
Avail Cap(c_a), veh/h	489	435	388	2774	1387	1362
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	36.7	2.0	3.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.1	0.2	0.6	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.1	0.1	4.5	0.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.5	36.7	2.2	3.7	1.3	1.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	85			1362	1374	
Approach Delay, s/veh	40.3			3.7	1.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		76.3		13.7		76.3
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		13.6		6.0		2.0
Green Ext Time (p_c), s		14.1		0.2		13.8

Intersection Summary	
HCM 6th Ctrl Delay	3.6
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	392	12	29	74	0	16	0	34	0	0	0
Future Vol, veh/h	0	392	12	29	74	0	16	0	34	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	496	15	37	94	0	20	0	43	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	94	0	0	511	0	0	672	672	504	693	679	94
Stage 1	-	-	-	-	-	-	504	504	-	168	168	-
Stage 2	-	-	-	-	-	-	168	168	-	525	511	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1488	-	-	1044	-	-	367	375	564	355	371	957
Stage 1	-	-	-	-	-	-	546	538	-	829	756	-
Stage 2	-	-	-	-	-	-	829	756	-	532	534	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1044	-	-	357	361	564	319	357	957
Mov Cap-2 Maneuver	-	-	-	-	-	-	357	361	-	319	357	-
Stage 1	-	-	-	-	-	-	546	538	-	829	728	-
Stage 2	-	-	-	-	-	-	798	728	-	491	534	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.4	13.7	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	1488	-	-	1044	-	-	-
HCM Lane V/C Ratio	0.133	-	-	-	0.035	-	-	-
HCM Control Delay (s)	13.7	0	-	-	8.6	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	21	278	25	15	57	0	33	0	33	2	0	26
Future Vol, veh/h	21	278	25	15	57	0	33	0	33	2	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	27	352	32	19	72	0	42	0	42	3	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	384	0	0	549	532	368	553	548	72
Stage 1	-	-	-	-	-	-	422	422	-	110	110	-
Stage 2	-	-	-	-	-	-	127	110	-	443	438	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1515	-	-	1164	-	-	443	451	673	441	441	985
Stage 1	-	-	-	-	-	-	605	585	-	890	800	-
Stage 2	-	-	-	-	-	-	872	800	-	590	575	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1515	-	-	1164	-	-	415	433	673	401	423	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	415	433	-	401	423	-
Stage 1	-	-	-	-	-	-	591	572	-	870	786	-
Stage 2	-	-	-	-	-	-	829	786	-	541	562	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.7	13.4	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	513	1515	-	-	1164	-	-	892
HCM Lane V/C Ratio	0.163	0.018	-	-	0.016	-	-	0.04
HCM Control Delay (s)	13.4	7.4	0	-	8.1	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	322	109	25	31	22
Future Vol, veh/h	17	322	109	25	31	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	22	408	138	32	39	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	170	0	-	0	606	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	452	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1395	-	-	-	457	887
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	637	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1395	-	-	-	448	887
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	637	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1395	-	-	-	564
HCM Lane V/C Ratio	0.015	-	-	-	0.119
HCM Control Delay (s)	7.6	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	12	6	2	10	5
Future Vol, veh/h	4	12	6	2	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	5	15	8	3	13	6

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	42	10	0	0	11	0
Stage 1	10	-	-	-	-	-
Stage 2	32	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	964	1066	-	-	1595	-
Stage 1	1008	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	956	1066	-	-	1595	-
Mov Cap-2 Maneuver	956	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	4.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1036	1595	-
HCM Lane V/C Ratio	-	-	0.02	0.008	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	330	125	6	9	7
Future Vol, veh/h	6	330	125	6	9	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	418	158	8	11	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	166	0	-	0	596	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	434	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1400	-	-	-	463	878
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	649	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1400	-	-	-	460	878
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	649	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1400	-	-	-	581
HCM Lane V/C Ratio	0.005	-	-	-	0.035
HCM Control Delay (s)	7.6	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	86	256	13	3	6
Future Vol, veh/h	5	86	256	13	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	6	109	324	16	4	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	340	0	-	0	453	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1208	-	-	-	561	705
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1208	-	-	-	558	705
Mov Cap-2 Maneuver	-	-	-	-	558	-
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	899	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1208	-	-	-	648
HCM Lane V/C Ratio	0.005	-	-	-	0.018
HCM Control Delay (s)	8	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	0	1195	1167	12
Future Vol, veh/h	0	10	0	1195	1167	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	13	0	1513	1477	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	746	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	352	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	352	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	352	-	-
HCM Lane V/C Ratio	-	0.036	-	-
HCM Control Delay (s)	-	15.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	68	244	15	31	33
Future Vol, veh/h	31	68	244	15	31	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	39	86	309	19	39	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	328	0	-	0	483	319
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1220	-	-	-	539	717
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	860	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1220	-	-	-	521	717
Mov Cap-2 Maneuver	-	-	-	-	521	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1220	-	-	-	606
HCM Lane V/C Ratio	0.032	-	-	-	0.134
HCM Control Delay (s)	8	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	404	89	0	0	0
Future Vol, veh/h	0	404	89	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	511	113	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	113	0	-	0	624	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1464	-	-	-	446	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	598	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1464	-	-	-	446	934
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1464	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	574	0	0	122	0	0
Future Vol, veh/h	574	0	0	122	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	727	0	0	154	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	727	0	881	727
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	867	-	315	421
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	867	-	315	421
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	867	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1195	1179	0
Future Vol, veh/h	0	0	0	1195	1179	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1513	1492	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	746	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	352	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	352	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	275	0	0	53	0	0
Future Vol, veh/h	275	0	0	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	348	0	0	67	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	348	0	415	348
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1200	-	590	691
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	590	691
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	951	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1200	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	189	5	4	28	7	7
Future Vol, veh/h	189	5	4	28	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	239	6	5	35	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	287	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1309	-	699	792
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1309	-	696	792
Mov Cap-2 Maneuver	-	-	-	-	696	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	741	-	-	1309	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2192	472	2197	1178
v/c Ratio	0.95	0.35	0.82	0.61
Control Delay	33.3	20.4	3.0	23.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.3	20.4	3.0	23.7
Queue Length 50th (ft)	404	97	0	192
Queue Length 95th (ft)	#531	137	0	238
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.95	0.35	0.82	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2037	89	458	2131	0	1143
Future Volume (veh/h)	2037	89	458	2131	0	1143
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2182	0	472	0	0	1178
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2445	725	1386		0	1991
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2182	0	472	0	0	1178
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	34.1	0.0	8.5	0.0	0.0	16.6
Cycle Q Clear(g_c), s	34.1	0.0	8.5	0.0	0.0	16.6
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2445	725	1386		0	1991
V/C Ratio(X)	0.89	0.00	0.34		0.00	0.59
Avail Cap(c_a), veh/h	2484	737	1386		0	1991
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	19.0	0.0	0.0	21.4
Incr Delay (d2), s/veh	4.7	0.0	0.7	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.3	0.0	6.1	0.0	0.0	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.7	0.0	19.6	0.0	0.0	22.7
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2182		472			1178
Approach Delay, s/veh	26.7		19.6			22.7
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.7		48.3		41.7
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.6		36.1		10.5
Green Ext Time (p_c), s		11.1		5.7		5.4

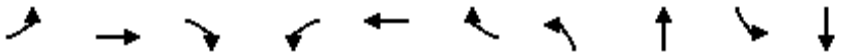
Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

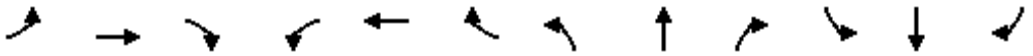


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	430	439	39	52	171	132	32	1569	120	2463
v/c Ratio	1.38	1.39	0.10	0.21	0.67	0.42	0.67	0.76	1.30	1.00
Control Delay	234.8	237.1	0.5	58.1	74.3	13.9	97.5	40.6	247.4	53.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	234.8	237.1	0.5	58.1	74.3	13.9	97.5	40.6	247.4	53.3
Queue Length 50th (ft)	~586	~598	0	45	159	4	25	482	~150	~920
Queue Length 95th (ft)	#814	#829	0	87	239	67	#95	556	#285	#1030
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	316	406	281	295	345	48	2075	92	2472
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.38	1.39	0.10	0.19	0.58	0.38	0.67	0.76	1.30	1.00

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	722	139	39	51	169	131	32	1534	20	119	1997	442
Future Volume (veh/h)	722	139	39	51	169	131	32	1534	20	119	1997	442
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	829	0	8	52	171	24	32	1549	20	120	2017	425
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	226	237	192	52	2186	28	93	2156	439
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1487	137	5110	66	1753	4169	848
Grp Volume(v), veh/h	829	0	8	52	171	24	32	1016	553	120	1607	835
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1487	137	1675	1826	1753	1675	1667
Q Serve(g_s), s	28.3	0.0	0.6	4.0	13.4	2.1	4.8	37.3	37.3	8.0	66.7	72.7
Cycle Q Clear(g_c), s	28.3	0.0	0.6	4.0	13.4	2.1	64.2	37.3	37.3	8.0	66.7	72.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.51
Lane Grp Cap(c), veh/h	661	0	287	226	237	192	52	1433	781	93	1733	862
V/C Ratio(X)	1.25	0.00	0.03	0.23	0.72	0.13	0.61	0.71	0.71	1.28	0.93	0.97
Avail Cap(c_a), veh/h	661	0	287	284	298	241	52	1433	781	93	1733	862
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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.7	62.8	57.9	74.7	35.2	35.2	71.0	33.6	35.0
Incr Delay (d2), s/veh	126.1	0.0	0.1	1.3	10.6	0.7	43.2	3.0	5.4	187.0	10.1	24.0
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(95%),veh/ln	36.0	0.0	0.5	3.4	11.2	1.5	3.4	22.2	24.5	14.1	37.5	43.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	187.0	0.0	49.7	59.9	73.4	58.6	117.8	38.2	40.6	258.0	43.7	59.0
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	E
Approach Vol, veh/h		837			247			1601			2562	
Approach Delay, s/veh		185.7			69.1			40.6			58.7	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	73.6		29.0		87.0		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.0	66.2		15.4		74.7		30.3				
Green Ext Time (p_c), s	0.0	0.0		1.5		0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	73.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

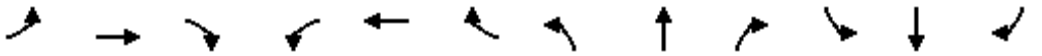
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	212	101	186	44	80	605	118	30	817	40
v/c Ratio	0.41	0.19	0.35	0.09	0.66	0.66	0.15	0.11	0.89	0.05
Control Delay	18.9	4.9	17.8	5.8	43.5	15.3	2.5	9.2	27.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	4.9	17.8	5.8	43.5	15.3	2.5	9.2	27.8	2.7
Queue Length 50th (ft)	59	0	50	0	20	149	0	5	244	0
Queue Length 95th (ft)	111	27	97	18	#89	249	20	18	#468	11
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	515	537	530	508	121	922	788	264	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.19	0.35	0.09	0.66	0.66	0.15	0.11	0.89	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



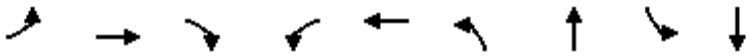
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	153	99	38	144	43	78	593	116	29	801	39
Future Volume (veh/h)	55	153	99	38	144	43	78	593	116	29	801	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	56	156	34	39	147	14	80	605	61	30	817	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	176	440	481	145	479	491	191	930	752	319	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	308	1361	1488	223	1481	1519	646	1841	1489	758	1841	1501
Grp Volume(v), veh/h	212	0	34	186	0	14	80	605	61	30	817	21
Grp Sat Flow(s),veh/h/ln	1669	0	1488	1704	0	1519	646	1841	1489	758	1841	1501
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.4	6.6	14.5	1.3	1.8	23.7	0.4
Cycle Q Clear(g_c), s	5.3	0.0	0.9	4.6	0.0	0.4	30.3	14.5	1.3	16.4	23.7	0.4
Prop In Lane	0.26		1.00	0.21		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	616	0	481	623	0	491	191	930	752	319	930	758
V/C Ratio(X)	0.34	0.00	0.07	0.30	0.00	0.03	0.42	0.65	0.08	0.09	0.88	0.03
Avail Cap(c_a), veh/h	616	0	481	623	0	491	191	930	752	319	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	14.1	15.3	0.0	13.9	27.1	10.9	7.7	17.0	13.2	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.2	0.0	0.1	6.6	3.5	0.2	0.6	11.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	0.0	0.5	3.6	0.0	0.2	2.6	9.4	0.7	0.6	15.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	14.1	16.5	0.0	14.0	33.7	14.5	7.9	17.6	24.8	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		246			200			746			868	
Approach Delay, s/veh		15.4			16.3			16.0			24.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		25.7		6.6		32.3		7.3				
Green Ext Time (p_c), s		2.4		0.9		0.0		1.1				

Intersection Summary		
HCM 6th Ctrl Delay		19.4
HCM 6th LOS		B

Notes

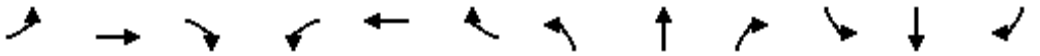
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	177	814	163	282	706	496	30	350
v/c Ratio	0.21	0.72	0.51	0.40	0.69	0.73	0.39	0.19	0.62
Control Delay	51.8	58.1	15.6	51.2	48.7	41.4	27.2	53.3	44.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	58.1	15.6	51.2	48.7	41.4	27.2	53.3	44.9
Queue Length 50th (ft)	34	114	180	55	183	231	147	19	107
Queue Length 95th (ft)	87	#248	268	108	#371	339	210	58	184
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	339	312	2155	433	408	1661	1746	222	886
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.57	0.38	0.38	0.69	0.43	0.28	0.14	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	159	733	147	200	54	635	369	77	27	210	105
Future Volume (veh/h)	47	159	733	147	200	54	635	369	77	27	210	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	52	177	814	163	222	54	706	410	75	30	233	76
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	197	195	1483	424	348	85	827	841	153	81	374	119
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.24	0.30	0.30	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1119	272	3428	2813	511	977	2664	845
Grp Volume(v), veh/h	52	177	814	163	0	276	706	241	244	30	154	155
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1660	977	1791	1718
Q Serve(g_s), s	2.9	27.2	20.6	5.2	0.0	18.2	21.0	12.7	12.9	3.1	8.7	9.1
Cycle Q Clear(g_c), s	2.9	27.2	20.6	5.2	0.0	18.2	21.0	12.7	12.9	3.1	8.7	9.1
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.31	1.00		0.49
Lane Grp Cap(c), veh/h	197	195	1483	424	0	433	827	498	496	81	252	241
V/C Ratio(X)	0.26	0.91	0.55	0.38	0.00	0.64	0.85	0.48	0.49	0.37	0.61	0.64
Avail Cap(c_a), veh/h	350	207	1535	452	0	433	1718	927	925	197	461	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	36.5	16.5	41.7	0.0	31.6	38.7	30.7	30.8	46.3	43.2	43.3
Incr Delay (d2), s/veh	0.7	37.4	0.4	0.6	0.0	3.1	2.6	0.7	0.8	2.8	2.4	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	10.6	10.7	3.6	0.0	10.7	13.8	8.8	8.9	1.5	7.1	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	74.0	16.9	42.3	0.0	34.7	41.3	31.4	31.5	49.1	45.6	46.2
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		1043			439			1191			339	
Approach Delay, s/veh		28.0			37.5			37.3			46.2	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	37.4	19.0	36.0	31.3	20.5	16.8	38.2
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 22	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.1	14.9	7.2	29.2	23.0	11.1	4.9	20.2
Green Ext Time (p_c), s	0.0	3.1	0.3	1.8	2.8	1.5	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

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

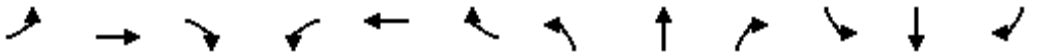


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	101	157	826	16	56	86	524	972	122	777	79
v/c Ratio	0.97	0.77	0.49	0.11	0.27	0.28	0.52	0.46	0.58	0.61	0.14
Control Delay	139.3	76.8	5.0	61.3	55.7	7.8	41.7	15.5	72.4	37.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.3	76.8	5.0	61.3	55.7	7.8	41.7	15.5	72.4	37.4	0.5
Queue Length 50th (ft)	~92	119	46	12	44	0	183	203	51	269	0
Queue Length 95th (ft)	#242	#238	84	40	86	33	281	344	#95	405	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1670	378	491	309	1011	2092	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.77	0.49	0.04	0.11	0.28	0.52	0.46	0.58	0.61	0.14

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	154	809	16	55	84	514	731	221	120	761	77
Future Volume (veh/h)	99	154	809	16	55	84	514	731	221	120	761	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	101	157	489	16	56	16	524	746	211	122	777	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	132	1173	61	168	207	1021	1672	473	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2756	780	3428	3554	1298
Grp Volume(v), veh/h	101	157	489	16	56	16	524	485	472	122	777	29
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1745	1714	1777	1298
Q Serve(g_s), s	10.0	16.7	2.2	1.1	3.5	1.3	16.0	18.7	18.7	4.4	22.8	1.4
Cycle Q Clear(g_c), s	10.0	16.7	2.2	1.1	3.5	1.3	16.0	18.7	18.7	4.4	22.8	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	84	132	1173	61	168	207	1021	1086	1058	212	1294	473
V/C Ratio(X)	1.20	1.19	0.42	0.26	0.33	0.08	0.51	0.45	0.45	0.58	0.60	0.06
Avail Cap(c_a), veh/h	84	132	1173	382	495	441	1024	1086	1058	214	1294	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	59.0	55.6	13.3	60.2	54.7	46.7	37.6	13.6	13.6	58.4	33.1	14.5
Incr Delay (d2), s/veh	162.1	138.1	1.1	2.2	1.1	0.2	0.4	1.3	1.4	3.7	2.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.3	15.3	6.6	1.0	3.2	0.8	11.1	12.2	11.9	3.6	15.3	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	221.0	193.7	14.4	62.5	55.9	46.9	38.1	14.9	14.9	62.1	35.2	14.8
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	D	B
Approach Vol, veh/h		747			88			1481			928	
Approach Delay, s/veh		80.0			55.4			23.1			38.1	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.3	22.7	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	6.4	20.7	3.1	18.7	18.0	24.8	12.0	5.5
Green Ext Time (p_c), s	0.0	16.3	0.0	0.0	1.8	5.5	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

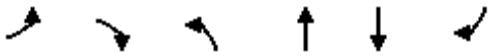
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	131	15	1461	2047
v/c Ratio	0.50	0.19	0.57	0.79
Control Delay	38.3	12.2	7.2	12.1
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	38.3	12.2	7.4	12.1
Queue Length 50th (ft)	67	2	143	283
Queue Length 95th (ft)	104	18	326	#743
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	573	81	2578	2576
Starvation Cap Reductn	0	0	364	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.19	0.66	0.79

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	23	14	1403	1946	19
Future Volume (veh/h)	103	23	14	1403	1946	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	107	19	15	1461	2027	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	145	26	185	2775	2815	28
Arrive On Green	0.10	0.10	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1448	257	202	3589	3640	35
Grp Volume(v), veh/h	127	0	15	1461	997	1050
Grp Sat Flow(s),veh/h/ln	1719	0	202	1749	1749	1834
Q Serve(g_s), s	6.5	0.0	3.5	13.3	24.7	24.9
Cycle Q Clear(g_c), s	6.5	0.0	28.4	13.3	24.7	24.9
Prop In Lane	0.84	0.15	1.00			0.02
Lane Grp Cap(c), veh/h	172	0	185	2775	1387	1455
V/C Ratio(X)	0.74	0.00	0.08	0.53	0.72	0.72
Avail Cap(c_a), veh/h	573	0	185	2775	1387	1455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.82	0.82
Uniform Delay (d), s/veh	39.4	0.0	11.3	3.3	4.5	4.5
Incr Delay (d2), s/veh	6.1	0.0	0.9	0.7	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	0.0	0.3	5.2	9.4	9.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.4	0.0	12.2	4.0	7.1	7.1
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	127			1476	2047	
Approach Delay, s/veh	45.4			4.1	7.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		76.0		14.0		76.0
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		26.9		8.5		30.4
Green Ext Time (p_c), s		21.4		0.3		16.2

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

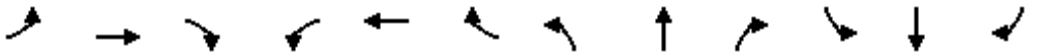
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	368	81	33	61	54	1129	3	1410	104
v/c Ratio	0.87	0.19	0.11	0.20	0.59	0.79	0.02	0.92	0.15
Control Delay	54.5	18.8	28.8	18.2	63.0	33.0	38.0	38.7	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.1	0.0
Total Delay	54.5	18.8	28.8	18.2	63.0	33.0	38.0	84.8	6.8
Queue Length 50th (ft)	196	22	17	16	22	264	2	376	3
Queue Length 95th (ft)	#339	58	37	44	#118	#668	10	#695	40
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	451	474	471	91	1437	231	1537	706
Starvation Cap Reductn	0	0	0	0	0	0	0	388	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.18	0.07	0.13	0.59	0.79	0.01	1.23	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	361	50	29	32	30	29	53	1064	42	3	1382	102
Future Volume (veh/h)	361	50	29	32	30	29	53	1064	42	3	1382	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	368	51	8	33	31	6	54	1086	41	3	1410	51
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	436	377	59	276	232	45	90	1266	48	11	1466	648
Arrive On Green	0.25	0.25	0.25	0.16	0.16	0.16	0.74	0.74	0.74	0.01	0.42	0.42
Sat Flow, veh/h	1753	1517	238	1753	1474	285	358	3436	130	1753	3497	1545
Grp Volume(v), veh/h	368	0	59	33	0	37	54	553	574	3	1410	51
Grp Sat Flow(s),veh/h/ln	1753	0	1755	1753	0	1759	358	1749	1817	1753	1749	1545
Q Serve(g_s), s	18.0	0.0	2.4	1.5	0.0	1.6	2.4	20.4	20.4	0.2	35.3	1.8
Cycle Q Clear(g_c), s	18.0	0.0	2.4	1.5	0.0	1.6	33.2	20.4	20.4	0.2	35.3	1.8
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	436	0	437	276	0	277	90	644	669	11	1466	648
V/C Ratio(X)	0.84	0.00	0.14	0.12	0.00	0.13	0.60	0.86	0.86	0.27	0.96	0.08
Avail Cap(c_a), veh/h	460	0	460	479	0	481	90	644	669	234	1466	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	26.3	32.5	0.0	32.6	28.2	10.2	10.2	44.5	25.4	15.7
Incr Delay (d2), s/veh	13.0	0.0	0.1	0.2	0.0	0.2	26.5	13.9	13.4	12.1	16.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.9	0.0	1.8	1.1	0.0	1.3	3.0	9.8	10.0	0.2	23.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	0.0	26.4	32.7	0.0	32.8	54.7	24.0	23.6	56.6	41.4	15.9
LnGrp LOS	D	A	C	C	A	C	D	C	C	E	D	B
Approach Vol, veh/h		427			70			1181			1464	
Approach Delay, s/veh		42.5			32.8			25.2			40.5	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		42.6		27.8	4.6	38.1		19.6				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		37.3		20.0	2.2	35.2		3.6				
Green Ext Time (p_c), s		0.0		0.6	0.0	0.0		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			34.9									
HCM 6th LOS			C									

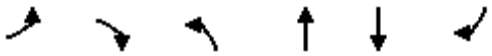
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	99	22	32	1092	1375
v/c Ratio	0.39	0.09	0.13	0.40	0.51
Control Delay	37.6	12.5	6.5	5.1	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	12.5	6.5	5.1	6.1
Queue Length 50th (ft)	54	0	4	82	117
Queue Length 95th (ft)	85	18	22	209	296
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	448	244	2732	2684
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.05	0.13	0.40	0.51

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	98	22	32	1081	1250	111
Future Volume (veh/h)	98	22	32	1081	1250	111
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	99	3	32	1092	1263	108
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	180	160	387	2758	2568	219
Arrive On Green	0.10	0.10	0.79	0.79	1.00	1.00
Sat Flow, veh/h	1753	1560	389	3589	3348	278
Grp Volume(v), veh/h	99	3	32	1092	677	694
Grp Sat Flow(s),veh/h/ln	1753	1560	389	1749	1749	1785
Q Serve(g_s), s	4.8	0.2	1.7	8.6	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.2	1.7	8.6	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.16
Lane Grp Cap(c), veh/h	180	160	387	2758	1379	1407
V/C Ratio(X)	0.55	0.02	0.08	0.40	0.49	0.49
Avail Cap(c_a), veh/h	489	435	387	2758	1379	1407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	36.3	2.2	2.9	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.4	0.4	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.1	0.2	3.4	0.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	36.4	2.6	3.3	1.3	1.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	102			1124	1371	
Approach Delay, s/veh	40.9			3.3	1.2	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		75.9		14.1		75.9
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		10.6		6.8		2.0
Green Ext Time (p_c), s		10.9		0.2		13.5

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	370	16	34	130	0	13	0	28	0	0	0
Future Vol, veh/h	0	370	16	34	130	0	13	0	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	468	20	43	165	0	16	0	35	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	165	0	0	488	0	0	729	729	478	747	739	165
Stage 1	-	-	-	-	-	-	478	478	-	251	251	-
Stage 2	-	-	-	-	-	-	251	251	-	496	488	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1401	-	-	1065	-	-	336	347	583	327	343	874
Stage 1	-	-	-	-	-	-	565	552	-	749	695	-
Stage 2	-	-	-	-	-	-	749	695	-	552	547	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1401	-	-	1065	-	-	325	332	583	297	328	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	325	332	-	297	328	-
Stage 1	-	-	-	-	-	-	565	552	-	749	664	-
Stage 2	-	-	-	-	-	-	716	664	-	518	547	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	13.7	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	466	1401	-	-	1065	-	-	-
HCM Lane V/C Ratio	0.111	-	-	-	0.04	-	-	-
HCM Control Delay (s)	13.7	0	-	-	8.5	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	26	223	33	19	87	0	27	0	27	2	0	21
Future Vol, veh/h	26	223	33	19	87	0	27	0	27	2	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	33	282	42	24	110	0	34	0	34	3	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	110	0	0	324	0	0	541	527	303	544	548	110
Stage 1	-	-	-	-	-	-	369	369	-	158	158	-
Stage 2	-	-	-	-	-	-	172	158	-	386	390	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1468	-	-	1225	-	-	449	453	732	447	441	938
Stage 1	-	-	-	-	-	-	647	617	-	840	763	-
Stage 2	-	-	-	-	-	-	825	763	-	633	604	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1225	-	-	420	431	732	410	420	938
Mov Cap-2 Maneuver	-	-	-	-	-	-	420	431	-	410	420	-
Stage 1	-	-	-	-	-	-	629	600	-	816	747	-
Stage 2	-	-	-	-	-	-	785	747	-	587	587	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.4	12.7	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	534	1468	-	-	1225	-	-	844
HCM Lane V/C Ratio	0.128	0.022	-	-	0.02	-	-	0.034
HCM Control Delay (s)	12.7	7.5	0	-	8	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	275	132	31	26	18
Future Vol, veh/h	21	275	132	31	26	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	27	348	167	39	33	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	206	0	-	0	589	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	402	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1353	-	-	-	467	850
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1353	-	-	-	455	850
Mov Cap-2 Maneuver	-	-	-	-	455	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1353	-	-	-	562
HCM Lane V/C Ratio	0.02	-	-	-	0.099
HCM Control Delay (s)	7.7	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	11	5	2	13	6
Future Vol, veh/h	2	11	5	2	13	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	3	14	6	3	16	8

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	48	8	0	0	9	0
Stage 1	8	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	957	1068	-	-	1598	-
Stage 1	1010	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	947	1068	-	-	1598	-
Mov Cap-2 Maneuver	947	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	967	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1047	1598	-
HCM Lane V/C Ratio	-	-	0.016	0.01	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	289	142	8	7	6
Future Vol, veh/h	7	289	142	8	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	9	366	180	10	9	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	190	0	-	0	569	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	384	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1372	-	-	-	480	852
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	684	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1372	-	-	-	476	852
Mov Cap-2 Maneuver	-	-	-	-	476	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	684	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1372	-	-	-	598
HCM Lane V/C Ratio	0.006	-	-	-	0.028
HCM Control Delay (s)	7.6	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	120	126	16	2	5
Future Vol, veh/h	6	120	126	16	2	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	152	159	20	3	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	179	0	-	0	337	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1385	-	-	-	654	870
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	857	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1385	-	-	-	650	870
Mov Cap-2 Maneuver	-	-	-	-	650	-
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1385	-	-	-	793
HCM Lane V/C Ratio	0.005	-	-	-	0.011
HCM Control Delay (s)	7.6	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	0	1139	1382	15
Future Vol, veh/h	0	8	0	1139	1382	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	10	0	1442	1749	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	884	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	285	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	285	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	285	-	-
HCM Lane V/C Ratio	-	0.036	-	-
HCM Control Delay (s)	-	18.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	41	93	122	19	26	28
Future Vol, veh/h	41	93	122	19	26	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	52	118	154	24	33	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	178	0	-	0	388	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1386	-	-	-	612	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1386	-	-	-	588	873
Mov Cap-2 Maneuver	-	-	-	-	588	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	810	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1386	-	-	-	708
HCM Lane V/C Ratio	0.037	-	-	-	0.097
HCM Control Delay (s)	7.7	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	384	143	0	0	0
Future Vol, veh/h	0	384	143	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	486	181	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	181	0	-	0	667	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	486	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1382	-	-	-	421	857
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	614	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1382	-	-	-	421	857
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	614	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1382	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	449	0	0	190	0	0
Future Vol, veh/h	449	0	0	190	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	568	0	0	241	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	568	0	809	568
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	241	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	994	-	347	519
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	794	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	994	-	347	519
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	794	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	994	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1139	1397	0
Future Vol, veh/h	0	0	0	1139	1397	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1442	1768	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	884	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	285	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	285	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	222	0	0	81	0	0
Future Vol, veh/h	222	0	0	81	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	281	0	0	103	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	281	0	384	281
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	103	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1270	-	615	753
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1270	-	615	753
Mov Cap-2 Maneuver	-	-	-	-	615	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1270	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	4	4	28	5	4
Future Vol, veh/h	115	4	4	28	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	146	5	5	35	6	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	194	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1418	-	790	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	787	892
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	830	-	-	1418	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Future Year (2030)
Plus Project
Scenario B
OSP Specific Plan Site Phase 1 &
327 Harbor Site



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1847	456	3371	872
v/c Ratio	0.73	0.38	1.23	0.51
Control Delay	18.6	24.1	117.6	25.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.6	24.1	117.6	25.2
Queue Length 50th (ft)	257	105	~432	147
Queue Length 95th (ft)	311	148	#573	188
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1193	2733	1716
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.38	1.23	0.51

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.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1645	73	424	3135	0	811
Future Volume (veh/h)	1645	73	424	3135	0	811
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1837	0	456	0	0	872
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2442	724	1387		0	1994
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1837	0	456	0	0	872
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	25.9	0.0	8.1	0.0	0.0	11.4
Cycle Q Clear(g_c), s	25.9	0.0	8.1	0.0	0.0	11.4
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2442	724	1387		0	1994
V/C Ratio(X)	0.75	0.00	0.33		0.00	0.44
Avail Cap(c_a), veh/h	2834	841	1387		0	1994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	18.8	0.0	0.0	19.8
Incr Delay (d2), s/veh	1.2	0.0	0.6	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.6	0.0	5.9	0.0	0.0	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.1	0.0	19.5	0.0	0.0	20.5
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	1837		456			872
Approach Delay, s/veh	21.1		19.5			20.5
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.7		48.3		41.7
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.4		27.9		10.1
Green Ext Time (p_c), s		8.4		13.9		4.6

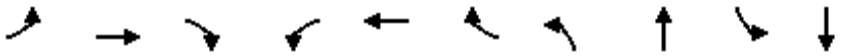
Intersection Summary		
HCM 6th Ctrl Delay		20.7
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

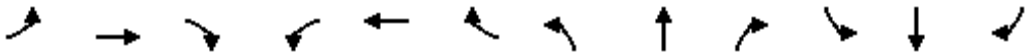


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	584	596	26	45	137	205	9	1997	86	2097
v/c Ratio	1.88	1.90	0.06	0.20	0.58	0.68	0.19	0.94	0.93	0.85
Control Delay	439.2	450.4	0.3	58.5	70.6	34.9	41.9	50.8	146.0	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	439.2	450.4	0.3	58.5	70.6	34.9	41.9	50.8	146.0	34.9
Queue Length 50th (ft)	~914	~937	0	40	128	72	5	679	86	618
Queue Length 95th (ft)	#1164	#1190	0	78	195	159	24	#844	#200	734
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	313	415	281	295	347	48	2129	92	2479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.88	1.90	0.06	0.16	0.46	0.59	0.19	0.94	0.93	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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1068	53	25	43	130	195	9	1893	4	82	1579	413
Future Volume (veh/h)	1068	53	25	43	130	195	9	1893	4	82	1579	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1164	0	6	45	137	96	9	1993	4	86	1662	406
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	204	214	173	86	2281	5	93	2133	513
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1491	198	5178	10	1753	4026	968
Grp Volume(v), veh/h	1164	0	6	45	137	96	9	1289	708	86	1379	689
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1491	198	1675	1839	1753	1675	1644
Q Serve(g_s), s	28.3	0.0	0.5	3.5	10.7	9.1	5.8	52.5	52.5	7.3	49.3	50.9
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.5	10.7	9.1	43.3	52.5	52.5	7.3	49.3	50.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.59
Lane Grp Cap(c), veh/h	661	0	286	204	214	173	86	1476	810	93	1775	871
V/C Ratio(X)	1.76	0.00	0.02	0.22	0.64	0.55	0.10	0.87	0.87	0.92	0.78	0.79
Avail Cap(c_a), veh/h	661	0	286	284	298	242	86	1476	810	93	1775	871
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	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	60.1	63.3	62.6	51.5	38.2	38.2	70.7	28.2	28.6
Incr Delay (d2), s/veh	348.0	0.0	0.1	1.3	7.4	6.4	2.4	7.5	12.6	67.4	3.4	7.3
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(95%),veh/ln	69.1	0.0	0.3	3.0	9.1	6.8	0.6	30.5	34.5	8.7	27.5	28.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	408.9	0.0	49.6	61.4	70.7	69.0	54.0	45.6	50.8	138.0	31.6	35.8
LnGrp LOS	F	A	D	E	E	E	D	D	D	F	C	D
Approach Vol, veh/h		1170			278			2006			2154	
Approach Delay, s/veh		407.0			68.6			47.5			37.2	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	75.5		27.1		88.9		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	9.3	54.5		12.7		52.9		30.3				
Green Ext Time (p_c), s	0.0	4.4		1.9		17.8		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	119.6	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.

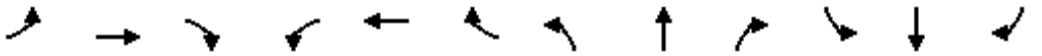
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	162	54	241	77	91	917	148	26	603	26
v/c Ratio	0.33	0.11	0.51	0.15	0.34	0.99	0.19	0.21	0.65	0.03
Control Delay	17.8	5.6	20.9	5.1	13.6	46.4	4.1	13.8	15.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	5.6	20.9	5.1	13.6	46.4	4.1	13.8	15.2	1.5
Queue Length 50th (ft)	44	0	69	0	18	303	9	5	148	0
Queue Length 95th (ft)	83	19	124	22	47	#524	31	19	233	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	487	487	477	517	264	922	776	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.11	0.51	0.15	0.34	0.99	0.19	0.21	0.65	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



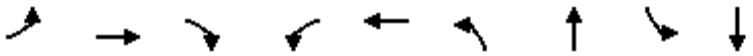
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	96	47	74	136	67	79	798	129	23	525	23
Future Volume (veh/h)	45	96	47	74	136	67	79	798	129	23	525	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	52	110	17	85	156	25	91	917	101	26	603	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	79	127	454	81	111	453	329	930	767	127	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	392	1405	0	343	1402	794	1841	1520	545	1841	1520
Grp Volume(v), veh/h	162	0	17	241	0	25	91	917	101	26	603	13
Grp Sat Flow(s),veh/h/ln	392	0	1405	343	0	1402	794	1841	1520	545	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.7	5.7	29.5	2.1	0.8	14.5	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.7	20.2	29.5	2.1	30.3	14.5	0.3
Prop In Lane	0.32		1.00	0.35		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	206	0	454	192	0	453	329	930	767	127	930	767
V/C Ratio(X)	0.79	0.00	0.04	1.25	0.00	0.06	0.28	0.99	0.13	0.20	0.65	0.02
Avail Cap(c_a), veh/h	206	0	454	192	0	453	329	930	767	127	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	19.8	0.0	14.0	18.4	14.6	7.9	29.9	10.9	7.4
Incr Delay (d2), s/veh	2.8	0.0	0.0	149.8	0.0	0.2	2.1	26.4	0.4	3.6	3.5	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.0	0.3	16.8	0.0	0.4	2.0	22.8	1.1	0.9	9.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	0.0	13.9	169.7	0.0	14.2	20.4	41.1	8.2	33.5	14.4	7.5
LnGrp LOS	B	A	B	F	A	B	C	D	A	C	B	A
Approach Vol, veh/h		179			266			1109			642	
Approach Delay, s/veh		19.3			155.0			36.4			15.1	
Approach LOS		B			F			D			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		32.3		21.4		31.5		21.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	43.1	
HCM 6th LOS	D	

Notes

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

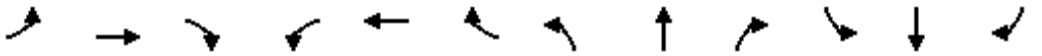


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	264	555	71	167	1053	643	7	290
v/c Ratio	0.33	0.99	0.32	0.20	0.45	0.84	0.39	0.05	0.60
Control Delay	62.7	103.5	10.6	58.4	49.0	44.6	19.9	59.2	59.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	103.5	10.6	58.4	49.0	44.6	19.9	59.2	59.8
Queue Length 50th (ft)	57	~247	109	28	122	421	156	5	126
Queue Length 95th (ft)	98	#370	126	48	180	411	212	19	154
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	212	266	1998	357	372	1622	1817	136	671
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.99	0.28	0.20	0.45	0.65	0.35	0.05	0.43

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	198	416	53	116	9	790	393	89	5	211	7
Future Volume (veh/h)	53	198	416	53	116	9	790	393	89	5	211	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	71	264	555	71	155	11	1053	524	107	7	281	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	196	172	1651	363	343	24	1173	1204	245	25	430	12
Arrive On Green	0.11	0.26	0.26	0.12	0.26	0.26	0.34	0.44	0.44	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2718	3018	1328	94	3428	2754	560	977	3557	101
Grp Volume(v), veh/h	71	264	555	71	0	166	1053	316	315	7	141	148
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1422	1714	1664	1650	977	1791	1867
Q Serve(g_s), s	4.6	32.0	12.9	2.6	0.0	12.2	36.4	16.4	16.6	0.9	9.4	9.4
Cycle Q Clear(g_c), s	4.6	32.0	12.9	2.6	0.0	12.2	36.4	16.4	16.6	0.9	9.4	9.4
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	196	172	1651	363	0	368	1173	728	722	25	217	226
V/C Ratio(X)	0.36	1.54	0.34	0.20	0.00	0.45	0.90	0.43	0.44	0.28	0.65	0.65
Avail Cap(c_a), veh/h	214	172	1651	363	0	368	1634	907	899	117	337	351
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	46.4	12.6	49.5	0.0	38.8	39.0	24.4	24.4	59.6	52.3	52.4
Incr Delay (d2), s/veh	1.1	268.6	0.1	0.3	0.0	0.9	5.3	0.4	0.4	5.8	3.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	30.3	7.1	1.8	0.0	7.9	22.4	10.6	10.7	0.5	7.8	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	315.0	12.8	49.7	0.0	39.7	44.3	24.8	24.8	65.4	55.6	55.6
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		890			237			1684			296	
Approach Delay, s/veh		105.6			42.7			37.0			55.8	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	60.1	19.0	37.0	48.2	20.6	18.7	37.3
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	2.9	18.6	4.6	34.0	38.4	11.4	6.6	14.2
Green Ext Time (p_c), s	0.0	4.3	0.1	0.0	4.3	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Notes

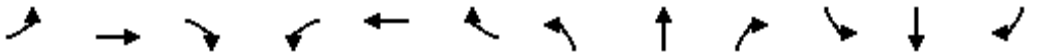
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	142	56	865	12	7	4	831	1338	64	679	54
v/c Ratio	0.67	0.26	0.49	0.06	0.03	0.02	0.77	0.65	0.28	0.64	0.12
Control Delay	66.0	52.9	2.7	52.8	52.5	0.0	44.4	21.5	62.6	42.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	52.9	2.7	52.8	52.5	0.0	44.4	21.5	62.6	42.8	0.5
Queue Length 50th (ft)	94	34	5	8	5	0	263	300	22	213	0
Queue Length 95th (ft)	#220	87	17	26	19	0	411	548	52	358	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	213	213	1831	412	433	256	1277	2183	230	1065	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.26	0.47	0.03	0.02	0.02	0.65	0.61	0.28	0.64	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	45	701	10	6	3	673	1048	36	52	550	44
Future Volume (veh/h)	115	45	701	10	6	3	673	1048	36	52	550	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	142	56	434	12	7	0	831	1294	44	64	679	17
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	191	179	1317	62	65	130	1062	1959	67	201	1053	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3534	120	3428	3554	1317
Grp Volume(v), veh/h	142	56	434	12	7	0	831	655	683	64	679	17
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1863	1714	1777	1317
Q Serve(g_s), s	15.0	5.8	0.0	0.8	0.4	0.0	26.2	30.9	31.0	2.2	20.0	0.7
Cycle Q Clear(g_c), s	15.0	5.8	0.0	0.8	0.4	0.0	26.2	30.9	31.0	2.2	20.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	191	179	1317	62	65	130	1062	993	1033	201	1053	390
V/C Ratio(X)	0.74	0.31	0.33	0.19	0.11	0.00	0.78	0.66	0.66	0.32	0.64	0.04
Avail Cap(c_a), veh/h	191	179	1317	407	427	396	1264	993	1033	228	1053	390
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	46.9	43.1	19.1	56.4	56.2	0.0	38.1	18.8	18.8	54.3	36.8	11.5
Incr Delay (d2), s/veh	23.0	4.5	0.7	1.5	0.7	0.0	2.7	3.4	3.3	0.9	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	3.0	7.0	0.7	0.4	0.0	16.9	19.0	19.7	1.7	13.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	47.6	19.8	57.9	57.0	0.0	40.9	22.3	22.2	55.1	39.8	11.7
LnGrp LOS	E	D	B	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		632			19			2169			760	
Approach Delay, s/veh		33.5			57.6			29.4			40.5	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.2	33.0	2.8	7.8	28.2	22.0	17.0	2.4
Green Ext Time (p_c), s	0.0	20.6	0.0	3.5	2.9	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

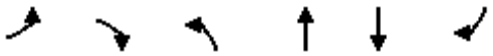
Notes

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



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	216	8	1955	1245
v/c Ratio	0.67	0.03	0.79	0.51
Control Delay	42.4	6.0	13.3	7.5
Queue Delay	0.0	0.0	0.8	0.0
Total Delay	42.4	6.0	14.1	7.5
Queue Length 50th (ft)	112	1	325	141
Queue Length 95th (ft)	167	7	587	251
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	578	243	2461	2453
Starvation Cap Reductn	0	0	221	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.87	0.51

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	174	23	7	1779	1108	25
Future Volume (veh/h)	174	23	7	1779	1108	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	191	18	8	1955	1218	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	231	22	349	2611	2612	58
Arrive On Green	0.15	0.15	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1578	149	440	3589	3590	78
Grp Volume(v), veh/h	210	0	8	1955	609	636
Grp Sat Flow(s),veh/h/ln	1735	0	440	1749	1749	1827
Q Serve(g_s), s	10.6	0.0	0.6	28.9	12.2	12.2
Cycle Q Clear(g_c), s	10.6	0.0	12.8	28.9	12.2	12.2
Prop In Lane	0.91	0.09	1.00			0.04
Lane Grp Cap(c), veh/h	254	0	349	2611	1306	1364
V/C Ratio(X)	0.83	0.00	0.02	0.75	0.47	0.47
Avail Cap(c_a), veh/h	578	0	349	2611	1306	1364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.82	0.82
Uniform Delay (d), s/veh	37.3	0.0	6.9	6.5	4.4	4.4
Incr Delay (d2), s/veh	6.7	0.0	0.1	2.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	0.1	12.5	6.0	6.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.9	0.0	7.0	8.6	5.4	5.4
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	210			1963	1245	
Approach Delay, s/veh	43.9			8.6	5.4	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.8		18.2		71.8
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		14.2		12.6		30.9
Green Ext Time (p_c), s		17.9		0.6		17.9

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

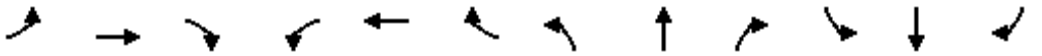


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	644	17	4	9	14	1403	23	1395	100
v/c Ratio	1.42	0.04	0.01	0.02	0.15	1.00	0.15	0.88	0.13
Control Delay	228.6	14.8	25.7	0.0	38.1	56.5	40.1	34.2	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.2	0.0
Total Delay	228.6	14.8	25.7	0.0	38.1	56.5	40.1	81.4	6.3
Queue Length 50th (ft)	~498	2	2	0	5	373	12	369	2
Queue Length 95th (ft)	#585	15	8	0	#29	#720	31	#562	27
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	433	474	641	93	1400	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	390	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	0.04	0.01	0.01	0.15	1.00	0.10	1.16	0.13

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	509	3	10	3	0	7	11	1102	6	18	1102	79
Future Volume (veh/h)	509	3	10	3	0	7	11	1102	6	18	1102	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		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	644	4	4	4	0	1	14	1395	8	23	1395	47
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	168	1642	9	68	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.31	0.31	0.31	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	364	3565	20	1753	3497	1556
Grp Volume(v), veh/h	644	0	8	4	0	1	14	684	719	23	1395	47
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	364	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	3.0	33.0	33.0	1.1	27.2	1.3
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	22.7	33.0	33.0	1.1	27.2	1.3
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	168	805	846	68	1902	847
V/C Ratio(X)	1.40	0.00	0.02	0.12	0.00	0.03	0.08	0.85	0.85	0.34	0.73	0.06
Avail Cap(c_a), veh/h	460	0	442	479	0	424	168	805	846	234	1902	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	33.1	28.2	28.2	42.1	15.6	9.7
Incr Delay (d2), s/veh	193.2	0.0	0.0	1.5	0.0	0.4	1.0	10.9	10.4	2.9	2.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	52.2	0.0	0.2	0.2	0.0	0.0	0.6	23.2	24.1	1.0	15.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	226.4	0.0	24.6	44.9	0.0	43.7	34.1	39.1	38.6	45.0	18.1	9.8
LnGrp LOS	F	A	C	D	A	D	C	D	D	D	B	A
Approach Vol, veh/h		652			5			1417			1465	
Approach Delay, s/veh		223.9			44.6			38.8			18.3	
Approach LOS		F			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		53.9		29.0	7.5	46.4		7.1				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		29.2		25.6	3.1	35.0		2.2				
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			64.4									
HCM 6th LOS			E									

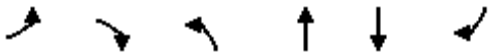
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	41	16	6	1324	1343
v/c Ratio	0.17	0.07	0.02	0.46	0.48
Control Delay	33.3	13.7	5.0	4.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	13.7	5.0	4.9	4.9
Queue Length 50th (ft)	22	0	1	108	106
Queue Length 95th (ft)	40	14	5	242	241
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	438	279	2905	2821
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.04	0.02	0.46	0.48

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	13	5	1099	908	207
Future Volume (veh/h)	34	13	5	1099	908	207
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	41	2	6	1324	1094	237
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	128	114	411	2861	2340	504
Arrive On Green	0.07	0.07	0.82	0.82	1.00	1.00
Sat Flow, veh/h	1753	1560	405	3589	2953	617
Grp Volume(v), veh/h	41	2	6	1324	666	665
Grp Sat Flow(s),veh/h/ln	1753	1560	405	1749	1749	1729
Q Serve(g_s), s	2.0	0.1	0.2	10.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.1	0.2	10.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	128	114	411	2861	1430	1414
V/C Ratio(X)	0.32	0.02	0.01	0.46	0.47	0.47
Avail Cap(c_a), veh/h	489	435	411	2861	1430	1414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	38.7	1.5	2.4	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.1	0.1	0.5	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.1	0.0	3.1	0.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.0	38.8	1.6	2.9	1.1	1.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	43			1330	1331	
Approach Delay, s/veh	40.9			2.9	1.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		78.5		11.5		78.5
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		12.0		4.0		2.0
Green Ext Time (p_c), s		13.6		0.1		13.0

Intersection Summary		
HCM 6th Ctrl Delay	2.6	
HCM 6th LOS	A	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	397	11	26	73	0	13	0	30	0	0	0
Future Vol, veh/h	0	397	11	26	73	0	13	0	30	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	503	14	33	92	0	16	0	38	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	92	0	0	517	0	0	668	668	510	687	675	92
Stage 1	-	-	-	-	-	-	510	510	-	158	158	-
Stage 2	-	-	-	-	-	-	158	158	-	529	517	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1490	-	-	1039	-	-	369	377	559	358	373	960
Stage 1	-	-	-	-	-	-	542	534	-	840	763	-
Stage 2	-	-	-	-	-	-	840	763	-	530	530	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1490	-	-	1039	-	-	360	365	559	325	361	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	365	-	325	361	-
Stage 1	-	-	-	-	-	-	542	534	-	840	738	-
Stage 2	-	-	-	-	-	-	812	738	-	494	530	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.3	13.5	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	479	1490	-	-	1039	-	-	-
HCM Lane V/C Ratio	0.114	-	-	-	0.032	-	-	-
HCM Control Delay (s)	13.5	0	-	-	8.6	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	270	0	0	62	0	0	0	0	2	0	22
Future Vol, veh/h	17	270	0	0	62	0	0	0	0	2	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	22	342	0	0	78	0	0	0	0	3	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	78	0	0	342	0	0	478	464	342	464	464	78
Stage 1	-	-	-	-	-	-	386	386	-	78	78	-
Stage 2	-	-	-	-	-	-	92	78	-	386	386	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1508	-	-	1206	-	-	494	492	696	505	492	977
Stage 1	-	-	-	-	-	-	633	607	-	926	826	-
Stage 2	-	-	-	-	-	-	910	826	-	633	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1508	-	-	1206	-	-	473	483	696	498	483	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	473	483	-	498	483	-
Stage 1	-	-	-	-	-	-	622	596	-	909	826	-
Stage 2	-	-	-	-	-	-	884	826	-	622	596	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	0	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1508	-	-	1206	-	-	905
HCM Lane V/C Ratio	-	0.014	-	-	-	-	-	0.034
HCM Control Delay (s)	0	7.4	0	-	0	-	-	9.1
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	287	70	22	28	20
Future Vol, veh/h	17	287	70	22	28	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	22	363	89	28	35	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	117	0	-	0	510	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1459	-	-	-	520	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1459	-	-	-	510	946
Mov Cap-2 Maneuver	-	-	-	-	510	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1459	-	-	-	631
HCM Lane V/C Ratio	0.015	-	-	-	0.096
HCM Control Delay (s)	7.5	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	0	1	11	0
Future Vol, veh/h	3	12	0	1	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	4	15	0	1	14	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	29	1	0	0	1	0
Stage 1	1	-	-	-	-	-
Stage 2	28	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	980	1078	-	-	1609	-
Stage 1	1017	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	971	1078	-	-	1609	-
Mov Cap-2 Maneuver	971	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	980	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1055	1609	-
HCM Lane V/C Ratio	-	-	0.018	0.009	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	296	84	7	8	7
Future Vol, veh/h	5	296	84	7	8	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	6	375	106	9	10	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	115	0	-	0	498	111
Stage 1	-	-	-	-	111	-
Stage 2	-	-	-	-	387	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1462	-	-	-	528	937
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	682	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1462	-	-	-	525	937
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1462	-	-	-	661
HCM Lane V/C Ratio	0.004	-	-	-	0.029
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	48	211	0	0	0
Future Vol, veh/h	0	48	211	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	61	267	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	267	0	-	0	328	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1285	-	-	-	662	767
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1285	-	-	-	662	767
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1285	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1134	1117	0
Future Vol, veh/h	0	0	0	1134	1117	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1435	1414	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	707	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	373	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	373	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	47	211	0	0	0
Future Vol, veh/h	0	47	211	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	59	267	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	267	0	-	0	326	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1285	-	-	-	664	767
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1285	-	-	-	664	767
Mov Cap-2 Maneuver	-	-	-	-	664	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	959	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1285	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	408	87	0	0	0
Future Vol, veh/h	0	408	87	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	516	110	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	110	0	-	0	626	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1468	-	-	-	445	938
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1468	-	-	-	445	938
Mov Cap-2 Maneuver	-	-	-	-	445	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	595	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1468	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	540	0	0	101	0	0
Future Vol, veh/h	540	0	0	101	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	684	0	0	128	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	684	0	812	684
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	128	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	900	-	346	445
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	900	-	346	445
Mov Cap-2 Maneuver	-	-	-	-	346	-
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	900	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1134	1125	0
Future Vol, veh/h	0	0	0	1134	1125	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1435	1424	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	712	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	370	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	370	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	0	0	52	0	0
Future Vol, veh/h	271	0	0	52	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	343	0	0	66	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	343	0	409	343
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1205	-	595	695
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1205	-	595	695
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1205	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	186	5	4	28	7	7
Future Vol, veh/h	186	5	4	28	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	235	6	5	35	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	241	0	283	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1314	-	703	796
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1314	-	700	796
Mov Cap-2 Maneuver	-	-	-	-	700	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	745	-	-	1314	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2137	461	2145	1156
v/c Ratio	0.92	0.34	0.80	0.60
Control Delay	30.5	20.3	2.6	23.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.5	20.3	2.6	23.4
Queue Length 50th (ft)	386	95	0	187
Queue Length 95th (ft)	#482	134	0	232
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.92	0.34	0.80	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1986	87	447	2081	0	1121
Future Volume (veh/h)	1986	87	447	2081	0	1121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2127	0	461	0	0	1156
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2428	720	1397		0	2007
Arrive On Green	0.46	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2127	0	461	0	0	1156
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	32.9	0.0	8.2	0.0	0.0	16.2
Cycle Q Clear(g_c), s	32.9	0.0	8.2	0.0	0.0	16.2
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2428	720	1397		0	2007
V/C Ratio(X)	0.88	0.00	0.33		0.00	0.58
Avail Cap(c_a), veh/h	2484	737	1397		0	2007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	18.7	0.0	0.0	21.1
Incr Delay (d2), s/veh	4.0	0.0	0.6	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.5	0.0	5.9	0.0	0.0	10.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.9	0.0	19.3	0.0	0.0	22.3
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2127		461			1156
Approach Delay, s/veh	25.9		19.3			22.3
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.9		48.1		41.9
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.2		34.9		10.2
Green Ext Time (p_c), s		11.2		6.7		5.3

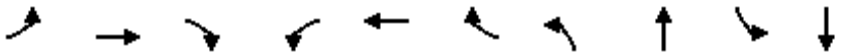
Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

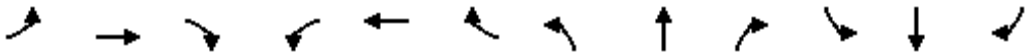


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	424	430	38	49	167	127	32	1520	115	2399
v/c Ratio	1.36	1.36	0.09	0.20	0.66	0.41	0.67	0.73	1.25	0.97
Control Delay	227.3	226.0	0.4	57.9	73.7	12.5	97.4	39.6	229.4	47.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	227.3	226.0	0.4	57.9	73.7	12.5	97.4	39.6	229.4	47.5
Queue Length 50th (ft)	~573	~580	0	43	156	0	25	459	~139	820
Queue Length 95th (ft)	#802	#808	0	84	234	60	#95	532	#273	#983
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	316	406	281	295	345	48	2080	92	2474
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	1.36	0.09	0.17	0.57	0.37	0.67	0.73	1.25	0.97

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	135	38	49	165	126	32	1486	19	114	1939	436
Future Volume (veh/h)	711	135	38	49	165	126	32	1486	19	114	1939	436
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	815	0	8	49	167	19	32	1501	19	115	1959	418
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	223	234	189	57	2195	28	93	2156	446
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1486	146	5111	65	1753	4155	860
Grp Volume(v), veh/h	815	0	8	49	167	19	32	984	536	115	1568	809
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1486	146	1675	1826	1753	1675	1665
Q Serve(g_s), s	28.3	0.0	0.6	3.8	13.1	1.7	9.5	35.6	35.6	8.0	63.5	68.3
Cycle Q Clear(g_c), s	28.3	0.0	0.6	3.8	13.1	1.7	64.4	35.6	35.6	8.0	63.5	68.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.52
Lane Grp Cap(c), veh/h	661	0	287	223	234	189	57	1439	784	93	1738	864
V/C Ratio(X)	1.23	0.00	0.03	0.22	0.71	0.10	0.56	0.68	0.68	1.23	0.90	0.94
Avail Cap(c_a), veh/h	661	0	287	284	298	241	57	1439	784	93	1738	864
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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.8	62.8	57.9	73.6	34.6	34.6	71.0	32.6	33.8
Incr Delay (d2), s/veh	117.3	0.0	0.1	1.2	10.2	0.6	34.0	2.7	4.8	167.2	8.1	18.7
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(95%),veh/ln	34.7	0.0	0.5	3.2	10.9	1.2	3.2	21.3	23.4	13.3	35.4	40.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	178.1	0.0	49.7	60.0	73.0	58.4	107.7	37.2	39.4	238.2	40.7	52.6
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	D
Approach Vol, veh/h		823			235			1552			2492	
Approach Delay, s/veh		176.9			69.1			39.4			53.7	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	73.8		28.8		87.2		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.0	66.4		15.1		70.3		30.3				
Green Ext Time (p_c), s	0.0	0.0		1.4		2.2		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.

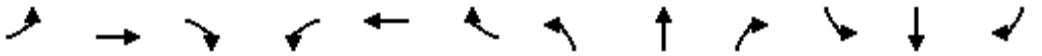
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	100	177	41	79	594	118	27	804	39
v/c Ratio	0.40	0.19	0.33	0.08	0.65	0.64	0.15	0.10	0.87	0.05
Control Delay	18.6	4.9	17.6	5.9	42.6	15.0	2.4	9.0	26.3	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	4.9	17.6	5.9	42.6	15.0	2.4	9.0	26.3	2.6
Queue Length 50th (ft)	56	0	48	0	19	145	0	5	237	0
Queue Length 95th (ft)	106	27	93	18	#87	243	20	16	#458	10
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	515	536	531	506	121	922	789	273	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.19	0.33	0.08	0.65	0.64	0.15	0.10	0.87	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



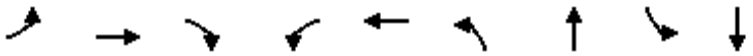
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	146	98	37	136	40	77	582	116	26	788	38
Future Volume (veh/h)	54	146	98	37	136	40	77	582	116	26	788	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	55	149	33	38	139	13	79	594	61	27	804	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	179	437	481	147	475	491	199	930	752	326	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	318	1350	1488	230	1471	1519	653	1841	1489	765	1841	1501
Grp Volume(v), veh/h	204	0	33	177	0	13	79	594	61	27	804	21
Grp Sat Flow(s),veh/h/ln	1668	0	1488	1701	0	1519	653	1841	1489	765	1841	1501
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.4	7.3	14.2	1.3	1.6	23.0	0.4
Cycle Q Clear(g_c), s	5.1	0.0	0.9	4.3	0.0	0.4	30.3	14.2	1.3	15.8	23.0	0.4
Prop In Lane	0.27		1.00	0.21		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	616	0	481	623	0	491	199	930	752	326	930	758
V/C Ratio(X)	0.33	0.00	0.07	0.28	0.00	0.03	0.40	0.64	0.08	0.08	0.86	0.03
Avail Cap(c_a), veh/h	616	0	481	623	0	491	199	930	752	326	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	14.0	15.2	0.0	13.9	26.4	10.9	7.7	16.6	13.1	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.1	0.0	0.1	5.8	3.4	0.2	0.5	10.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	0.0	0.5	3.4	0.0	0.2	2.4	9.2	0.7	0.5	15.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	14.1	16.3	0.0	14.0	32.2	14.2	7.9	17.1	23.6	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		237			190			734			852	
Approach Delay, s/veh		15.4			16.2			15.6			23.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		25.0		6.3		32.3		7.1				
Green Ext Time (p_c), s		2.6		0.8		0.0		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									

Notes

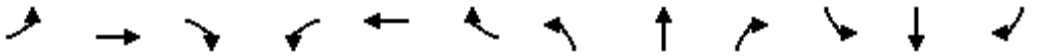
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	173	782	161	278	674	484	30	344
v/c Ratio	0.21	0.69	0.50	0.39	0.67	0.72	0.40	0.19	0.61
Control Delay	50.2	55.3	15.3	49.7	46.8	41.0	27.5	51.6	43.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	55.3	15.3	49.7	46.8	41.0	27.5	51.6	43.6
Queue Length 50th (ft)	32	108	168	53	175	217	143	19	102
Queue Length 95th (ft)	83	223	252	105	#347	320	205	57	176
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	345	318	2189	441	412	1692	1778	227	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.54	0.36	0.37	0.67	0.40	0.27	0.13	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	156	704	145	197	53	607	360	76	27	205	104
Future Volume (veh/h)	46	156	704	145	197	53	607	360	76	27	205	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	51	173	782	161	219	53	674	400	72	30	228	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	198	193	1452	434	349	84	796	825	147	82	384	121
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.23	0.29	0.29	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1121	271	3428	2822	504	977	2668	841
Grp Volume(v), veh/h	51	173	782	161	0	272	674	235	237	30	151	151
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1661	977	1791	1719
Q Serve(g_s), s	2.7	25.8	19.5	5.0	0.0	17.4	19.6	12.1	12.3	3.0	8.2	8.6
Cycle Q Clear(g_c), s	2.7	25.8	19.5	5.0	0.0	17.4	19.6	12.1	12.3	3.0	8.2	8.6
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.30	1.00		0.49
Lane Grp Cap(c), veh/h	198	193	1452	434	0	434	796	487	486	82	258	247
V/C Ratio(X)	0.26	0.90	0.54	0.37	0.00	0.63	0.85	0.48	0.49	0.37	0.59	0.61
Avail Cap(c_a), veh/h	359	212	1531	463	0	434	1759	950	948	201	472	453
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	35.6	16.7	40.4	0.0	30.7	38.3	30.4	30.5	45.2	41.7	41.9
Incr Delay (d2), s/veh	0.7	33.3	0.3	0.5	0.0	2.9	2.6	0.7	0.8	2.7	2.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	10.0	10.2	3.4	0.0	10.3	13.0	8.5	8.6	1.4	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	68.9	17.0	40.9	0.0	33.6	40.9	31.1	31.2	47.9	43.8	44.3
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		1006			433			1146			332	
Approach Delay, s/veh		27.2			36.3			36.9			44.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	36.0	19.0	35.1	29.7	20.5	16.6	37.5
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 22	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.0	14.3	7.0	27.8	21.6	10.6	4.7	19.4
Green Ext Time (p_c), s	0.0	3.0	0.3	2.2	2.6	1.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

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

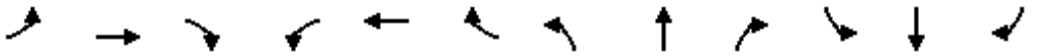


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	100	157	790	15	56	86	499	935	122	744	78
v/c Ratio	0.96	0.77	0.47	0.11	0.27	0.28	0.49	0.45	0.58	0.58	0.14
Control Delay	137.0	76.8	4.2	61.2	55.7	7.8	41.2	15.2	72.4	36.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	137.0	76.8	4.2	61.2	55.7	7.8	41.2	15.2	72.4	36.8	0.5
Queue Length 50th (ft)	~91	119	35	12	44	0	173	192	51	255	0
Queue Length 95th (ft)	#238	#238	67	38	86	33	268	325	#95	385	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1676	378	491	309	1011	2091	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.77	0.47	0.04	0.11	0.28	0.49	0.45	0.58	0.58	0.14

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	154	774	15	55	84	489	699	218	120	729	76
Future Volume (veh/h)	98	154	774	15	55	84	489	699	218	120	729	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	100	157	447	15	56	16	499	713	206	122	744	28
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	134	1177	58	168	207	1021	1663	480	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2742	792	3428	3554	1298
Grp Volume(v), veh/h	100	157	447	15	56	16	499	466	453	122	744	28
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1743	1714	1777	1298
Q Serve(g_s), s	10.0	16.9	2.0	1.0	3.5	1.3	15.1	17.7	17.7	4.4	21.5	1.3
Cycle Q Clear(g_c), s	10.0	16.9	2.0	1.0	3.5	1.3	15.1	17.7	17.7	4.4	21.5	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	84	134	1177	58	168	207	1021	1086	1057	212	1294	473
V/C Ratio(X)	1.19	1.18	0.38	0.26	0.33	0.08	0.49	0.43	0.43	0.58	0.57	0.06
Avail Cap(c_a), veh/h	84	134	1177	382	495	441	1024	1086	1057	214	1294	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	59.0	55.5	13.1	60.4	54.7	46.7	37.3	13.4	13.4	58.4	32.7	14.5
Incr Delay (d2), s/veh	157.9	132.5	0.9	2.3	1.1	0.2	0.4	1.2	1.3	3.7	1.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.2	15.1	5.9	0.9	3.2	0.8	10.6	11.6	11.4	3.6	14.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	216.8	188.0	14.0	62.7	55.9	46.9	37.7	14.6	14.7	62.1	34.6	14.7
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	C	B
Approach Vol, veh/h		704			87			1418			894	
Approach Delay, s/veh		81.6			55.4			22.7			37.7	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.1	22.9	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	6.4	19.7	3.0	18.9	17.1	23.5	12.0	5.5
Green Ext Time (p_c), s	0.0	15.4	0.0	0.0	1.7	5.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

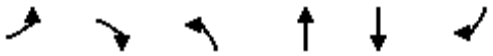
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	129	14	1397	1969
v/c Ratio	0.49	0.16	0.54	0.76
Control Delay	37.5	10.6	6.8	11.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.5	10.6	6.8	11.0
Queue Length 50th (ft)	65	2	131	254
Queue Length 95th (ft)	102	15	302	#612
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	575	88	2583	2580
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.16	0.54	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	22	13	1341	1872	18
Future Volume (veh/h)	102	22	13	1341	1872	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	106	16	14	1397	1950	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	144	22	199	2784	2825	27
Arrive On Green	0.10	0.10	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1485	224	218	3589	3641	35
Grp Volume(v), veh/h	123	0	14	1397	959	1010
Grp Sat Flow(s),veh/h/ln	1724	0	218	1749	1749	1834
Q Serve(g_s), s	6.2	0.0	2.8	12.2	22.3	22.5
Cycle Q Clear(g_c), s	6.2	0.0	25.3	12.2	22.3	22.5
Prop In Lane	0.86	0.13	1.00			0.02
Lane Grp Cap(c), veh/h	168	0	199	2784	1392	1460
V/C Ratio(X)	0.73	0.00	0.07	0.50	0.69	0.69
Avail Cap(c_a), veh/h	575	0	199	2784	1392	1460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.84	0.84
Uniform Delay (d), s/veh	39.5	0.0	9.9	3.1	4.1	4.2
Incr Delay (d2), s/veh	6.1	0.0	0.7	0.6	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	0.0	0.3	4.6	8.6	8.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.6	0.0	10.6	3.8	6.5	6.4
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	123			1411	1969	
Approach Delay, s/veh	45.6			3.8	6.5	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		76.2		13.8		76.2
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		24.5		8.2		27.3
Green Ext Time (p_c), s		22.8		0.3		17.8

Intersection Summary	
HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

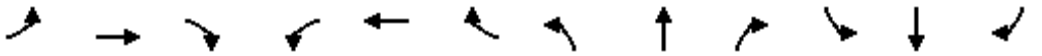
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	330	81	33	61	29	1112	3	1361	85
v/c Ratio	0.82	0.20	0.11	0.20	0.32	0.75	0.02	0.86	0.12
Control Delay	49.5	19.1	28.8	18.2	43.6	31.6	38.0	34.0	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.5	0.0
Total Delay	49.5	19.1	28.8	18.2	43.6	31.6	38.0	81.5	5.0
Queue Length 50th (ft)	173	22	17	16	10	255	2	349	0
Queue Length 95th (ft)	#286	58	37	44	#71	#657	10	#664	28
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	451	474	471	91	1475	231	1575	722
Starvation Cap Reductn	0	0	0	0	0	0	0	407	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.18	0.07	0.13	0.32	0.75	0.01	1.17	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	323	50	29	32	30	29	28	1048	42	3	1334	83
Future Volume (veh/h)	323	50	29	32	30	29	28	1048	42	3	1334	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	330	51	8	33	31	6	29	1069	42	3	1361	38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	426	369	58	276	232	45	102	1283	50	11	1486	657
Arrive On Green	0.24	0.24	0.24	0.16	0.16	0.16	0.75	0.75	0.75	0.01	0.42	0.42
Sat Flow, veh/h	1753	1516	238	1753	1474	285	379	3430	135	1753	3497	1546
Grp Volume(v), veh/h	330	0	59	33	0	37	29	545	566	3	1361	38
Grp Sat Flow(s),veh/h/ln	1753	0	1754	1753	0	1759	379	1749	1816	1753	1749	1546
Q Serve(g_s), s	15.8	0.0	2.4	1.5	0.0	1.6	5.3	18.8	18.8	0.2	33.0	1.3
Cycle Q Clear(g_c), s	15.8	0.0	2.4	1.5	0.0	1.6	33.7	18.8	18.8	0.2	33.0	1.3
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	426	0	427	276	0	277	102	654	679	11	1486	657
V/C Ratio(X)	0.77	0.00	0.14	0.12	0.00	0.13	0.28	0.83	0.83	0.27	0.92	0.06
Avail Cap(c_a), veh/h	460	0	460	479	0	481	102	654	679	234	1486	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	26.7	32.5	0.0	32.6	26.2	9.5	9.5	44.5	24.4	15.3
Incr Delay (d2), s/veh	7.5	0.0	0.1	0.2	0.0	0.2	6.8	11.9	11.5	12.1	10.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	0.0	1.8	1.1	0.0	1.3	1.3	9.1	9.3	0.2	21.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	26.8	32.7	0.0	32.8	33.0	21.3	21.0	56.6	34.7	15.4
LnGrp LOS	D	A	C	C	A	C	C	C	C	E	C	B
Approach Vol, veh/h		389			70			1140			1402	
Approach Delay, s/veh		37.4			32.8			21.5			34.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		43.1		27.3	4.6	38.6		19.6				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		35.0		17.8	2.2	35.7		3.6				
Green Ext Time (p_c), s		0.0		0.7	0.0	0.0		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		29.8
HCM 6th LOS		C

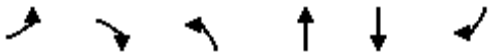
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	57	17	6	1074	1348
v/c Ratio	0.23	0.07	0.02	0.39	0.50
Control Delay	34.6	13.6	5.0	4.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	13.6	5.0	4.9	5.7
Queue Length 50th (ft)	30	0	1	78	111
Queue Length 95th (ft)	55	16	6	204	287
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	445	255	2752	2716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.04	0.02	0.39	0.50

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	56	17	6	1063	1256	78
Future Volume (veh/h)	56	17	6	1063	1256	78
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	57	2	6	1074	1269	76
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	150	134	401	2817	2697	161
Arrive On Green	0.09	0.09	0.81	0.81	1.00	1.00
Sat Flow, veh/h	1753	1560	398	3589	3441	200
Grp Volume(v), veh/h	57	2	6	1074	662	683
Grp Sat Flow(s),veh/h/ln	1753	1560	398	1749	1749	1800
Q Serve(g_s), s	2.8	0.1	0.3	7.8	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.1	0.3	7.8	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.11
Lane Grp Cap(c), veh/h	150	134	401	2817	1408	1450
V/C Ratio(X)	0.38	0.01	0.01	0.38	0.47	0.47
Avail Cap(c_a), veh/h	489	435	401	2817	1408	1450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	37.7	1.7	2.5	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.4	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.1	0.0	2.7	0.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.5	37.7	1.8	2.9	1.1	1.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	59			1080	1345	
Approach Delay, s/veh	40.4			2.8	1.1	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		77.4		12.6		77.4
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		9.8		4.8		2.0
Green Ext Time (p_c), s		10.0		0.1		13.0

Intersection Summary		
HCM 6th Ctrl Delay		2.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	370	11	27	126	0	10	0	21	0	0	0
Future Vol, veh/h	0	370	11	27	126	0	10	0	21	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	468	14	34	159	0	13	0	27	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	159	0	0	482	0	0	702	702	475	716	709	159
Stage 1	-	-	-	-	-	-	475	475	-	227	227	-
Stage 2	-	-	-	-	-	-	227	227	-	489	482	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1408	-	-	1070	-	-	350	360	586	343	357	881
Stage 1	-	-	-	-	-	-	567	554	-	771	712	-
Stage 2	-	-	-	-	-	-	771	712	-	557	550	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1408	-	-	1070	-	-	341	347	586	319	345	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	347	-	319	345	-
Stage 1	-	-	-	-	-	-	567	554	-	771	687	-
Stage 2	-	-	-	-	-	-	744	687	-	532	550	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.5	13.2	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	1408	-	-	1070	-	-	-
HCM Lane V/C Ratio	0.082	-	-	-	0.032	-	-	-
HCM Control Delay (s)	13.2	0	-	-	8.5	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	18	213	0	0	93	0	0	0	0	2	0	15
Future Vol, veh/h	18	213	0	0	93	0	0	0	0	2	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	23	270	0	0	118	0	0	0	0	3	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	118	0	0	270	0	0	444	434	270	434	434	118
Stage 1	-	-	-	-	-	-	316	316	-	118	118	-
Stage 2	-	-	-	-	-	-	128	118	-	316	316	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1458	-	-	1282	-	-	521	512	764	529	512	928
Stage 1	-	-	-	-	-	-	691	651	-	882	794	-
Stage 2	-	-	-	-	-	-	871	794	-	691	651	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1458	-	-	1282	-	-	503	502	764	522	502	928
Mov Cap-2 Maneuver	-	-	-	-	-	-	503	502	-	522	502	-
Stage 1	-	-	-	-	-	-	678	639	-	865	794	-
Stage 2	-	-	-	-	-	-	853	794	-	678	639	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	0	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1458	-	-	1282	-	-	850
HCM Lane V/C Ratio	-	0.016	-	-	-	-	-	0.025
HCM Control Delay (s)	0	7.5	0	-	0	-	-	9.3
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	229	94	23	20	14
Future Vol, veh/h	17	229	94	23	20	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	22	290	119	29	25	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	148	0	-	0	468	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	334	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1421	-	-	-	550	910
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	721	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1421	-	-	-	540	910
Mov Cap-2 Maneuver	-	-	-	-	540	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1421	-	-	-	649
HCM Lane V/C Ratio	0.015	-	-	-	0.066
HCM Control Delay (s)	7.6	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	8	0	2	10	0
Future Vol, veh/h	2	8	0	2	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	3	10	0	3	13	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	28	2	0	0	3	0
Stage 1	2	-	-	-	-	-
Stage 2	26	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	982	1076	-	-	1606	-
Stage 1	1016	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	974	1076	-	-	1606	-
Mov Cap-2 Maneuver	974	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1054	1606	-
HCM Lane V/C Ratio	-	-	0.012	0.008	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	241	102	6	6	4
Future Vol, veh/h	6	241	102	6	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	305	129	8	8	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	137	0	-	0	454	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1435	-	-	-	560	911
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1435	-	-	-	556	911
Mov Cap-2 Maneuver	-	-	-	-	556	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	731	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1435	-	-	-	659
HCM Lane V/C Ratio	0.005	-	-	-	0.019
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	77	85	0	0	0
Future Vol, veh/h	0	77	85	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	97	108	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	205	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1470	-	-	-	779	940
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1470	-	-	-	779	940
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1082	1320	0
Future Vol, veh/h	0	0	0	1082	1320	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1370	1671	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	836	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	306	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	306	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	75	85	0	0	0
Future Vol, veh/h	0	75	85	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	95	108	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	203	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1470	-	-	-	781	940
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1470	-	-	-	781	940
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	382	136	0	0	0
Future Vol, veh/h	0	382	136	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	484	172	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	172	0	-	0	656	172
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	484	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1393	-	-	-	427	866
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	616	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1393	-	-	-	427	866
Mov Cap-2 Maneuver	-	-	-	-	427	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	616	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	415	0	0	155	0	0
Future Vol, veh/h	415	0	0	155	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	525	0	0	196	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	525	0	721	525
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	196	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1032	-	391	549
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	832	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1032	-	391	549
Mov Cap-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	832	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1032	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1082	1330	0
Future Vol, veh/h	0	0	0	1082	1330	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1370	1684	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	842	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	304	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	304	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	219	0	0	80	0	0
Future Vol, veh/h	219	0	0	80	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	277	0	0	101	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	277	0	378	277
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1274	-	620	757
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1274	-	620	757
Mov Cap-2 Maneuver	-	-	-	-	620	-
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	918	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1274	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	4	4	28	5	4
Future Vol, veh/h	113	4	4	28	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	143	5	5	35	6	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	191	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1421	-	793	896
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	790	896
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1421	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Future Year (2035)
Plus Project
Scenario B
OSP Specific Plan Site Phase 1, 2, & 327 Harbor Site

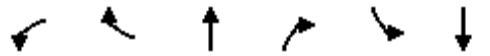


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1898	471	3457	892
v/c Ratio	0.74	0.40	1.26	0.53
Control Delay	18.7	24.5	132.2	25.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	24.5	132.2	25.7
Queue Length 50th (ft)	269	109	~491	152
Queue Length 95th (ft)	324	153	#630	193
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1176	2733	1690
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.72	0.40	1.26	0.53

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.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1691	74	438	3215	0	830
Future Volume (veh/h)	1691	74	438	3215	0	830
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1888	0	471	0	0	892
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2484	737	1360		0	1954
Arrive On Green	0.47	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1888	0	471	0	0	892
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	26.6	0.0	8.6	0.0	0.0	11.9
Cycle Q Clear(g_c), s	26.6	0.0	8.6	0.0	0.0	11.9
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2484	737	1360		0	1954
V/C Ratio(X)	0.76	0.00	0.35		0.00	0.46
Avail Cap(c_a), veh/h	2834	841	1360		0	1954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	19.4	0.0	0.0	20.4
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.9	0.0	6.2	0.0	0.0	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.9	0.0	20.1	0.0	0.0	21.2
LnGrp LOS	C	A	C		A	C
Approach Vol, veh/h	1888		471			892
Approach Delay, s/veh	20.9		20.1			21.2
Approach LOS	C		C			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.0		49.0		41.0
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		13.9		28.6		10.6
Green Ext Time (p_c), s		8.3		13.9		4.8

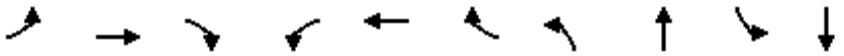
Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

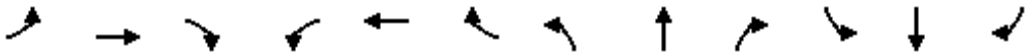


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	605	597	26	47	143	214	9	2072	89	2159
v/c Ratio	1.95	1.91	0.06	0.21	0.60	0.70	0.19	0.98	0.97	0.87
Control Delay	468.1	451.7	0.3	58.6	71.2	37.3	41.6	57.0	153.9	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	468.1	451.7	0.3	58.6	71.2	37.3	41.6	57.0	153.9	36.7
Queue Length 50th (ft)	~960	~940	0	42	134	81	6	727	89	656
Queue Length 95th (ft)	#1211	#1192	0	81	203	173	24	#899	#208	774
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	313	415	281	295	347	48	2121	92	2471
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.95	1.91	0.06	0.17	0.48	0.62	0.19	0.98	0.97	0.87

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1085	57	25	45	136	203	9	1964	5	85	1632	419
Future Volume (veh/h)	1085	57	25	45	136	203	9	1964	5	85	1632	419
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1185	0	6	47	143	105	9	2067	5	89	1718	413
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	208	219	177	79	2266	5	93	2132	503
Arrive On Green	0.19	0.00	0.19	0.12	0.12	0.12	0.44	0.44	0.44	0.05	0.53	0.53
Sat Flow, veh/h	3506	0	1518	1753	1841	1493	186	5176	13	1753	4043	954
Grp Volume(v), veh/h	1185	0	6	47	143	105	9	1338	734	89	1418	713
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1493	186	1675	1838	1753	1675	1647
Q Serve(g_s), s	28.3	0.0	0.5	3.6	11.1	10.0	6.3	56.1	56.1	7.6	52.0	54.1
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.6	11.1	10.0	47.1	56.1	56.1	7.6	52.0	54.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.58
Lane Grp Cap(c), veh/h	661	0	286	208	219	177	79	1467	805	93	1766	868
V/C Ratio(X)	1.79	0.00	0.02	0.23	0.65	0.59	0.11	0.91	0.91	0.95	0.80	0.82
Avail Cap(c_a), veh/h	661	0	286	284	298	242	79	1467	805	93	1766	868
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	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	59.8	63.1	62.6	54.8	39.5	39.5	70.8	29.1	29.6
Incr Delay (d2), s/veh	362.2	0.0	0.1	1.3	7.5	7.1	2.9	10.1	16.4	77.2	4.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	71.2	0.0	0.3	3.1	9.4	7.3	0.7	32.8	37.3	9.2	29.0	30.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	423.0	0.0	49.6	61.1	70.6	69.8	57.7	49.6	55.9	148.0	33.0	38.2
LnGrp LOS	F	A	D	E	E	E	E	D	E	F	C	D
Approach Vol, veh/h		1191			295			2081			2220	
Approach Delay, s/veh		421.2			68.8			51.8			39.3	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	75.1		27.5		88.5		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	9.6	58.1		13.1		56.1		30.3				
Green Ext Time (p_c), s	0.0	1.1		2.0		15.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		123.9	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

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

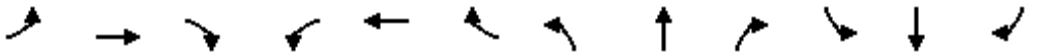


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	55	256	83	92	934	148	30	616	26
v/c Ratio	0.36	0.11	0.53	0.16	0.36	1.01	0.19	0.25	0.67	0.03
Control Delay	18.1	5.6	21.6	5.2	14.2	51.2	4.2	14.8	15.6	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	5.6	21.6	5.2	14.2	51.2	4.2	14.8	15.6	1.5
Queue Length 50th (ft)	47	0	74	1	19	~323	9	6	153	0
Queue Length 95th (ft)	89	19	132	24	49	#537	32	22	241	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	487	488	479	519	254	922	775	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.11	0.53	0.16	0.36	1.01	0.19	0.25	0.67	0.03

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.



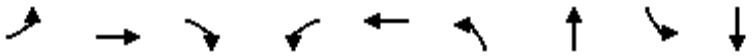
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	104	48	75	148	72	80	813	129	26	536	23
Future Volume (veh/h)	46	104	48	75	148	72	80	813	129	26	536	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	120	18	86	170	29	92	934	102	30	616	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	78	135	454	80	119	453	321	930	767	120	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	417	1405	0	368	1402	784	1841	1520	536	1841	1520
Grp Volume(v), veh/h	173	0	18	256	0	29	92	934	102	30	616	13
Grp Sat Flow(s),veh/h/ln	417	0	1405	368	0	1402	784	1841	1520	536	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.9	5.9	30.3	2.1	0.0	14.9	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	0.9	20.9	30.3	2.1	30.3	14.9	0.3
Prop In Lane	0.31		1.00	0.34		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	213	0	454	199	0	453	321	930	767	120	930	767
V/C Ratio(X)	0.81	0.00	0.04	1.29	0.00	0.06	0.29	1.00	0.13	0.25	0.66	0.02
Avail Cap(c_a), veh/h	213	0	454	199	0	453	321	930	767	120	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	13.9	19.6	0.0	14.0	18.8	14.9	7.9	30.0	11.0	7.4
Incr Delay (d2), s/veh	3.1	0.0	0.0	160.9	0.0	0.3	2.2	30.7	0.4	4.9	3.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	0.3	18.4	0.0	0.5	2.1	24.5	1.1	1.0	9.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	13.9	180.5	0.0	14.3	21.1	45.5	8.2	34.9	14.8	7.5
LnGrp LOS	C	A	B	F	A	B	C	F	A	C	B	A
Approach Vol, veh/h		191			285			1128			659	
Approach Delay, s/veh		19.6			163.6			40.2			15.5	
Approach LOS		B			F			D			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		32.3		21.4		32.3		21.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		46.8
HCM 6th LOS		D

Notes

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

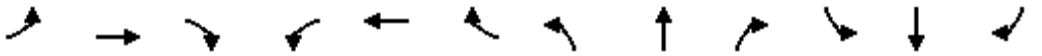


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	268	591	72	169	1113	657	7	296
v/c Ratio	0.35	1.05	0.34	0.21	0.47	0.84	0.38	0.05	0.62
Control Delay	64.4	118.9	10.6	59.7	51.1	44.5	19.5	60.2	62.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	118.9	10.6	59.7	51.1	44.5	19.5	60.2	62.1
Queue Length 50th (ft)	60	~269	120	30	129	460	161	6	133
Queue Length 95th (ft)	100	#379	135	50	183	443	217	19	156
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	204	256	1940	343	357	1560	1786	131	645
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.05	0.30	0.21	0.47	0.71	0.37	0.05	0.46

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	201	443	54	118	9	835	403	90	5	215	7
Future Volume (veh/h)	54	201	443	54	118	9	835	403	90	5	215	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	72	268	591	72	157	11	1113	537	109	7	287	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	193	167	1680	354	334	23	1229	1243	251	25	420	12
Arrive On Green	0.11	0.25	0.25	0.12	0.25	0.25	0.36	0.45	0.45	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2717	3018	1329	93	3428	2757	558	977	3559	99
Grp Volume(v), veh/h	72	268	591	72	0	168	1113	323	323	7	144	151
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1422	1714	1664	1651	977	1791	1867
Q Serve(g_s), s	4.8	32.0	13.9	2.8	0.0	12.8	39.5	16.9	17.1	0.9	9.9	9.9
Cycle Q Clear(g_c), s	4.8	32.0	13.9	2.8	0.0	12.8	39.5	16.9	17.1	0.9	9.9	9.9
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	193	167	1680	354	0	357	1229	750	744	25	211	220
V/C Ratio(X)	0.37	1.60	0.35	0.20	0.00	0.47	0.91	0.43	0.43	0.28	0.68	0.68
Avail Cap(c_a), veh/h	209	167	1680	354	0	357	1594	884	877	114	329	343
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	48.0	12.5	51.1	0.0	40.7	39.0	24.0	24.0	61.2	54.1	54.2
Incr Delay (d2), s/veh	1.2	296.2	0.1	0.3	0.0	1.0	6.4	0.4	0.4	5.8	3.8	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(95%),veh/ln	4.0	32.0	7.7	1.9	0.0	8.2	24.2	10.9	10.9	0.5	8.2	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	344.2	12.7	51.4	0.0	41.7	45.4	24.4	24.4	67.0	58.0	57.9
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		931			240			1759			302	
Approach Delay, s/veh		111.3			44.6			37.7			58.2	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	63.2	19.0	37.0	51.4	20.6	18.8	37.2
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	2.9	19.1	4.8	34.0	41.5	11.9	6.8	14.8
Green Ext Time (p_c), s	0.0	4.4	0.1	0.0	4.4	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	61.3
HCM 6th LOS	E

Notes

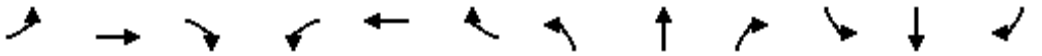
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	144	57	905	12	7	4	879	1403	65	719	56
v/c Ratio	0.68	0.27	0.51	0.06	0.03	0.02	0.80	0.68	0.29	0.68	0.12
Control Delay	67.2	53.1	3.2	52.9	52.5	0.0	45.6	22.3	62.7	44.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	53.1	3.2	52.9	52.5	0.0	45.6	22.3	62.7	44.0	0.6
Queue Length 50th (ft)	96	35	12	8	5	0	284	324	23	230	0
Queue Length 95th (ft)	#224	89	30	26	19	0	440	587	52	381	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	211	211	1835	408	430	255	1266	2165	228	1055	456
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.27	0.49	0.03	0.02	0.02	0.69	0.65	0.29	0.68	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	46	733	10	6	3	712	1101	36	53	582	45
Future Volume (veh/h)	117	46	733	10	6	3	712	1101	36	53	582	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	144	57	478	12	7	0	879	1359	44	65	719	16
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	191	179	1317	62	65	130	1063	1962	63	202	1052	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3541	115	3428	3554	1317
Grp Volume(v), veh/h	144	57	478	12	7	0	879	687	716	65	719	16
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1864	1714	1777	1317
Q Serve(g_s), s	15.3	5.9	0.0	0.8	0.4	0.0	28.2	33.3	33.4	2.2	21.5	0.6
Cycle Q Clear(g_c), s	15.3	5.9	0.0	0.8	0.4	0.0	28.2	33.3	33.4	2.2	21.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	191	179	1317	62	65	130	1063	992	1033	202	1052	390
V/C Ratio(X)	0.76	0.32	0.36	0.19	0.11	0.00	0.83	0.69	0.69	0.32	0.68	0.04
Avail Cap(c_a), veh/h	191	179	1317	406	427	396	1263	992	1033	228	1052	390
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	47.0	43.1	19.5	56.4	56.3	0.0	38.8	19.4	19.4	54.3	37.3	11.5
Incr Delay (d2), s/veh	24.0	4.6	0.8	1.5	0.7	0.0	4.0	4.0	3.8	0.9	3.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	3.1	7.8	0.7	0.4	0.0	18.2	20.4	21.1	1.7	14.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	47.7	20.2	57.9	57.0	0.0	42.8	23.3	23.2	55.2	40.9	11.7
LnGrp LOS	E	D	C	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		679			19			2282			800	
Approach Delay, s/veh		33.3			57.6			30.8			41.5	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.2	35.4	2.8	7.9	30.2	23.5	17.3	2.4
Green Ext Time (p_c), s	0.0	20.7	0.0	3.8	3.0	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

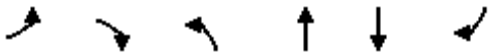
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	220	8	2060	1315
v/c Ratio	0.67	0.04	0.84	0.54
Control Delay	42.5	6.1	15.2	7.9
Queue Delay	0.0	0.0	1.3	0.0
Total Delay	42.5	6.1	16.5	7.9
Queue Length 50th (ft)	114	1	373	155
Queue Length 95th (ft)	170	7	#749	273
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	579	219	2455	2447
Starvation Cap Reductn	0	0	203	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.04	0.91	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	177	23	7	1875	1172	25
Future Volume (veh/h)	177	23	7	1875	1172	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	195	18	8	2060	1288	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	236	22	325	2603	2607	55
Arrive On Green	0.15	0.15	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1581	146	411	3589	3595	73
Grp Volume(v), veh/h	214	0	8	2060	643	672
Grp Sat Flow(s),veh/h/ln	1735	0	411	1749	1749	1827
Q Serve(g_s), s	10.8	0.0	0.7	33.0	13.4	13.4
Cycle Q Clear(g_c), s	10.8	0.0	14.1	33.0	13.4	13.4
Prop In Lane	0.91	0.08	1.00			0.04
Lane Grp Cap(c), veh/h	259	0	325	2603	1302	1360
V/C Ratio(X)	0.83	0.00	0.02	0.79	0.49	0.49
Avail Cap(c_a), veh/h	578	0	325	2603	1302	1360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.79	0.79
Uniform Delay (d), s/veh	37.2	0.0	7.5	7.2	4.7	4.7
Incr Delay (d2), s/veh	6.7	0.0	0.1	2.6	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	0.0	0.1	14.2	6.6	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.8	0.0	7.6	9.7	5.7	5.7
LnGrp LOS	D	A	A	A	A	A
Approach Vol, veh/h	214			2068	1315	
Approach Delay, s/veh	43.8			9.7	5.7	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.6		18.4		71.6
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		15.4		12.8		35.0
Green Ext Time (p_c), s		18.9		0.6		14.4

Intersection Summary	
HCM 6th Ctrl Delay	10.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	701	17	4	9	27	1460	24	1454	124
v/c Ratio	1.54	0.04	0.01	0.02	0.29	1.04	0.15	0.91	0.17
Control Delay	281.7	14.8	25.7	0.0	45.5	67.3	40.2	37.2	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.1	0.0
Total Delay	281.7	14.8	25.7	0.0	45.5	67.3	40.2	83.4	8.3
Queue Length 50th (ft)	~566	2	2	0	9	399	13	396	9
Queue Length 95th (ft)	#649	15	8	0	#55	#753	32	#595	40
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	433	474	637	92	1399	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	379	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.54	0.04	0.01	0.01	0.29	1.04	0.10	1.20	0.17

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	554	3	10	3	0	7	21	1147	6	19	1149	98
Future Volume (veh/h)	554	3	10	3	0	7	21	1147	6	19	1149	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	701	4	4	4	0	1	27	1452	8	24	1454	71
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	221	221	34	0	30	154	1638	9	70	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.31	0.31	0.31	0.04	0.54	0.54
Sat Flow, veh/h	1753	843	843	1753	0	1552	336	3566	20	1753	3497	1556
Grp Volume(v), veh/h	701	0	8	4	0	1	27	712	748	24	1454	71
Grp Sat Flow(s),veh/h/ln	1753	0	1687	1753	0	1552	336	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.3	0.2	0.0	0.1	6.5	34.9	34.9	1.2	29.2	2.0
Cycle Q Clear(g_c), s	23.6	0.0	0.3	0.2	0.0	0.1	28.1	34.9	34.9	1.2	29.2	2.0
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	442	34	0	30	154	803	844	70	1902	847
V/C Ratio(X)	1.52	0.00	0.02	0.12	0.00	0.03	0.18	0.89	0.89	0.34	0.76	0.08
Avail Cap(c_a), veh/h	460	0	442	479	0	424	154	803	844	234	1902	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	36.3	28.9	28.9	42.0	16.0	9.8
Incr Delay (d2), s/veh	247.1	0.0	0.0	1.5	0.0	0.4	2.5	13.8	13.2	2.8	3.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	63.4	0.0	0.2	0.2	0.0	0.0	1.2	24.9	25.9	1.0	16.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	280.3	0.0	24.6	44.9	0.0	43.7	38.8	42.7	42.2	44.9	19.0	10.0
LnGrp LOS	F	A	C	D	A	D	D	D	D	D	B	B
Approach Vol, veh/h		709			5			1487			1549	
Approach Delay, s/veh		277.4			44.6			42.3			19.0	
Approach LOS		F			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		53.9		29.0	7.6	46.2		7.1				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		31.2		25.6	3.2	36.9		2.2				
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		77.1
HCM 6th LOS		E

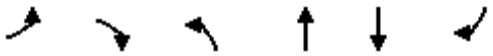
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	93	24	20	1345	1394
v/c Ratio	0.40	0.11	0.08	0.49	0.52
Control Delay	38.5	12.3	5.8	5.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	12.3	5.8	5.8	5.9
Queue Length 50th (ft)	50	0	2	112	114
Queue Length 95th (ft)	74	16	13	247	254
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	444	241	2748	2662
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.05	0.08	0.49	0.52

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	77	20	17	1116	914	243
Future Volume (veh/h)	77	20	17	1116	914	243
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	93	4	20	1345	1101	277
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	122	109	398	2872	2277	569
Arrive On Green	0.07	0.07	0.82	0.82	1.00	1.00
Sat Flow, veh/h	1753	1560	387	3589	2864	692
Grp Volume(v), veh/h	93	4	20	1345	691	687
Grp Sat Flow(s),veh/h/ln	1753	1560	387	1749	1749	1716
Q Serve(g_s), s	4.7	0.2	0.9	10.1	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.2	0.9	10.1	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.40
Lane Grp Cap(c), veh/h	122	109	398	2872	1436	1409
V/C Ratio(X)	0.76	0.04	0.05	0.47	0.48	0.49
Avail Cap(c_a), veh/h	489	435	398	2872	1436	1409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	39.0	1.5	2.3	0.0	0.0
Incr Delay (d2), s/veh	9.3	0.1	0.2	0.6	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.2	0.1	3.1	0.8	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.4	39.2	1.8	2.9	1.2	1.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	97			1365	1378	
Approach Delay, s/veh	49.9			2.9	1.2	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		78.8		11.2		78.8
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		12.1		6.7		2.0
Green Ext Time (p_c), s		14.4		0.2		13.9

Intersection Summary		
HCM 6th Ctrl Delay	3.7	
HCM 6th LOS	A	

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	395	15	33	76	0	18	0	40	0	0	0
Future Vol, veh/h	0	395	15	33	76	0	18	0	40	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	500	19	42	96	0	23	0	51	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	519	0	0	690	690	510	715	699	96
Stage 1	-	-	-	-	-	-	510	510	-	180	180	-
Stage 2	-	-	-	-	-	-	180	180	-	535	519	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1485	-	-	1037	-	-	357	366	559	343	361	955
Stage 1	-	-	-	-	-	-	542	534	-	817	747	-
Stage 2	-	-	-	-	-	-	817	747	-	526	529	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1485	-	-	1037	-	-	345	350	559	302	345	955
Mov Cap-2 Maneuver	-	-	-	-	-	-	345	350	-	302	345	-
Stage 1	-	-	-	-	-	-	542	534	-	817	715	-
Stage 2	-	-	-	-	-	-	782	715	-	478	529	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.6	14.1	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	469	1485	-	-	1037	-	-	-
HCM Lane V/C Ratio	0.157	-	-	-	0.04	-	-	-
HCM Control Delay (s)	14.1	0	-	-	8.6	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	24	280	29	17	59	0	38	0	38	3	0	31
Future Vol, veh/h	24	280	29	17	59	0	38	0	38	3	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	30	354	37	22	75	0	48	0	48	4	0	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	75	0	0	391	0	0	572	552	373	576	570	75
Stage 1	-	-	-	-	-	-	433	433	-	119	119	-
Stage 2	-	-	-	-	-	-	139	119	-	457	451	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1512	-	-	1157	-	-	428	439	669	425	429	981
Stage 1	-	-	-	-	-	-	597	578	-	881	793	-
Stage 2	-	-	-	-	-	-	859	793	-	580	568	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1512	-	-	1157	-	-	397	420	669	381	410	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	397	420	-	381	410	-
Stage 1	-	-	-	-	-	-	582	564	-	859	777	-
Stage 2	-	-	-	-	-	-	808	777	-	525	554	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.8	14	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	498	1512	-	-	1157	-	-	861
HCM Lane V/C Ratio	0.193	0.02	-	-	0.019	-	-	0.05
HCM Control Delay (s)	14	7.4	0	-	8.2	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	330	120	27	37	26
Future Vol, veh/h	20	330	120	27	37	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	25	418	152	34	47	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	186	0	-	0	637	169
Stage 1	-	-	-	-	169	-
Stage 2	-	-	-	-	468	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1377	-	-	-	438	870
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1377	-	-	-	427	870
Mov Cap-2 Maneuver	-	-	-	-	427	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	626	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1377	-	-	-	541
HCM Lane V/C Ratio	0.018	-	-	-	0.147
HCM Control Delay (s)	7.7	0	-	-	12.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	14	7	3	11	6
Future Vol, veh/h	4	14	7	3	11	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	5	18	9	4	14	8

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	47	11	0	0	13	0
Stage 1	11	-	-	-	-	-
Stage 2	36	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	958	1064	-	-	1593	-
Stage 1	1007	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	949	1064	-	-	1593	-
Mov Cap-2 Maneuver	949	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	4.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1036	1593	-
HCM Lane V/C Ratio	-	-	0.022	0.009	-
HCM Control Delay (s)	-	-	8.6	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	340	139	8	10	8
Future Vol, veh/h	6	340	139	8	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	430	176	10	13	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	186	0	-	0	627	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1377	-	-	-	444	857
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1377	-	-	-	440	857
Mov Cap-2 Maneuver	-	-	-	-	440	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1377	-	-	-	561
HCM Lane V/C Ratio	0.006	-	-	-	0.041
HCM Control Delay (s)	7.6	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	92	263	15	4	7
Future Vol, veh/h	6	92	263	15	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	116	333	19	5	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	352	0	-	0	475	343
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1196	-	-	-	545	695
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1196	-	-	-	541	695
Mov Cap-2 Maneuver	-	-	-	-	541	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	889	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	630
HCM Lane V/C Ratio	0.006	-	-	-	0.022
HCM Control Delay (s)	8	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	0	1205	1172	14
Future Vol, veh/h	0	11	0	1205	1172	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	14	0	1525	1484	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	751	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	349	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	349	-	-
HCM Lane V/C Ratio	-	0.04	-	-
HCM Control Delay (s)	-	15.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	71	248	17	37	40
Future Vol, veh/h	37	71	248	17	37	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	47	90	314	22	47	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	336	0	-	0	509	325
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	184	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1212	-	-	-	520	712
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1212	-	-	-	499	712
Mov Cap-2 Maneuver	-	-	-	-	499	-
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1212	-	-	-	591
HCM Lane V/C Ratio	0.039	-	-	-	0.165
HCM Control Delay (s)	8.1	0	-	-	12.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	409	94	0	0	0
Future Vol, veh/h	0	409	94	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	518	119	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	119	0	-	0	637	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	518	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1457	-	-	-	438	927
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	438	927
Mov Cap-2 Maneuver	-	-	-	-	438	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	589	0	0	131	0	0
Future Vol, veh/h	589	0	0	131	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	746	0	0	166	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	746	0	912	746
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	853	-	302	410
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	853	-	302	410
Mov Cap-2 Maneuver	-	-	-	-	302	-
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	853	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1205	1186	0
Future Vol, veh/h	0	0	0	1205	1186	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1525	1501	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	751	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	349	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	275	0	0	53	0	0
Future Vol, veh/h	275	0	0	53	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	348	0	0	67	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	348	0	415	348
Stage 1	-	-	-	-	348	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1200	-	590	691
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	590	691
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	951	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1200	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	189	5	4	28	7	7
Future Vol, veh/h	189	5	4	28	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	239	6	5	35	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	245	0	287	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1309	-	699	792
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1309	-	696	792
Mov Cap-2 Maneuver	-	-	-	-	696	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

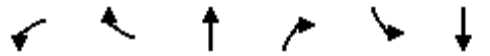
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	741	-	-	1309	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2199	475	2204	1180
v/c Ratio	0.95	0.35	0.82	0.61
Control Delay	33.7	20.4	3.0	23.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.7	20.4	3.0	23.7
Queue Length 50th (ft)	406	98	0	193
Queue Length 95th (ft)	#534	138	0	238
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.95	0.35	0.82	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2044	89	461	2138	0	1145
Future Volume (veh/h)	2044	89	461	2138	0	1145
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2189	0	475	0	0	1180
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2447	726	1384		0	1989
Arrive On Green	0.47	0.00	0.40	0.00	0.00	0.40
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2189	0	475	0	0	1180
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	34.3	0.0	8.5	0.0	0.0	16.7
Cycle Q Clear(g_c), s	34.3	0.0	8.5	0.0	0.0	16.7
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2447	726	1384		0	1989
V/C Ratio(X)	0.89	0.00	0.34		0.00	0.59
Avail Cap(c_a), veh/h	2484	737	1384		0	1989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	19.0	0.0	0.0	21.5
Incr Delay (d2), s/veh	4.8	0.0	0.7	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.4	0.0	6.2	0.0	0.0	10.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.9	0.0	19.7	0.0	0.0	22.8
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2189		475			1180
Approach Delay, s/veh	26.9		19.7			22.8
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.6		48.4		41.6
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.7		36.3		10.5
Green Ext Time (p_c), s		11.1		5.6		5.5

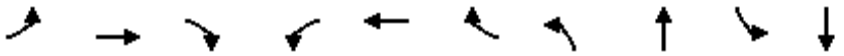
Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

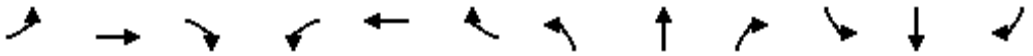


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	430	439	39	52	172	133	32	1579	121	2472
v/c Ratio	1.38	1.39	0.10	0.21	0.68	0.42	0.67	0.76	1.32	1.00
Control Delay	234.8	237.1	0.5	58.1	74.4	14.1	97.5	40.8	251.1	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	234.8	237.1	0.5	58.1	74.4	14.1	97.5	40.8	251.1	54.4
Queue Length 50th (ft)	~586	~598	0	45	160	5	25	487	~152	~928
Queue Length 95th (ft)	#814	#829	0	87	241	67	#95	561	#290	#1036
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	316	406	281	295	345	48	2074	92	2470
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.38	1.39	0.10	0.19	0.58	0.39	0.67	0.76	1.32	1.00

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	722	139	39	51	170	132	32	1543	20	120	2006	442
Future Volume (veh/h)	722	139	39	51	170	132	32	1543	20	120	2006	442
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	829	0	8	52	172	25	32	1559	20	121	2026	425
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	226	238	192	52	2185	28	93	2157	437
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1523	1753	1841	1487	136	5110	66	1753	4173	845
Grp Volume(v), veh/h	829	0	8	52	172	25	32	1022	557	121	1612	839
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1487	136	1675	1826	1753	1675	1668
Q Serve(g_s), s	28.3	0.0	0.6	4.0	13.5	2.2	4.2	37.7	37.7	8.0	67.2	73.4
Cycle Q Clear(g_c), s	28.3	0.0	0.6	4.0	13.5	2.2	64.1	37.7	37.7	8.0	67.2	73.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.51
Lane Grp Cap(c), veh/h	661	0	287	226	238	192	52	1432	781	93	1731	862
V/C Ratio(X)	1.25	0.00	0.03	0.23	0.72	0.13	0.62	0.71	0.71	1.29	0.93	0.97
Avail Cap(c_a), veh/h	661	0	287	284	298	241	52	1432	781	93	1731	862
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	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.6	62.7	57.8	74.8	35.4	35.4	71.0	33.8	35.2
Incr Delay (d2), s/veh	126.1	0.0	0.1	1.2	10.6	0.7	44.7	3.1	5.5	191.1	10.5	24.8
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(95%),veh/ln	36.0	0.0	0.5	3.4	11.2	1.6	3.4	22.4	24.7	14.3	37.8	44.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	187.0	0.0	49.7	59.8	73.4	58.6	119.5	38.4	40.9	262.1	44.2	60.1
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	E
Approach Vol, veh/h		837			249			1611			2572	
Approach Delay, s/veh		185.7			69.0			40.9			59.7	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	73.5		29.1		86.9		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.0	66.1		15.5		75.4		30.3				
Green Ext Time (p_c), s	0.0	0.0		1.5		0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	74.4
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

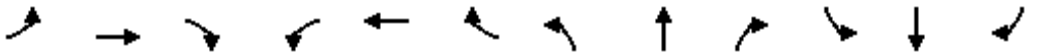
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	216	101	189	45	80	605	118	30	817	40
v/c Ratio	0.42	0.19	0.36	0.09	0.66	0.66	0.15	0.11	0.89	0.05
Control Delay	19.0	4.9	17.9	5.8	43.5	15.3	2.5	9.2	27.8	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	4.9	17.9	5.8	43.5	15.3	2.5	9.2	27.8	2.7
Queue Length 50th (ft)	60	0	51	0	20	149	0	5	244	0
Queue Length 95th (ft)	113	27	99	18	#89	249	20	18	#468	11
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	515	537	531	509	121	922	788	264	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.19	0.36	0.09	0.66	0.66	0.15	0.11	0.89	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



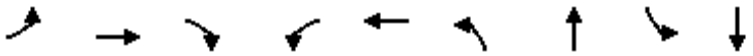
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	157	99	38	147	44	78	593	116	29	801	39
Future Volume (veh/h)	55	157	99	38	147	44	78	593	116	29	801	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	56	160	34	39	150	15	80	605	61	30	817	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	173	443	481	143	481	491	191	930	752	319	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	301	1372	1488	217	1488	1519	646	1841	1489	758	1841	1501
Grp Volume(v), veh/h	216	0	34	189	0	15	80	605	61	30	817	21
Grp Sat Flow(s),veh/h/ln	1672	0	1488	1706	0	1519	646	1841	1489	758	1841	1501
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.4	6.6	14.5	1.3	1.8	23.7	0.4
Cycle Q Clear(g_c), s	5.4	0.0	0.9	4.6	0.0	0.4	30.3	14.5	1.3	16.4	23.7	0.4
Prop In Lane	0.26		1.00	0.21		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	616	0	481	624	0	491	191	930	752	319	930	758
V/C Ratio(X)	0.35	0.00	0.07	0.30	0.00	0.03	0.42	0.65	0.08	0.09	0.88	0.03
Avail Cap(c_a), veh/h	616	0	481	624	0	491	191	930	752	319	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	14.1	15.3	0.0	13.9	27.1	10.9	7.7	17.0	13.2	7.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.2	0.0	0.1	6.6	3.5	0.2	0.6	11.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.0	0.5	3.6	0.0	0.3	2.6	9.4	0.7	0.6	15.8	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	14.1	16.6	0.0	14.0	33.7	14.5	7.9	17.6	24.8	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		250			204			746			868	
Approach Delay, s/veh		15.5			16.4			16.0			24.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		25.7		6.6		32.3		7.4				
Green Ext Time (p_c), s		2.4		0.9		0.0		1.1				

Intersection Summary		
HCM 6th Ctrl Delay		19.4
HCM 6th LOS		B

Notes

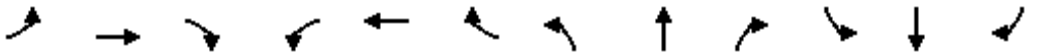
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	177	822	163	282	713	496	30	350
v/c Ratio	0.22	0.72	0.52	0.40	0.69	0.73	0.39	0.19	0.62
Control Delay	52.0	58.4	15.6	51.4	48.9	41.4	27.2	53.5	45.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	58.4	15.6	51.4	48.9	41.4	27.2	53.5	45.1
Queue Length 50th (ft)	34	115	182	55	184	235	147	19	107
Queue Length 95th (ft)	87	#249	273	109	#374	343	210	58	185
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	338	312	2149	432	407	1657	1741	222	885
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.57	0.38	0.38	0.69	0.43	0.28	0.14	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	159	740	147	200	54	642	369	77	27	210	105
Future Volume (veh/h)	47	159	740	147	200	54	642	369	77	27	210	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	52	177	822	163	222	54	713	410	75	30	233	76
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	196	194	1488	422	348	85	834	846	154	81	373	118
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.24	0.30	0.30	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1119	272	3428	2813	511	977	2664	845
Grp Volume(v), veh/h	52	177	822	163	0	276	713	241	244	30	154	155
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1660	977	1791	1718
Q Serve(g_s), s	2.9	27.3	20.9	5.3	0.0	18.3	21.3	12.7	12.9	3.1	8.7	9.1
Cycle Q Clear(g_c), s	2.9	27.3	20.9	5.3	0.0	18.3	21.3	12.7	12.9	3.1	8.7	9.1
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.31	1.00		0.49
Lane Grp Cap(c), veh/h	196	194	1488	422	0	432	834	500	499	81	251	240
V/C Ratio(X)	0.26	0.91	0.55	0.39	0.00	0.64	0.85	0.48	0.49	0.37	0.62	0.64
Avail Cap(c_a), veh/h	349	206	1538	450	0	432	1711	924	921	196	460	441
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	36.7	16.5	41.9	0.0	31.8	38.7	30.7	30.7	46.5	43.4	43.6
Incr Delay (d2), s/veh	0.7	37.8	0.4	0.6	0.0	3.1	2.6	0.7	0.7	2.8	2.5	2.9
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(95%),veh/ln	2.4	10.7	10.8	3.6	0.0	10.7	14.0	8.8	8.9	1.5	7.2	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	74.5	16.9	42.5	0.0	34.9	41.4	31.4	31.5	49.3	45.8	46.4
LnGrp LOS	D	E	B	D	A	C	D	C	C	D	D	D
Approach Vol, veh/h		1051			439			1198			339	
Approach Delay, s/veh		28.0			37.7			37.3			46.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	37.7	19.0	36.1	31.6	20.5	16.8	38.3
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 22	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.1	14.9	7.3	29.3	23.3	11.1	4.9	20.3
Green Ext Time (p_c), s	0.0	3.1	0.3	1.8	2.8	1.5	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Notes

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

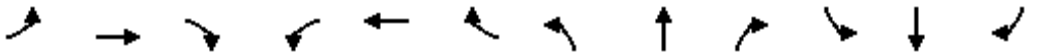


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	101	157	833	16	56	86	532	980	122	785	79
v/c Ratio	0.97	0.77	0.50	0.11	0.27	0.28	0.53	0.47	0.58	0.61	0.14
Control Delay	139.3	76.8	5.1	61.3	55.7	7.8	41.8	15.6	72.4	37.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.3	76.8	5.1	61.3	55.7	7.8	41.8	15.6	72.4	37.6	0.5
Queue Length 50th (ft)	~92	119	48	12	44	0	187	206	51	273	0
Queue Length 95th (ft)	#242	#238	87	40	86	33	286	347	#95	410	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1670	378	491	309	1011	2092	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.77	0.50	0.04	0.11	0.28	0.53	0.47	0.58	0.61	0.14

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	154	816	16	55	84	521	739	221	120	769	77
Future Volume (veh/h)	99	154	816	16	55	84	521	739	221	120	769	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	101	157	497	16	56	16	532	754	211	122	785	29
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	132	1173	61	168	207	1021	1676	469	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2764	773	3428	3554	1298
Grp Volume(v), veh/h	101	157	497	16	56	16	532	489	476	122	785	29
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1746	1714	1777	1298
Q Serve(g_s), s	10.0	16.7	2.3	1.1	3.5	1.3	16.3	18.9	18.9	4.4	23.1	1.4
Cycle Q Clear(g_c), s	10.0	16.7	2.3	1.1	3.5	1.3	16.3	18.9	18.9	4.4	23.1	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	84	132	1173	61	168	207	1021	1086	1059	212	1294	473
V/C Ratio(X)	1.20	1.19	0.42	0.26	0.33	0.08	0.52	0.45	0.45	0.58	0.61	0.06
Avail Cap(c_a), veh/h	84	132	1173	382	495	441	1024	1086	1059	214	1294	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	59.0	55.6	13.4	60.2	54.7	46.7	37.7	13.6	13.6	58.4	33.2	14.5
Incr Delay (d2), s/veh	162.1	138.1	1.1	2.2	1.1	0.2	0.5	1.3	1.4	3.7	2.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.3	15.3	6.7	1.0	3.2	0.8	11.3	12.3	12.0	3.6	15.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	221.0	193.7	14.5	62.5	55.9	46.9	38.2	15.0	15.0	62.1	35.3	14.8
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	D	B
Approach Vol, veh/h		755			88			1497			936	
Approach Delay, s/veh		79.4			55.4			23.2			38.2	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.3	22.7	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	6.4	20.9	3.1	18.7	18.3	25.1	12.0	5.5
Green Ext Time (p_c), s	0.0	16.5	0.0	0.0	1.8	5.5	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

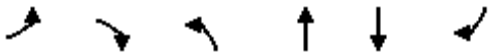
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	131	15	1477	2063
v/c Ratio	0.50	0.19	0.57	0.80
Control Delay	38.3	12.2	7.2	12.3
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	38.3	12.2	7.4	12.3
Queue Length 50th (ft)	67	2	145	288
Queue Length 95th (ft)	104	18	332	#753
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	573	81	2578	2576
Starvation Cap Reductn	0	0	361	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.19	0.67	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	23	14	1418	1961	19
Future Volume (veh/h)	103	23	14	1418	1961	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	107	19	15	1477	2043	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	145	26	182	2775	2815	28
Arrive On Green	0.10	0.10	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1448	257	199	3589	3641	35
Grp Volume(v), veh/h	127	0	15	1477	1005	1058
Grp Sat Flow(s),veh/h/ln	1719	0	199	1749	1749	1834
Q Serve(g_s), s	6.5	0.0	3.6	13.6	25.1	25.3
Cycle Q Clear(g_c), s	6.5	0.0	28.9	13.6	25.1	25.3
Prop In Lane	0.84	0.15	1.00			0.02
Lane Grp Cap(c), veh/h	172	0	182	2775	1387	1455
V/C Ratio(X)	0.74	0.00	0.08	0.53	0.72	0.73
Avail Cap(c_a), veh/h	573	0	182	2775	1387	1455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.82	0.82
Uniform Delay (d), s/veh	39.4	0.0	11.6	3.3	4.5	4.5
Incr Delay (d2), s/veh	6.1	0.0	0.9	0.7	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	0.0	0.3	5.3	9.6	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.4	0.0	12.5	4.1	7.3	7.2
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	127			1492	2063	
Approach Delay, s/veh	45.4			4.1	7.2	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		76.0		14.0		76.0
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		27.3		8.5		30.9
Green Ext Time (p_c), s		21.1		0.3		15.9

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

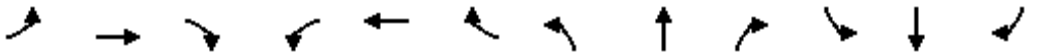
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	380	81	33	61	57	1132	3	1416	113
v/c Ratio	0.89	0.19	0.11	0.20	0.63	0.80	0.02	0.93	0.16
Control Delay	56.0	18.8	28.8	18.2	65.5	33.5	38.0	40.2	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.6	0.0
Total Delay	56.0	18.8	28.8	18.2	65.5	33.5	38.0	85.8	7.5
Queue Length 50th (ft)	204	22	17	16	23	265	2	378	6
Queue Length 95th (ft)	#355	58	37	44	#124	#671	10	#698	46
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	451	474	471	91	1423	231	1523	701
Starvation Cap Reductn	0	0	0	0	0	0	0	386	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.18	0.07	0.13	0.63	0.80	0.01	1.25	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	372	50	29	32	30	29	56	1067	42	3	1388	111
Future Volume (veh/h)	372	50	29	32	30	29	56	1067	42	3	1388	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	380	51	8	33	31	6	57	1089	42	3	1416	60
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	439	380	60	276	232	45	87	1258	49	11	1460	645
Arrive On Green	0.25	0.25	0.25	0.16	0.16	0.16	0.73	0.73	0.73	0.01	0.42	0.42
Sat Flow, veh/h	1753	1518	238	1753	1474	285	352	3432	132	1753	3497	1545
Grp Volume(v), veh/h	380	0	59	33	0	37	57	555	576	3	1416	60
Grp Sat Flow(s),veh/h/ln	1753	0	1756	1753	0	1759	352	1749	1816	1753	1749	1545
Q Serve(g_s), s	18.7	0.0	2.3	1.5	0.0	1.6	1.9	20.8	20.8	0.2	35.7	2.1
Cycle Q Clear(g_c), s	18.7	0.0	2.3	1.5	0.0	1.6	33.0	20.8	20.8	0.2	35.7	2.1
Prop In Lane	1.00		0.14	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	439	0	440	276	0	277	87	641	666	11	1460	645
V/C Ratio(X)	0.87	0.00	0.13	0.12	0.00	0.13	0.65	0.87	0.87	0.27	0.97	0.09
Avail Cap(c_a), veh/h	460	0	460	479	0	481	87	641	666	234	1460	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	26.2	32.5	0.0	32.6	28.4	10.4	10.4	44.5	25.7	15.9
Incr Delay (d2), s/veh	15.3	0.0	0.1	0.2	0.0	0.2	32.0	14.5	14.1	12.1	17.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.6	0.0	1.8	1.1	0.0	1.3	3.3	10.0	10.3	0.2	23.9	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	0.0	26.3	32.7	0.0	32.8	60.3	24.9	24.5	56.6	43.0	16.2
LnGrp LOS	D	A	C	C	A	C	E	C	C	E	D	B
Approach Vol, veh/h		439			70			1188			1479	
Approach Delay, s/veh		44.7			32.8			26.4			42.0	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		42.5		27.9	4.6	37.9		19.6				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		37.7		20.7	2.2	35.0		3.6				
Green Ext Time (p_c), s		0.0		0.5	0.0	0.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D

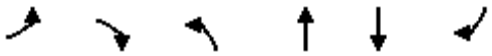
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	106	23	36	1092	1379
v/c Ratio	0.41	0.09	0.15	0.40	0.52
Control Delay	38.0	12.2	6.8	5.2	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	12.2	6.8	5.2	6.2
Queue Length 50th (ft)	57	0	4	85	121
Queue Length 95th (ft)	90	18	24	209	298
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	449	242	2726	2675
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.05	0.15	0.40	0.52

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	23	36	1081	1248	117
Future Volume (veh/h)	105	23	36	1081	1248	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	106	3	36	1092	1261	113
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	182	162	385	2753	2552	228
Arrive On Green	0.10	0.10	0.79	0.79	1.00	1.00
Sat Flow, veh/h	1753	1560	388	3589	3333	290
Grp Volume(v), veh/h	106	3	36	1092	679	695
Grp Sat Flow(s),veh/h/ln	1753	1560	388	1749	1749	1782
Q Serve(g_s), s	5.2	0.2	2.0	8.7	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.2	2.0	8.7	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.16
Lane Grp Cap(c), veh/h	182	162	385	2753	1377	1403
V/C Ratio(X)	0.58	0.02	0.09	0.40	0.49	0.50
Avail Cap(c_a), veh/h	489	435	385	2753	1377	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	36.2	2.2	3.0	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.5	0.4	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.1	0.3	3.5	0.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.4	36.3	2.7	3.4	1.3	1.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	109			1128	1374	
Approach Delay, s/veh	41.3			3.4	1.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		75.8		14.2		75.8
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		10.7		7.2		2.0
Green Ext Time (p_c), s		11.1		0.2		13.5

Intersection Summary		
HCM 6th Ctrl Delay		3.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	371	18	41	132	0	14	0	32	0	0	0
Future Vol, veh/h	0	371	18	41	132	0	14	0	32	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	0	470	23	52	167	0	18	0	41	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	167	0	0	493	0	0	753	753	482	773	764	167
Stage 1	-	-	-	-	-	-	482	482	-	271	271	-
Stage 2	-	-	-	-	-	-	271	271	-	502	493	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1399	-	-	1060	-	-	324	336	580	314	331	872
Stage 1	-	-	-	-	-	-	562	550	-	730	682	-
Stage 2	-	-	-	-	-	-	730	682	-	548	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1399	-	-	1060	-	-	311	318	580	280	313	872
Mov Cap-2 Maneuver	-	-	-	-	-	-	311	318	-	280	313	-
Stage 1	-	-	-	-	-	-	562	550	-	730	645	-
Stage 2	-	-	-	-	-	-	691	645	-	510	544	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2	14	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	459	1399	-	-	1060	-	-	-
HCM Lane V/C Ratio	0.127	-	-	-	0.049	-	-	-
HCM Control Delay (s)	14	0	-	-	8.6	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	29	224	37	21	88	0	31	0	31	2	0	25
Future Vol, veh/h	29	224	37	21	88	0	31	0	31	2	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	37	284	47	27	111	0	39	0	39	3	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	111	0	0	331	0	0	563	547	308	566	570	111
Stage 1	-	-	-	-	-	-	382	382	-	165	165	-
Stage 2	-	-	-	-	-	-	181	165	-	401	405	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1466	-	-	1217	-	-	434	442	727	432	429	937
Stage 1	-	-	-	-	-	-	636	609	-	832	758	-
Stage 2	-	-	-	-	-	-	816	758	-	622	595	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1466	-	-	1217	-	-	402	418	727	392	406	937
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	418	-	392	406	-
Stage 1	-	-	-	-	-	-	616	590	-	806	740	-
Stage 2	-	-	-	-	-	-	770	740	-	570	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.5	13.2	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	1466	-	-	1217	-	-	850
HCM Lane V/C Ratio	0.152	0.025	-	-	0.022	-	-	0.04
HCM Control Delay (s)	13.2	7.5	0	-	8	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	283	139	35	30	20
Future Vol, veh/h	24	283	139	35	30	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	30	358	176	44	38	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	220	0	-	0	616	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1337	-	-	-	451	838
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	660	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1337	-	-	-	438	838
Mov Cap-2 Maneuver	-	-	-	-	438	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	660	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1337	-	-	-	541
HCM Lane V/C Ratio	0.023	-	-	-	0.117
HCM Control Delay (s)	7.8	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	6	3	14	8
Future Vol, veh/h	3	12	6	3	14	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	4	15	8	4	18	10

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	56	10	0	0	12	0
Stage 1	10	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	947	1066	-	-	1594	-
Stage 1	1008	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	937	1066	-	-	1594	-
Mov Cap-2 Maneuver	937	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	4.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1037	1594	-
HCM Lane V/C Ratio	-	-	0.018	0.011	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	299	151	9	8	7
Future Vol, veh/h	8	299	151	9	8	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	10	378	191	11	10	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	202	0	-	0	595	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	398	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1358	-	-	-	464	839
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	674	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1358	-	-	-	460	839
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1358	-	-	-	583
HCM Lane V/C Ratio	0.007	-	-	-	0.033
HCM Control Delay (s)	7.7	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	125	132	18	3	5
Future Vol, veh/h	6	125	132	18	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	158	167	23	4	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	190	0	-	0	353	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1372	-	-	-	641	859
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1372	-	-	-	637	859
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1372	-	-	-	760
HCM Lane V/C Ratio	0.006	-	-	-	0.013
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	0	1144	1388	17
Future Vol, veh/h	0	9	0	1144	1388	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	11	0	1448	1757	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	890	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	282	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	282	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	282	-	-
HCM Lane V/C Ratio	-	0.04	-	-
HCM Control Delay (s)	-	18.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	96	127	21	29	32
Future Vol, veh/h	46	96	127	21	29	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	58	122	161	27	37	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	188	0	-	0	413	175
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1374	-	-	-	592	863
Stage 1	-	-	-	-	851	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1374	-	-	-	565	863
Mov Cap-2 Maneuver	-	-	-	-	565	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	797	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1374	-	-	-	690
HCM Lane V/C Ratio	0.042	-	-	-	0.112
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	389	147	0	0	0
Future Vol, veh/h	0	389	147	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	492	186	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	186	0	-	0	678	186
Stage 1	-	-	-	-	186	-
Stage 2	-	-	-	-	492	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1377	-	-	-	415	851
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	610	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1377	-	-	-	415	851
Mov Cap-2 Maneuver	-	-	-	-	415	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	610	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1377	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	459	0	0	201	0	0
Future Vol, veh/h	459	0	0	201	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	581	0	0	254	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	581	0	835	581
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	983	-	335	510
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	983	-	335	510
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	784	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	983	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1144	1405	0
Future Vol, veh/h	0	0	0	1144	1405	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	0	0	1448	1778	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	889	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	282	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	282	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	222	0	0	81	0	0
Future Vol, veh/h	222	0	0	81	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	281	0	0	103	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	281	0	384	281
Stage 1	-	-	-	-	281	-
Stage 2	-	-	-	-	103	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1270	-	615	753
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1270	-	615	753
Mov Cap-2 Maneuver	-	-	-	-	615	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1270	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	4	4	28	5	4
Future Vol, veh/h	115	4	4	28	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	146	5	5	35	6	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	194	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1418	-	790	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	787	892
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	830	-	-	1418	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Future Year (2037)
Plus Project
Both Scenarios
Full Buildout

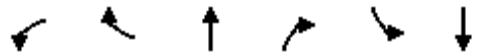


Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	1918	477	3488	900
v/c Ratio	0.75	0.41	1.28	0.53
Control Delay	18.8	24.6	137.5	25.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.8	24.6	137.5	25.9
Queue Length 50th (ft)	274	111	~512	153
Queue Length 95th (ft)	330	156	#651	195
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2638	1172	2733	1685
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.73	0.41	1.28	0.53

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.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1709	74	444	3244	0	837
Future Volume (veh/h)	1709	74	444	3244	0	837
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	1908	0	477	0	0	900
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2500	742	1349		0	1938
Arrive On Green	0.48	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	1908	0	477	0	0	900
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	26.9	0.0	8.7	0.0	0.0	12.1
Cycle Q Clear(g_c), s	26.9	0.0	8.7	0.0	0.0	12.1
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2500	742	1349		0	1938
V/C Ratio(X)	0.76	0.00	0.35		0.00	0.46
Avail Cap(c_a), veh/h	2834	841	1349		0	1938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	19.7	0.0	0.0	20.7
Incr Delay (d2), s/veh	1.3	0.0	0.7	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.0	0.0	6.3	0.0	0.0	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.8	0.0	20.4	0.0	0.0	21.5
LnGrp LOS	C	A	C		A	C
Approach Vol, veh/h	1908		477			900
Approach Delay, s/veh	20.8		20.4			21.5
Approach LOS	C		C			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		40.7		49.3		40.7
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 29		* 49		* 29
Max Q Clear Time (g_c+I1), s		14.1		28.9		10.7
Green Ext Time (p_c), s		8.3		13.9		4.8

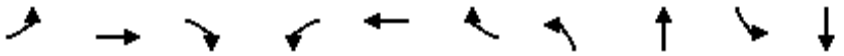
Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

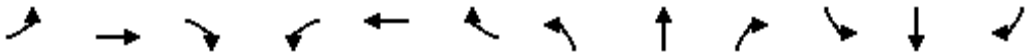


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	608	602	26	48	147	241	9	2065	111	2158
v/c Ratio	1.95	1.92	0.06	0.20	0.59	0.77	0.19	0.98	1.21	0.88
Control Delay	472.2	458.6	0.3	58.0	70.3	45.8	42.0	58.9	215.7	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	472.2	458.6	0.3	58.0	70.3	45.8	42.0	58.9	215.7	37.5
Queue Length 50th (ft)	~966	~950	0	42	136	109	6	~746	~131	672
Queue Length 95th (ft)	#1217	#1203	0	83	209	209	24	#894	#263	773
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	313	415	281	295	347	48	2098	92	2450
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.95	1.92	0.06	0.17	0.50	0.69	0.19	0.98	1.21	0.88

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1091	59	25	46	140	229	9	1957	5	105	1628	422
Future Volume (veh/h)	1091	59	25	46	140	229	9	1957	5	105	1628	422
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	1192	0	6	48	147	132	9	2060	5	111	1714	416
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	286	221	232	189	77	2229	5	93	2098	500
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	3506	0	1518	1753	1841	1497	186	5176	13	1753	4035	961
Grp Volume(v), veh/h	1192	0	6	48	147	132	9	1333	732	111	1418	712
Grp Sat Flow(s),veh/h/ln	1753	0	1518	1753	1841	1497	186	1675	1838	1753	1675	1645
Q Serve(g_s), s	28.3	0.0	0.5	3.7	11.4	12.7	6.4	56.5	56.5	8.0	52.8	55.0
Cycle Q Clear(g_c), s	28.3	0.0	0.5	3.7	11.4	12.7	48.0	56.5	56.5	8.0	52.8	55.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.58
Lane Grp Cap(c), veh/h	661	0	286	221	232	189	77	1443	792	93	1742	856
V/C Ratio(X)	1.80	0.00	0.02	0.22	0.63	0.70	0.12	0.92	0.92	1.19	0.81	0.83
Avail Cap(c_a), veh/h	661	0	286	284	298	242	77	1443	792	93	1742	856
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	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.9	62.3	62.8	56.5	40.4	40.4	71.0	30.0	30.5
Incr Delay (d2), s/veh	366.9	0.0	0.1	1.1	6.1	10.5	3.1	11.4	18.1	151.9	4.3	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(95%),veh/ln	71.9	0.0	0.3	3.1	9.4	8.9	0.7	33.4	37.9	12.6	29.5	31.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	427.8	0.0	49.6	60.0	68.4	73.3	59.6	51.8	58.5	222.9	34.3	39.8
LnGrp LOS	F	A	D	E	E	E	E	D	E	F	C	D
Approach Vol, veh/h		1198			327			2074			2241	
Approach Delay, s/veh		425.9			69.1			54.2			45.4	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	74.0		28.6		87.4		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.0	58.5		14.7		57.0		30.3				
Green Ext Time (p_c), s	0.0	0.7		2.0		14.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		127.9
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

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

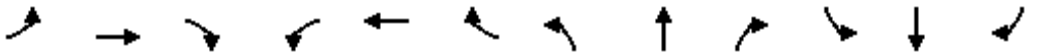


Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	198	55	294	89	93	939	152	33	618	26
v/c Ratio	0.40	0.11	0.61	0.17	0.37	1.02	0.20	0.27	0.67	0.03
Control Delay	18.8	5.6	23.6	5.9	14.4	52.7	4.2	15.8	15.6	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	5.6	23.6	5.9	14.4	52.7	4.2	15.8	15.6	1.5
Queue Length 50th (ft)	55	0	88	2	19	~331	9	6	154	0
Queue Length 95th (ft)	101	19	153	26	50	#541	32	25	241	5
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	493	488	481	519	253	922	776	121	922	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.11	0.61	0.17	0.37	1.02	0.20	0.27	0.67	0.03

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.



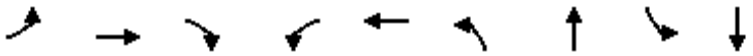
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	126	48	79	177	77	81	817	132	29	538	23
Future Volume (veh/h)	46	126	48	79	177	77	81	817	132	29	538	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.90	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	53	145	18	91	203	36	93	939	105	33	618	13
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	76	160	454	79	120	453	320	930	767	120	930	767
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	0	494	1405	0	371	1402	783	1841	1520	532	1841	1520
Grp Volume(v), veh/h	198	0	18	294	0	36	93	939	105	33	618	13
Grp Sat Flow(s),veh/h/ln	494	0	1405	371	0	1402	783	1841	1520	532	1841	1520
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	1.1	6.0	30.3	2.2	0.0	15.0	0.3
Cycle Q Clear(g_c), s	19.4	0.0	0.5	19.4	0.0	1.1	21.0	30.3	2.2	30.3	15.0	0.3
Prop In Lane	0.27		1.00	0.31		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	0	454	198	0	453	320	930	767	120	930	767
V/C Ratio(X)	0.84	0.00	0.04	1.48	0.00	0.08	0.29	1.01	0.14	0.27	0.66	0.02
Avail Cap(c_a), veh/h	236	0	454	198	0	453	320	930	767	120	930	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	13.9	19.5	0.0	14.1	18.9	14.9	7.9	30.0	11.1	7.4
Incr Delay (d2), s/veh	3.4	0.0	0.0	241.6	0.0	0.3	2.3	32.0	0.4	5.6	3.7	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.0	0.3	26.0	0.0	0.6	2.1	25.0	1.2	1.1	9.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	13.9	261.1	0.0	14.4	21.2	46.9	8.3	35.6	14.8	7.5
LnGrp LOS	C	A	B	F	A	B	C	F	A	D	B	A
Approach Vol, veh/h		216			330			1137			664	
Approach Delay, s/veh		20.0			234.2			41.2			15.7	
Approach LOS		B			F			D			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		32.3		21.4		32.3		21.4				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		59.2
HCM 6th LOS		E

Notes

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

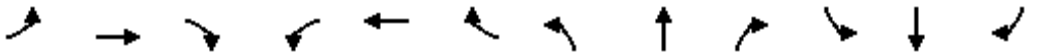


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	269	604	72	171	1135	664	7	300
v/c Ratio	0.36	1.06	0.35	0.21	0.48	0.85	0.38	0.05	0.63
Control Delay	65.1	123.5	10.7	60.2	51.9	44.9	19.4	60.6	62.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	123.5	10.7	60.2	51.9	44.9	19.4	60.6	62.8
Queue Length 50th (ft)	62	~280	125	31	135	476	163	6	137
Queue Length 95th (ft)	101	#382	139	50	185	455	220	19	158
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	202	253	1921	339	354	1544	1786	129	639
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	1.06	0.31	0.21	0.48	0.74	0.37	0.05	0.47

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	202	453	54	119	9	851	407	91	5	218	7
Future Volume (veh/h)	55	202	453	54	119	9	851	407	91	5	218	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	73	269	604	72	159	11	1135	543	110	7	291	8
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	192	166	1690	350	331	23	1249	1257	254	25	416	11
Arrive On Green	0.11	0.25	0.25	0.12	0.25	0.25	0.36	0.46	0.46	0.03	0.12	0.12
Sat Flow, veh/h	1781	670	2717	3018	1331	92	3428	2758	557	977	3561	98
Grp Volume(v), veh/h	73	269	604	72	0	170	1135	327	326	7	146	153
Grp Sat Flow(s),veh/h/ln	1781	670	1359	1509	0	1423	1714	1664	1651	977	1791	1867
Q Serve(g_s), s	4.9	32.0	14.3	2.8	0.0	13.2	40.6	17.2	17.3	0.9	10.1	10.2
Cycle Q Clear(g_c), s	4.9	32.0	14.3	2.8	0.0	13.2	40.6	17.2	17.3	0.9	10.1	10.2
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	192	166	1690	350	0	353	1249	758	752	25	209	218
V/C Ratio(X)	0.38	1.62	0.36	0.21	0.00	0.48	0.91	0.43	0.43	0.28	0.70	0.70
Avail Cap(c_a), veh/h	207	166	1690	350	0	353	1579	876	869	113	326	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	48.6	12.5	51.7	0.0	41.4	39.0	23.8	23.9	61.7	54.8	54.9
Incr Delay (d2), s/veh	1.2	305.4	0.1	0.3	0.0	1.0	6.9	0.4	0.4	5.8	4.2	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(95%),veh/ln	4.1	32.6	7.8	2.0	0.0	8.4	24.9	11.0	11.0	0.5	8.4	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	354.0	12.6	52.0	0.0	42.5	45.9	24.2	24.3	67.6	59.0	58.9
LnGrp LOS	D	F	B	D	A	D	D	C	C	E	E	E
Approach Vol, veh/h		946			242			1788			306	
Approach Delay, s/veh		113.0			45.3			38.0			59.1	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	64.4	19.0	37.0	52.6	20.6	18.9	37.1
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 15	* 68	15.0	32.0	* 60	* 24	15.0	* 32
Max Q Clear Time (g_c+I1), s	2.9	19.3	4.8	34.0	42.6	12.2	6.9	15.2
Green Ext Time (p_c), s	0.0	4.5	0.1	0.0	4.4	1.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	62.1
HCM 6th LOS	E

Notes

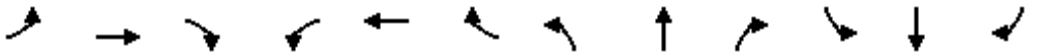
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	144	57	921	12	7	4	896	1427	67	732	56
v/c Ratio	0.68	0.27	0.52	0.06	0.03	0.02	0.81	0.69	0.30	0.70	0.12
Control Delay	67.5	53.2	3.5	52.9	52.7	0.0	46.0	22.6	62.9	44.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	53.2	3.5	52.9	52.7	0.0	46.0	22.6	62.9	44.5	0.6
Queue Length 50th (ft)	97	35	15	8	5	0	291	333	24	238	0
Queue Length 95th (ft)	#224	89	35	26	19	0	451	602	54	390	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	211	211	1834	407	428	255	1262	2157	227	1052	455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.27	0.50	0.03	0.02	0.02	0.71	0.66	0.30	0.70	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	46	746	10	6	3	726	1119	37	54	593	45
Future Volume (veh/h)	117	46	746	10	6	3	726	1119	37	54	593	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	144	57	496	12	7	0	896	1381	46	67	732	16
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	190	179	1318	62	65	131	1064	1959	65	204	1052	390
Arrive On Green	0.18	0.18	0.18	0.03	0.03	0.00	0.31	0.55	0.55	0.06	0.30	0.30
Sat Flow, veh/h	1076	1011	2668	1810	1900	1397	3483	3537	118	3428	3554	1317
Grp Volume(v), veh/h	144	57	496	12	7	0	896	698	729	67	732	16
Grp Sat Flow(s),veh/h/ln	1076	1011	1334	1810	1900	1397	1742	1791	1864	1714	1777	1317
Q Serve(g_s), s	15.3	5.9	0.0	0.8	0.4	0.0	28.9	34.3	34.4	2.3	22.0	0.6
Cycle Q Clear(g_c), s	15.3	5.9	0.0	0.8	0.4	0.0	28.9	34.3	34.4	2.3	22.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	190	179	1318	62	65	131	1064	992	1032	204	1052	390
V/C Ratio(X)	0.76	0.32	0.38	0.19	0.11	0.00	0.84	0.70	0.71	0.33	0.70	0.04
Avail Cap(c_a), veh/h	190	179	1318	406	427	397	1263	992	1032	228	1052	390
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	47.0	43.2	19.6	56.5	56.3	0.0	39.0	19.6	19.7	54.3	37.5	11.5
Incr Delay (d2), s/veh	24.0	4.6	0.8	1.5	0.7	0.0	4.6	4.2	4.1	0.9	3.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	3.1	8.1	0.7	0.4	0.0	18.7	20.9	21.7	1.8	15.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	47.8	20.4	58.0	57.0	0.0	43.7	23.8	23.7	55.2	41.3	11.7
LnGrp LOS	E	D	C	E	E	A	D	C	C	E	D	B
Approach Vol, veh/h		697			19			2323			815	
Approach Delay, s/veh		33.1			57.6			31.4			41.9	
Approach LOS		C			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	72.0	10.1	27.0	42.1	41.0	27.0	10.1
Change Period (Y+Rc), s	4.0	5.4	* 6	5.7	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	66.6	* 27	21.3	43.6	35.6	* 21	27.0
Max Q Clear Time (g_c+I1), s	4.3	36.4	2.8	7.9	30.9	24.0	17.3	2.4
Green Ext Time (p_c), s	0.0	20.6	0.0	3.9	3.0	3.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Notes

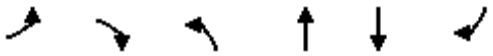
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	221	8	2098	1342
v/c Ratio	0.68	0.04	0.86	0.55
Control Delay	42.6	6.1	16.0	8.1
Queue Delay	0.0	0.0	1.6	0.0
Total Delay	42.6	6.1	17.6	8.1
Queue Length 50th (ft)	114	1	393	161
Queue Length 95th (ft)	171	7	#774	282
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	579	212	2453	2446
Starvation Cap Reductn	0	0	195	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.04	0.93	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	178	23	7	1909	1197	25
Future Volume (veh/h)	178	23	7	1909	1197	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	196	18	8	2098	1315	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	237	22	316	2601	2606	53
Arrive On Green	0.15	0.15	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1582	145	401	3589	3597	72
Grp Volume(v), veh/h	215	0	8	2098	656	686
Grp Sat Flow(s),veh/h/ln	1735	0	401	1749	1749	1828
Q Serve(g_s), s	10.8	0.0	0.8	34.6	13.8	13.9
Cycle Q Clear(g_c), s	10.8	0.0	14.6	34.6	13.8	13.9
Prop In Lane	0.91	0.08	1.00			0.04
Lane Grp Cap(c), veh/h	260	0	316	2601	1301	1359
V/C Ratio(X)	0.83	0.00	0.03	0.81	0.50	0.50
Avail Cap(c_a), veh/h	578	0	316	2601	1301	1359
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.78	0.78
Uniform Delay (d), s/veh	37.1	0.0	7.7	7.4	4.7	4.7
Incr Delay (d2), s/veh	6.7	0.0	0.1	2.8	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	0.0	0.1	14.8	6.7	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.8	0.0	7.9	10.2	5.8	5.8
LnGrp LOS	D	A	A	B	A	A
Approach Vol, veh/h	215			2106	1342	
Approach Delay, s/veh	43.8			10.2	5.8	
Approach LOS	D			B	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.5		18.5		71.5
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		15.9		12.8		36.6
Green Ext Time (p_c), s		19.3		0.6		13.0

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

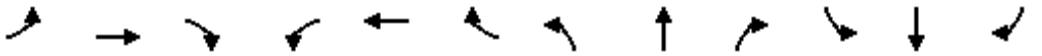


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	751	18	4	9	34	1450	24	1465	130
v/c Ratio	1.65	0.04	0.01	0.02	0.37	1.04	0.15	0.92	0.18
Control Delay	329.0	14.3	25.7	0.0	49.6	65.2	40.2	37.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.9	0.0
Total Delay	329.0	14.3	25.7	0.0	49.6	65.2	40.2	83.8	8.7
Queue Length 50th (ft)	~626	2	2	0	12	394	13	402	11
Queue Length 95th (ft)	#706	15	8	0	#68	#747	32	#602	44
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	433	474	635	92	1399	231	1591	742
Starvation Cap Reductn	0	0	0	0	0	0	0	377	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.65	0.04	0.01	0.01	0.37	1.04	0.10	1.21	0.18

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	593	3	11	3	0	7	27	1139	6	19	1157	103
Future Volume (veh/h)	593	3	11	3	0	7	27	1139	6	19	1157	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	751	4	5	4	0	1	34	1442	8	24	1465	77
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	460	195	243	34	0	30	151	1638	9	70	1902	847
Arrive On Green	0.26	0.26	0.26	0.02	0.00	0.02	0.31	0.31	0.31	0.04	0.54	0.54
Sat Flow, veh/h	1753	743	928	1753	0	1552	331	3566	20	1753	3497	1556
Grp Volume(v), veh/h	751	0	9	4	0	1	34	707	743	24	1465	77
Grp Sat Flow(s),veh/h/ln	1753	0	1671	1753	0	1552	331	1749	1837	1753	1749	1556
Q Serve(g_s), s	23.6	0.0	0.4	0.2	0.0	0.1	8.5	34.5	34.6	1.2	29.6	2.1
Cycle Q Clear(g_c), s	23.6	0.0	0.4	0.2	0.0	0.1	30.5	34.5	34.6	1.2	29.6	2.1
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	460	0	438	34	0	30	151	803	844	70	1902	847
V/C Ratio(X)	1.63	0.00	0.02	0.12	0.00	0.03	0.22	0.88	0.88	0.34	0.77	0.09
Avail Cap(c_a), veh/h	460	0	438	479	0	424	151	803	844	234	1902	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	24.6	43.4	0.0	43.3	37.5	28.8	28.8	42.0	16.1	9.8
Incr Delay (d2), s/veh	294.9	0.0	0.0	1.5	0.0	0.4	3.4	13.2	12.7	2.8	3.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	73.4	0.0	0.3	0.2	0.0	0.0	1.5	24.6	25.6	1.0	16.8	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	328.1	0.0	24.6	44.9	0.0	43.7	40.9	42.0	41.5	44.9	19.2	10.1
LnGrp LOS	F	A	C	D	A	D	D	D	D	D	B	B
Approach Vol, veh/h		760			5			1484			1566	
Approach Delay, s/veh		324.5			44.6			41.7			19.1	
Approach LOS		F			D			D			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		53.9		29.0	7.6	46.2		7.1				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		31.6		25.6	3.2	36.6		2.2				
Green Ext Time (p_c), s		0.0		0.0	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	88.8
HCM 6th LOS	F

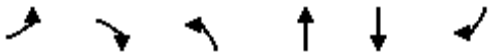
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	83	22	23	1355	1394
v/c Ratio	0.33	0.09	0.10	0.49	0.52
Control Delay	36.5	12.7	5.9	5.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	12.7	5.9	5.8	5.9
Queue Length 50th (ft)	45	0	2	112	112
Queue Length 95th (ft)	68	16	15	251	254
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	442	240	2743	2662
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.05	0.10	0.49	0.52

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	18	19	1125	922	235
Future Volume (veh/h)	69	18	19	1125	922	235
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	83	3	23	1355	1111	269
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	172	153	386	2773	2217	533
Arrive On Green	0.10	0.10	0.79	0.79	1.00	1.00
Sat Flow, veh/h	1753	1560	386	3589	2888	672
Grp Volume(v), veh/h	83	3	23	1355	692	688
Grp Sat Flow(s),veh/h/ln	1753	1560	386	1749	1749	1719
Q Serve(g_s), s	4.0	0.2	1.2	11.8	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.2	1.2	11.8	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.39
Lane Grp Cap(c), veh/h	172	153	386	2773	1387	1363
V/C Ratio(X)	0.48	0.02	0.06	0.49	0.50	0.50
Avail Cap(c_a), veh/h	489	435	386	2773	1387	1363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	36.7	2.1	3.1	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.1	0.3	0.6	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	0.1	0.1	4.6	0.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.5	36.7	2.3	3.8	1.3	1.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	86			1378	1380	
Approach Delay, s/veh	40.4			3.7	1.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		76.3		13.7		76.3
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		13.8		6.0		2.0
Green Ext Time (p_c), s		14.5		0.2		13.9

Intersection Summary		
HCM 6th Ctrl Delay	3.7	
HCM 6th LOS	A	

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	438	10	23	117	20	13	0	30	26	0	22
Future Vol, veh/h	16	438	10	23	117	20	13	0	30	26	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	20	554	13	29	148	25	16	0	38	33	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	173	0	0	567	0	0	834	832	561	839	826	161
Stage 1	-	-	-	-	-	-	601	601	-	219	219	-
Stage 2	-	-	-	-	-	-	233	231	-	620	607	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1392	-	-	995	-	-	285	303	523	283	305	879
Stage 1	-	-	-	-	-	-	484	486	-	779	718	-
Stage 2	-	-	-	-	-	-	766	710	-	472	483	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1392	-	-	995	-	-	265	287	523	252	289	879
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	287	-	252	289	-
Stage 1	-	-	-	-	-	-	474	476	-	763	695	-
Stage 2	-	-	-	-	-	-	718	687	-	429	473	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.3	15.3	16.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	404	1392	-	-	995	-	-	374
HCM Lane V/C Ratio	0.135	0.015	-	-	0.029	-	-	0.162
HCM Control Delay (s)	15.3	7.6	0	-	8.7	0	-	16.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.6

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	287	22	13	66	0	29	0	29	2	0	22
Future Vol, veh/h	17	287	22	13	66	0	29	0	29	2	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	22	363	28	16	84	0	37	0	37	3	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	84	0	0	391	0	0	551	537	377	556	551	84
Stage 1	-	-	-	-	-	-	421	421	-	116	116	-
Stage 2	-	-	-	-	-	-	130	116	-	440	435	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1500	-	-	1157	-	-	442	448	665	439	439	970
Stage 1	-	-	-	-	-	-	606	585	-	884	796	-
Stage 2	-	-	-	-	-	-	869	796	-	592	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1500	-	-	1157	-	-	418	433	665	404	424	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	418	433	-	404	424	-
Stage 1	-	-	-	-	-	-	594	574	-	867	784	-
Stage 2	-	-	-	-	-	-	831	784	-	549	566	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.3	13.2	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	513	1500	-	-	1157	-	-	869
HCM Lane V/C Ratio	0.143	0.014	-	-	0.014	-	-	0.035
HCM Control Delay (s)	13.2	7.4	0	-	8.2	0	-	9.3
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	322	109	21	28	20
Future Vol, veh/h	15	322	109	21	28	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	19	408	138	27	35	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	165	0	-	0	598	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1401	-	-	-	462	889
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1401	-	-	-	454	889
Mov Cap-2 Maneuver	-	-	-	-	454	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1401	-	-	-	570
HCM Lane V/C Ratio	0.014	-	-	-	0.107
HCM Control Delay (s)	7.6	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	12	10	2	9	8
Future Vol, veh/h	3	12	10	2	9	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	4	15	13	3	11	10

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	47	15	0	0	16	0
Stage 1	15	-	-	-	-	-
Stage 2	32	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	958	1059	-	-	1589	-
Stage 1	1003	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	951	1059	-	-	1589	-
Mov Cap-2 Maneuver	951	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1035	1589	-
HCM Lane V/C Ratio	-	-	0.018	0.007	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	328	123	6	8	7
Future Vol, veh/h	5	328	123	6	8	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	6	415	156	8	10	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	164	0	-	0	587	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	427	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1402	-	-	-	469	880
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	654	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1402	-	-	-	466	880
Mov Cap-2 Maneuver	-	-	-	-	466	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	654	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1402	-	-	-	597
HCM Lane V/C Ratio	0.005	-	-	-	0.032
HCM Control Delay (s)	7.6	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	84	257	11	2	5
Future Vol, veh/h	4	84	257	11	2	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	5	106	325	14	3	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	339	0	-	0	448	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1209	-	-	-	565	705
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	904	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1209	-	-	-	563	705
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	904	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1209	-	-	-	658
HCM Lane V/C Ratio	0.004	-	-	-	0.013
HCM Control Delay (s)	8	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	0	1202	1179	10
Future Vol, veh/h	0	9	0	1202	1179	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	11	0	1522	1492	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	753	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	348	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	348	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	348	-	-
HCM Lane V/C Ratio	-	0.033	-	-
HCM Control Delay (s)	-	15.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	65	242	13	28	30
Future Vol, veh/h	28	65	242	13	28	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	35	82	306	16	35	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	322	0	-	0	466	314
Stage 1	-	-	-	-	314	-
Stage 2	-	-	-	-	152	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1227	-	-	-	551	722
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1227	-	-	-	534	722
Mov Cap-2 Maneuver	-	-	-	-	534	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1227	-	-	-	617
HCM Lane V/C Ratio	0.029	-	-	-	0.119
HCM Control Delay (s)	8	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	443	136	16	21	17
Future Vol, veh/h	14	443	136	16	21	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	18	561	172	20	27	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	192	0	-	0	779	182
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1370	-	-	-	362	855
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	546	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1370	-	-	-	355	855
Mov Cap-2 Maneuver	-	-	-	-	355	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	546	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	481
HCM Lane V/C Ratio	0.013	-	-	-	0.1
HCM Control Delay (s)	7.7	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	626	27	3	143	31	29
Future Vol, veh/h	626	27	3	143	31	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	792	34	4	181	39	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	826	0	998	809
Stage 1	-	-	-	-	809	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	796	-	268	377
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	838	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	796	-	266	377
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	833	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	310	-	-	796	-
HCM Lane V/C Ratio	0.245	-	-	0.005	-
HCM Control Delay (s)	20.3	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	0	1202	1184	21
Future Vol, veh/h	0	7	0	1202	1184	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	9	0	1522	1499	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	763	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	343	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	343	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	343	-	-
HCM Lane V/C Ratio	-	0.026	-	-
HCM Control Delay (s)	-	15.8	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	277	19	17	53	46	2
Future Vol, veh/h	277	19	17	53	46	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	351	24	22	67	58	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	375	0	474	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1173	-	545	677
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1173	-	535	677
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	892	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	540	-	-	1173	-
HCM Lane V/C Ratio	0.113	-	-	0.018	-
HCM Control Delay (s)	12.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	190	5	4	28	7	7
Future Vol, veh/h	190	5	4	28	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	241	6	5	35	9	9

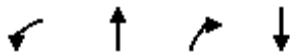
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	247	0	289	244
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1307	-	697	790
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1307	-	694	790
Mov Cap-2 Maneuver	-	-	-	-	694	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1307	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Queues
1: Gaffey St & I-110/SR-47 Ramps

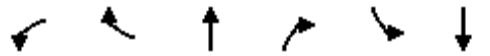
04/10/2023



Lane Group	WBL	NBT	NBR	SBT
Lane Group Flow (vph)	2221	480	2225	1190
v/c Ratio	0.96	0.36	0.83	0.61
Control Delay	35.2	20.5	3.2	23.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.2	20.5	3.2	23.8
Queue Length 50th (ft)	414	100	0	194
Queue Length 95th (ft)	#544	140	0	241
Internal Link Dist (ft)	804	164		264
Turn Bay Length (ft)				
Base Capacity (vph)	2312	1349	2676	1939
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.96	0.36	0.83	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2065	89	466	2158	0	1154
Future Volume (veh/h)	2065	89	466	2158	0	1154
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	0	1841
Adj Flow Rate, veh/h	2211	0	480	0	0	1190
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	4	4	4	0	4
Cap, veh/h	2453	727	1381		0	1984
Arrive On Green	0.47	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	5259	1560	3589	2745	0	5356
Grp Volume(v), veh/h	2211	0	480	0	0	1190
Grp Sat Flow(s),veh/h/ln	1753	1560	1749	1373	0	1675
Q Serve(g_s), s	34.8	0.0	8.7	0.0	0.0	16.9
Cycle Q Clear(g_c), s	34.8	0.0	8.7	0.0	0.0	16.9
Prop In Lane	1.00	1.00		1.00	0.00	
Lane Grp Cap(c), veh/h	2453	727	1381		0	1984
V/C Ratio(X)	0.90	0.00	0.35		0.00	0.60
Avail Cap(c_a), veh/h	2484	737	1381		0	1984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	19.1	0.0	0.0	21.6
Incr Delay (d2), s/veh	5.2	0.0	0.7	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.7	0.0	6.3	0.0	0.0	10.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.3	0.0	19.8	0.0	0.0	22.9
LnGrp LOS	C	A	B		A	C
Approach Vol, veh/h	2211		480			1190
Approach Delay, s/veh	27.3		19.8			22.9
Approach LOS	C		B			C

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		41.5		48.5		41.5
Change Period (Y+Rc), s		* 6		* 6.5		* 6
Max Green Setting (Gmax), s		* 35		* 43		* 35
Max Q Clear Time (g_c+I1), s		18.9		36.8		10.7
Green Ext Time (p_c), s		11.1		5.1		5.5

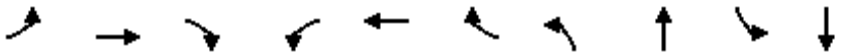
Intersection Summary		
HCM 6th Ctrl Delay		25.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

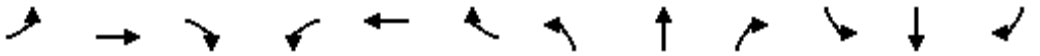


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	432	446	39	52	176	153	33	1572	144	2470
v/c Ratio	1.39	1.41	0.10	0.21	0.68	0.48	0.69	0.76	1.57	1.00
Control Delay	237.3	245.9	0.5	57.9	74.9	19.0	101.1	40.9	342.8	54.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	237.3	245.9	0.5	57.9	74.9	19.0	101.1	40.9	342.8	54.7
Queue Length 50th (ft)	~590	~614	0	45	164	22	27	486	~198	~929
Queue Length 95th (ft)	#818	#845	0	87	246	93	#97	558	#346	#1034
Internal Link Dist (ft)		600			1268			250		909
Turn Bay Length (ft)			124	115		130	97		375	
Base Capacity (vph)	311	316	406	281	295	345	48	2068	92	2465
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.41	0.10	0.19	0.60	0.44	0.69	0.76	1.57	1.00

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	726	144	39	51	174	151	33	1536	20	143	2001	445
Future Volume (veh/h)	726	144	39	51	174	151	33	1536	20	143	2001	445
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	837	0	8	52	176	45	33	1552	20	144	2021	428
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	661	0	287	230	241	195	51	2175	28	93	2145	438
Arrive On Green	0.19	0.00	0.19	0.13	0.13	0.13	0.43	0.43	0.43	0.05	0.51	0.51
Sat Flow, veh/h	3506	0	1523	1753	1841	1489	136	5110	66	1753	4165	851
Grp Volume(v), veh/h	837	0	8	52	176	45	33	1017	555	144	1611	838
Grp Sat Flow(s),veh/h/ln	1753	0	1523	1753	1841	1489	136	1675	1826	1753	1675	1666
Q Serve(g_s), s	28.3	0.0	0.6	4.0	13.8	4.1	3.7	37.6	37.6	8.0	67.4	73.6
Cycle Q Clear(g_c), s	28.3	0.0	0.6	4.0	13.8	4.1	63.8	37.6	37.6	8.0	67.4	73.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.51
Lane Grp Cap(c), veh/h	661	0	287	230	241	195	51	1426	777	93	1725	858
V/C Ratio(X)	1.27	0.00	0.03	0.23	0.73	0.23	0.64	0.71	0.71	1.54	0.93	0.98
Avail Cap(c_a), veh/h	661	0	287	284	298	241	51	1426	777	93	1725	858
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	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.9	0.0	49.6	58.4	62.6	58.4	74.8	35.5	35.5	71.0	34.0	35.5
Incr Delay (d2), s/veh	131.2	0.0	0.1	1.2	10.8	1.4	48.5	3.1	5.5	289.2	10.8	25.5
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(95%),veh/ln	36.7	0.0	0.5	3.3	11.4	2.9	3.5	22.4	24.7	18.4	38.0	44.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	192.1	0.0	49.7	59.5	73.5	59.8	123.3	38.6	41.1	360.2	44.8	61.0
LnGrp LOS	F	A	D	E	E	E	F	D	D	F	D	E
Approach Vol, veh/h		845			273			1605			2593	
Approach Delay, s/veh		190.7			68.6			41.2			67.6	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.4	73.2		29.4		86.6		34.0				
Change Period (Y+Rc), s	* 5.4	* 9.4		* 9.7		* 9.4		5.7				
Max Green Setting (Gmax), s	* 8	* 59		* 24		* 73		28.3				
Max Q Clear Time (g_c+I1), s	10.0	65.8		15.8		75.6		30.3				
Green Ext Time (p_c), s	0.0	0.0		1.6		0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			79.2									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

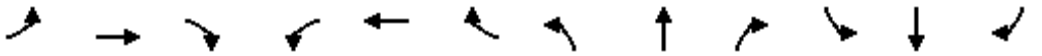
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	243	102	213	48	81	608	122	34	821	40
v/c Ratio	0.47	0.19	0.40	0.09	0.67	0.66	0.15	0.13	0.89	0.05
Control Delay	19.9	4.8	18.6	5.7	44.4	15.3	2.5	9.5	28.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	4.8	18.6	5.7	44.4	15.3	2.5	9.5	28.3	2.7
Queue Length 50th (ft)	69	0	59	0	20	150	0	6	246	0
Queue Length 95th (ft)	127	28	111	19	#90	251	21	20	#472	11
Internal Link Dist (ft)	1268		582			86			902	
Turn Bay Length (ft)		104		63	60		99	59		97
Base Capacity (vph)	517	537	530	511	121	922	790	263	922	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.19	0.40	0.09	0.67	0.66	0.15	0.13	0.89	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



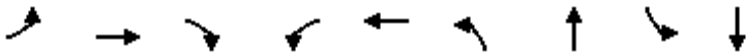
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	182	100	40	169	47	79	596	120	33	805	39
Future Volume (veh/h)	56	182	100	40	169	47	79	596	120	33	805	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	57	186	35	41	172	18	81	608	65	34	821	21
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	158	461	481	135	490	491	188	930	752	316	930	758
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	261	1424	1488	196	1516	1519	643	1841	1489	753	1841	1501
Grp Volume(v), veh/h	243	0	35	213	0	18	81	608	65	34	821	21
Grp Sat Flow(s),veh/h/ln	1685	0	1488	1712	0	1519	643	1841	1489	753	1841	1501
Q Serve(g_s), s	0.2	0.0	1.0	0.0	0.0	0.5	6.4	14.6	1.4	2.1	23.9	0.4
Cycle Q Clear(g_c), s	6.2	0.0	1.0	5.3	0.0	0.5	30.3	14.6	1.4	16.7	23.9	0.4
Prop In Lane	0.23		1.00	0.19		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	619	0	481	625	0	491	188	930	752	316	930	758
V/C Ratio(X)	0.39	0.00	0.07	0.34	0.00	0.04	0.43	0.65	0.09	0.11	0.88	0.03
Avail Cap(c_a), veh/h	619	0	481	625	0	491	188	930	752	316	930	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	14.1	15.5	0.0	13.9	27.3	11.0	7.7	17.2	13.3	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.5	0.0	0.1	7.0	3.6	0.2	0.7	11.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	0.0	0.6	4.2	0.0	0.3	2.6	9.5	0.7	0.7	16.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	14.1	17.0	0.0	14.0	34.3	14.6	7.9	17.8	25.2	7.5
LnGrp LOS	B	A	B	B	A	B	C	B	A	B	C	A
Approach Vol, veh/h		278			231			754			876	
Approach Delay, s/veh		15.8			16.8			16.1			24.5	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		25.0		35.0		25.0				
Change Period (Y+Rc), s		* 4.7		* 5.6		* 4.7		* 5.6				
Max Green Setting (Gmax), s		* 30		* 19		* 30		* 19				
Max Q Clear Time (g_c+I1), s		25.9		7.3		32.3		8.2				
Green Ext Time (p_c), s		2.3		1.0		0.0		1.2				

Intersection Summary		
HCM 6th Ctrl Delay		19.6
HCM 6th LOS		B

Notes

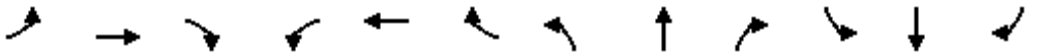
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	177	834	164	283	724	499	30	355
v/c Ratio	0.22	0.72	0.52	0.40	0.70	0.73	0.39	0.20	0.63
Control Delay	52.7	59.4	15.8	52.1	49.8	41.5	27.1	54.1	45.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	59.4	15.8	52.1	49.8	41.5	27.1	54.1	45.8
Queue Length 50th (ft)	34	116	188	56	186	240	148	20	111
Queue Length 95th (ft)	88	#253	280	110	#379	351	211	59	189
Internal Link Dist (ft)		992			538		1076		1594
Turn Bay Length (ft)	310		770			370		250	
Base Capacity (vph)	335	309	2132	429	405	1643	1726	220	876
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.57	0.39	0.38	0.70	0.44	0.29	0.14	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	159	751	148	201	54	652	372	77	27	213	106
Future Volume (veh/h)	47	159	751	148	201	54	652	372	77	27	213	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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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	670	1870	1633	1441	1441	1856	1752	1752	1026	1885	1885
Adj Flow Rate, veh/h	52	177	834	164	223	54	724	413	75	30	237	77
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	83	2	18	31	31	3	10	10	59	1	1
Cap, veh/h	196	194	1496	420	347	84	845	854	154	81	371	117
Arrive On Green	0.11	0.29	0.29	0.14	0.31	0.31	0.25	0.30	0.30	0.08	0.14	0.14
Sat Flow, veh/h	1781	670	2790	3018	1120	271	3428	2817	508	977	2666	843
Grp Volume(v), veh/h	52	177	834	164	0	277	724	243	245	30	157	157
Grp Sat Flow(s),veh/h/ln	1781	670	1395	1509	0	1392	1714	1664	1660	977	1791	1718
Q Serve(g_s), s	2.9	27.5	21.3	5.3	0.0	18.5	21.7	12.8	13.0	3.1	8.9	9.3
Cycle Q Clear(g_c), s	2.9	27.5	21.3	5.3	0.0	18.5	21.7	12.8	13.0	3.1	8.9	9.3
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.31	1.00		0.49
Lane Grp Cap(c), veh/h	196	194	1496	420	0	431	845	505	503	81	249	239
V/C Ratio(X)	0.27	0.91	0.56	0.39	0.00	0.64	0.86	0.48	0.49	0.37	0.63	0.66
Avail Cap(c_a), veh/h	347	205	1542	448	0	431	1701	919	916	195	457	438
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	37.0	16.5	42.2	0.0	32.1	38.8	30.6	30.7	46.8	43.8	44.0
Incr Delay (d2), s/veh	0.7	38.4	0.4	0.6	0.0	3.2	2.6	0.7	0.7	2.8	2.6	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	10.7	11.0	3.7	0.0	10.8	14.2	8.9	9.0	1.5	7.4	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	75.4	17.0	42.8	0.0	35.3	41.4	31.3	31.4	49.6	46.4	47.0
LnGrp LOS	D	E	B	D	A	D	D	C	C	D	D	D
Approach Vol, veh/h		1063			441			1212			344	
Approach Delay, s/veh		28.0			38.1			37.4			47.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	38.2	19.0	36.2	32.1	20.5	16.8	38.4
Change Period (Y+Rc), s	* 5.5	* 5.5	4.0	5.0	* 5.5	* 5.5	5.0	* 5
Max Green Setting (Gmax), s	* 22	* 60	16.0	33.0	* 54	* 28	21.0	* 28
Max Q Clear Time (g_c+I1), s	5.1	15.0	7.3	29.5	23.7	11.3	4.9	20.5
Green Ext Time (p_c), s	0.0	3.2	0.3	1.7	2.8	1.5	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

Notes

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

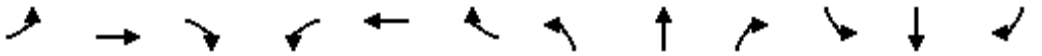


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	102	158	846	16	56	86	542	994	123	798	80
v/c Ratio	0.98	0.77	0.51	0.11	0.27	0.28	0.54	0.47	0.58	0.62	0.14
Control Delay	141.8	77.3	5.4	61.3	55.7	7.8	42.1	15.7	72.6	37.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	141.8	77.3	5.4	61.3	55.7	7.8	42.1	15.7	72.6	37.9	0.5
Queue Length 50th (ft)	~94	120	52	12	44	0	191	210	51	279	0
Queue Length 95th (ft)	#244	#240	93	40	86	33	292	354	#98	418	0
Internal Link Dist (ft)		1199			207			957		1076	
Turn Bay Length (ft)	1000		1000	956		956	348		252		300
Base Capacity (vph)	104	204	1668	378	491	309	1011	2094	211	1279	557
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.77	0.51	0.04	0.11	0.28	0.54	0.47	0.58	0.62	0.14

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	155	829	16	55	84	531	752	222	121	782	78
Future Volume (veh/h)	100	155	829	16	55	84	531	752	222	121	782	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1129	1011	1856	1900	1900	1648	1885	1885	1885	1856	1870	1559
Adj Flow Rate, veh/h	102	158	509	16	56	16	542	767	212	123	798	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	60	3	0	0	17	1	1	1	3	2	23
Cap, veh/h	84	132	1173	61	168	207	1021	1681	465	212	1294	473
Arrive On Green	0.08	0.13	0.13	0.03	0.09	0.09	0.29	0.61	0.61	0.06	0.36	0.36
Sat Flow, veh/h	1076	1011	2768	1810	1900	1364	3483	2772	766	3428	3554	1298
Grp Volume(v), veh/h	102	158	509	16	56	16	542	496	483	123	798	30
Grp Sat Flow(s),veh/h/ln	1076	1011	1384	1810	1900	1364	1742	1791	1747	1714	1777	1298
Q Serve(g_s), s	10.0	16.7	2.3	1.1	3.5	1.3	16.7	19.3	19.3	4.5	23.6	1.4
Cycle Q Clear(g_c), s	10.0	16.7	2.3	1.1	3.5	1.3	16.7	19.3	19.3	4.5	23.6	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	84	132	1173	61	168	207	1021	1086	1060	212	1294	473
V/C Ratio(X)	1.21	1.20	0.43	0.26	0.33	0.08	0.53	0.46	0.46	0.58	0.62	0.06
Avail Cap(c_a), veh/h	84	132	1173	382	495	441	1024	1086	1060	214	1294	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	59.0	55.6	13.5	60.2	54.7	46.7	37.9	13.7	13.7	58.4	33.3	14.5
Incr Delay (d2), s/veh	166.3	140.8	1.2	2.2	1.1	0.2	0.5	1.4	1.4	3.8	2.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.5	15.5	6.9	1.0	3.2	0.8	11.5	12.5	12.2	3.7	15.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	225.3	196.4	14.6	62.5	55.9	46.9	38.4	15.1	15.1	62.2	35.6	14.8
LnGrp LOS	F	F	B	E	E	D	D	B	B	E	D	B
Approach Vol, veh/h		769			88			1521			951	
Approach Delay, s/veh		79.9			55.4			23.4			38.4	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	83.0	10.3	22.7	42.9	52.0	15.7	17.3
Change Period (Y+Rc), s	4.0	5.4	6.0	* 6	5.4	5.4	* 5.7	6.0
Max Green Setting (Gmax), s	8.0	77.6	27.0	* 16	37.6	46.6	* 10	33.3
Max Q Clear Time (g_c+I1), s	6.5	21.3	3.1	18.7	18.7	25.6	12.0	5.5
Green Ext Time (p_c), s	0.0	16.9	0.0	0.0	1.9	5.6	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

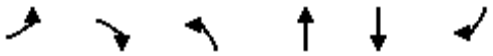
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	132	15	1502	2095
v/c Ratio	0.50	0.19	0.58	0.81
Control Delay	38.6	12.2	7.4	12.8
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	38.6	12.2	7.6	12.8
Queue Length 50th (ft)	68	2	151	302
Queue Length 95th (ft)	106	18	342	#773
Internal Link Dist (ft)	62		579	957
Turn Bay Length (ft)		185		
Base Capacity (vph)	573	81	2576	2573
Starvation Cap Reductn	0	0	355	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.19	0.68	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	104	23	14	1442	1992	19
Future Volume (veh/h)	104	23	14	1442	1992	19
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	108	19	15	1502	2075	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	146	26	176	2772	2813	27
Arrive On Green	0.10	0.10	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1451	255	193	3589	3641	34
Grp Volume(v), veh/h	128	0	15	1502	1021	1074
Grp Sat Flow(s),veh/h/ln	1720	0	193	1749	1749	1835
Q Serve(g_s), s	6.5	0.0	3.8	14.0	26.2	26.4
Cycle Q Clear(g_c), s	6.5	0.0	30.2	14.0	26.2	26.4
Prop In Lane	0.84	0.15	1.00			0.02
Lane Grp Cap(c), veh/h	173	0	176	2772	1386	1454
V/C Ratio(X)	0.74	0.00	0.09	0.54	0.74	0.74
Avail Cap(c_a), veh/h	573	0	176	2772	1386	1454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.81	0.81
Uniform Delay (d), s/veh	39.3	0.0	12.2	3.4	4.6	4.7
Incr Delay (d2), s/veh	6.1	0.0	0.9	0.8	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	0.0	0.4	5.4	9.9	10.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.4	0.0	13.2	4.2	7.5	7.4
LnGrp LOS	D	A	B	A	A	A
Approach Vol, veh/h	128			1517	2095	
Approach Delay, s/veh	45.4			4.2	7.5	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		75.9		14.1		75.9
Change Period (Y+Rc), s		* 4.6		5.0		* 4.6
Max Green Setting (Gmax), s		* 50		30.0		* 50
Max Q Clear Time (g_c+I1), s		28.4		8.5		32.2
Green Ext Time (p_c), s		20.4		0.3		15.2

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

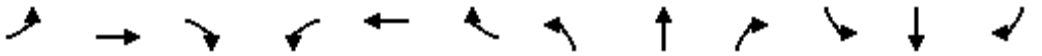
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	413	83	33	61	66	1121	3	1426	120
v/c Ratio	0.93	0.19	0.11	0.20	0.72	0.80	0.02	0.95	0.17
Control Delay	62.7	18.3	28.8	18.2	76.8	34.1	38.0	43.9	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	0.0
Total Delay	62.7	18.3	28.8	18.2	76.8	34.1	38.0	87.8	8.1
Queue Length 50th (ft)	228	22	17	16	28	261	2	383	8
Queue Length 95th (ft)	#400	58	37	44	#140	#663	10	#705	50
Internal Link Dist (ft)		145		103		81		237	
Turn Bay Length (ft)	60				145		360		50
Base Capacity (vph)	455	451	474	471	92	1395	231	1494	689
Starvation Cap Reductn	0	0	0	0	0	0	0	385	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.18	0.07	0.13	0.72	0.80	0.01	1.29	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	50	31	32	30	29	65	1056	42	3	1397	118
Future Volume (veh/h)	405	50	31	32	30	29	65	1056	42	3	1397	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.92	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	413	51	10	33	31	6	66	1078	41	3	1426	67
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	447	371	73	276	232	45	83	1243	47	11	1444	638
Arrive On Green	0.26	0.26	0.26	0.16	0.16	0.16	0.72	0.72	0.72	0.01	0.41	0.41
Sat Flow, veh/h	1753	1455	285	1753	1474	285	347	3434	131	1753	3497	1545
Grp Volume(v), veh/h	413	0	61	33	0	37	66	549	570	3	1426	67
Grp Sat Flow(s),veh/h/ln	1753	0	1740	1753	0	1759	347	1749	1816	1753	1749	1545
Q Serve(g_s), s	20.7	0.0	2.4	1.5	0.0	1.6	0.8	20.9	21.0	0.2	36.4	2.4
Cycle Q Clear(g_c), s	20.7	0.0	2.4	1.5	0.0	1.6	32.6	20.9	21.0	0.2	36.4	2.4
Prop In Lane	1.00		0.16	1.00		0.16	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	447	0	444	276	0	277	83	633	657	11	1444	638
V/C Ratio(X)	0.92	0.00	0.14	0.12	0.00	0.13	0.80	0.87	0.87	0.27	0.99	0.11
Avail Cap(c_a), veh/h	460	0	456	479	0	481	83	633	657	234	1444	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	25.9	32.5	0.0	32.6	28.7	10.8	10.8	44.5	26.2	16.2
Incr Delay (d2), s/veh	24.0	0.0	0.1	0.2	0.0	0.2	53.4	14.9	14.4	12.1	20.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.0	0.0	1.8	1.1	0.0	1.3	4.4	10.2	10.4	0.2	25.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.7	0.0	26.0	32.7	0.0	32.8	82.1	25.7	25.2	56.6	47.1	16.5
LnGrp LOS	E	A	C	C	A	C	F	C	C	E	D	B
Approach Vol, veh/h		474			70			1185			1496	
Approach Delay, s/veh		52.7			32.8			28.6			45.8	
Approach LOS		D			C			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		42.1		28.4	4.6	37.5		19.6				
Change Period (Y+Rc), s		4.9		* 5.4	4.0	4.9		5.4				
Max Green Setting (Gmax), s		26.1		* 24	12.0	10.1		24.6				
Max Q Clear Time (g_c+I1), s		38.4		22.7	2.2	34.6		3.6				
Green Ext Time (p_c), s		0.0		0.2	0.0	0.0		0.2				

Intersection Summary		
HCM 6th Ctrl Delay	40.2	
HCM 6th LOS	D	

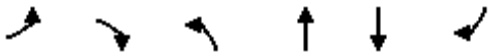
Notes

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



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	100	21	40	1100	1371
v/c Ratio	0.39	0.08	0.16	0.40	0.51
Control Delay	37.6	12.5	7.0	5.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	12.5	7.0	5.2	6.1
Queue Length 50th (ft)	54	0	5	84	117
Queue Length 95th (ft)	86	18	26	211	294
Internal Link Dist (ft)	160			180	50
Turn Bay Length (ft)			40		
Base Capacity (vph)	484	448	245	2731	2684
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.05	0.16	0.40	0.51

Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	21	40	1089	1251	106
Future Volume (veh/h)	99	21	40	1089	1251	106
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	100	3	40	1100	1264	103
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	180	160	388	2758	2578	210
Arrive On Green	0.10	0.10	0.79	0.79	1.00	1.00
Sat Flow, veh/h	1753	1560	390	3589	3362	266
Grp Volume(v), veh/h	100	3	40	1100	674	693
Grp Sat Flow(s),veh/h/ln	1753	1560	390	1749	1749	1787
Q Serve(g_s), s	4.9	0.2	2.2	8.7	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.2	2.2	8.7	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	180	160	388	2758	1379	1409
V/C Ratio(X)	0.56	0.02	0.10	0.40	0.49	0.49
Avail Cap(c_a), veh/h	489	435	388	2758	1379	1409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	36.3	2.2	2.9	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	0.5	0.4	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	0.1	0.3	3.5	0.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.1	36.4	2.8	3.4	1.2	1.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	103			1140	1367	
Approach Delay, s/veh	41.0			3.3	1.2	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		75.9		14.1		75.9
Change Period (Y+Rc), s		4.9		4.9		4.9
Max Green Setting (Gmax), s		55.1		25.1		55.1
Max Q Clear Time (g_c+I1), s		10.7		6.9		2.0
Green Ext Time (p_c), s		11.3		0.2		13.4

Intersection Summary	
HCM 6th Ctrl Delay	3.7
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	414	13	30	170	24	10	0	23	21	0	17
Future Vol, veh/h	20	414	13	30	170	24	10	0	23	21	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	25	524	16	38	215	30	13	0	29	27	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	245	0	0	540	0	0	899	903	532	903	896	230
Stage 1	-	-	-	-	-	-	582	582	-	306	306	-
Stage 2	-	-	-	-	-	-	317	321	-	597	590	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1309	-	-	1018	-	-	258	275	544	256	278	804
Stage 1	-	-	-	-	-	-	495	496	-	699	658	-
Stage 2	-	-	-	-	-	-	690	648	-	486	492	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1309	-	-	1018	-	-	238	256	544	230	259	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	256	-	230	259	-
Stage 1	-	-	-	-	-	-	482	483	-	680	630	-
Stage 2	-	-	-	-	-	-	643	620	-	448	479	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.2	15.3	17.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	1309	-	-	1018	-	-	338
HCM Lane V/C Ratio	0.107	0.019	-	-	0.037	-	-	0.142
HCM Control Delay (s)	15.3	7.8	0	-	8.7	0	-	17.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	21	232	27	16	94	0	23	0	23	2	0	17
Future Vol, veh/h	21	232	27	16	94	0	23	0	23	2	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	27	294	34	20	119	0	29	0	29	3	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	119	0	0	328	0	0	535	524	311	539	541	119
Stage 1	-	-	-	-	-	-	365	365	-	159	159	-
Stage 2	-	-	-	-	-	-	170	159	-	380	382	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.14	6.54	6.24	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.14	5.54	-
Follow-up Hdwy	2.236	-	-	2.236	-	-	3.536	4.036	3.336	3.536	4.036	3.336
Pot Cap-1 Maneuver	1457	-	-	1220	-	-	453	455	725	450	445	927
Stage 1	-	-	-	-	-	-	650	620	-	838	762	-
Stage 2	-	-	-	-	-	-	827	762	-	638	609	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1457	-	-	1220	-	-	429	436	725	419	427	927
Mov Cap-2 Maneuver	-	-	-	-	-	-	429	436	-	419	427	-
Stage 1	-	-	-	-	-	-	635	606	-	819	748	-
Stage 2	-	-	-	-	-	-	793	748	-	598	595	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.2	12.5	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	539	1457	-	-	1220	-	-	822
HCM Lane V/C Ratio	0.108	0.018	-	-	0.017	-	-	0.029
HCM Control Delay (s)	12.5	7.5	0	-	8	0	-	9.5
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	271	129	26	22	16
Future Vol, veh/h	18	271	129	26	22	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	23	343	163	33	28	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	196	0	-	0	569	180
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	389	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1365	-	-	-	480	858
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1365	-	-	-	470	858
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1365	-	-	-	581
HCM Lane V/C Ratio	0.017	-	-	-	0.083
HCM Control Delay (s)	7.7	0	-	-	11.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	9	7	2	11	9
Future Vol, veh/h	2	9	7	2	11	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	3	11	9	3	14	11

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	50	11	0	0	12	0
Stage 1	11	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236	-
Pot Cap-1 Maneuver	954	1064	-	-	1594	-
Stage 1	1007	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	945	1064	-	-	1594	-
Mov Cap-2 Maneuver	945	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	969	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1040	1594	-
HCM Lane V/C Ratio	-	-	0.013	0.009	-
HCM Control Delay (s)	-	-	8.5	7.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	284	137	7	6	5
Future Vol, veh/h	6	284	137	7	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	8	359	173	9	8	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	182	0	-	0	553	178
Stage 1	-	-	-	-	178	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1381	-	-	-	491	860
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1381	-	-	-	488	860
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	691	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1381	-	-	-	607
HCM Lane V/C Ratio	0.005	-	-	-	0.023
HCM Control Delay (s)	7.6	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	115	124	13	2	4
Future Vol, veh/h	5	115	124	13	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	6	146	157	16	3	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	173	0	-	0	323	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	158	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1392	-	-	-	667	874
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1392	-	-	-	664	874
Mov Cap-2 Maneuver	-	-	-	-	664	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1392	-	-	-	791
HCM Lane V/C Ratio	0.005	-	-	-	0.01
HCM Control Delay (s)	7.6	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7	0	1143	1388	13
Future Vol, veh/h	0	7	0	1143	1388	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	9	0	1447	1757	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	887	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	283	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	283	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	283	-	-
HCM Lane V/C Ratio	-	0.031	-	-
HCM Control Delay (s)	-	18.1	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	90	117	16	22	24
Future Vol, veh/h	34	90	117	16	22	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	43	114	148	20	28	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	168	0	-	0	358	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1398	-	-	-	636	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1398	-	-	-	615	882
Mov Cap-2 Maneuver	-	-	-	-	615	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	829	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1398	-	-	-	730
HCM Lane V/C Ratio	0.031	-	-	-	0.08
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	431	178	19	16	14
Future Vol, veh/h	16	431	178	19	16	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	20	546	225	24	20	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	249	0	-	0	823	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	586	-
Critical Hdwy	4.14	-	-	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.336
Pot Cap-1 Maneuver	1305	-	-	-	341	797
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	552	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1305	-	-	-	333	797
Mov Cap-2 Maneuver	-	-	-	-	333	-
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1305	-	-	-	457
HCM Lane V/C Ratio	0.016	-	-	-	0.083
HCM Control Delay (s)	7.8	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	486	33	4	216	24	23
Future Vol, veh/h	486	33	4	216	24	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	615	42	5	273	30	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	657	0	919	636
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	921	-	299	474
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	921	-	297	474
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	363	-	-	921	-
HCM Lane V/C Ratio	0.164	-	-	0.005	-
HCM Control Delay (s)	16.9	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	1143	1396	25
Future Vol, veh/h	0	5	0	1143	1396	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	6	0	1447	1767	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	900	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.98	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.34	-	-	-	-
Pot Cap-1 Maneuver	0	278	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	278	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	278	-	-
HCM Lane V/C Ratio	-	0.023	-	-
HCM Control Delay (s)	-	18.3	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	223	24	20	82	36	2
Future Vol, veh/h	223	24	20	82	36	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	282	30	25	104	46	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	312	0	451	297
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1237	-	562	738
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1237	-	550	738
Mov Cap-2 Maneuver	-	-	-	-	550	-
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	557	-	-	1237	-
HCM Lane V/C Ratio	0.086	-	-	0.02	-
HCM Control Delay (s)	12.1	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.7

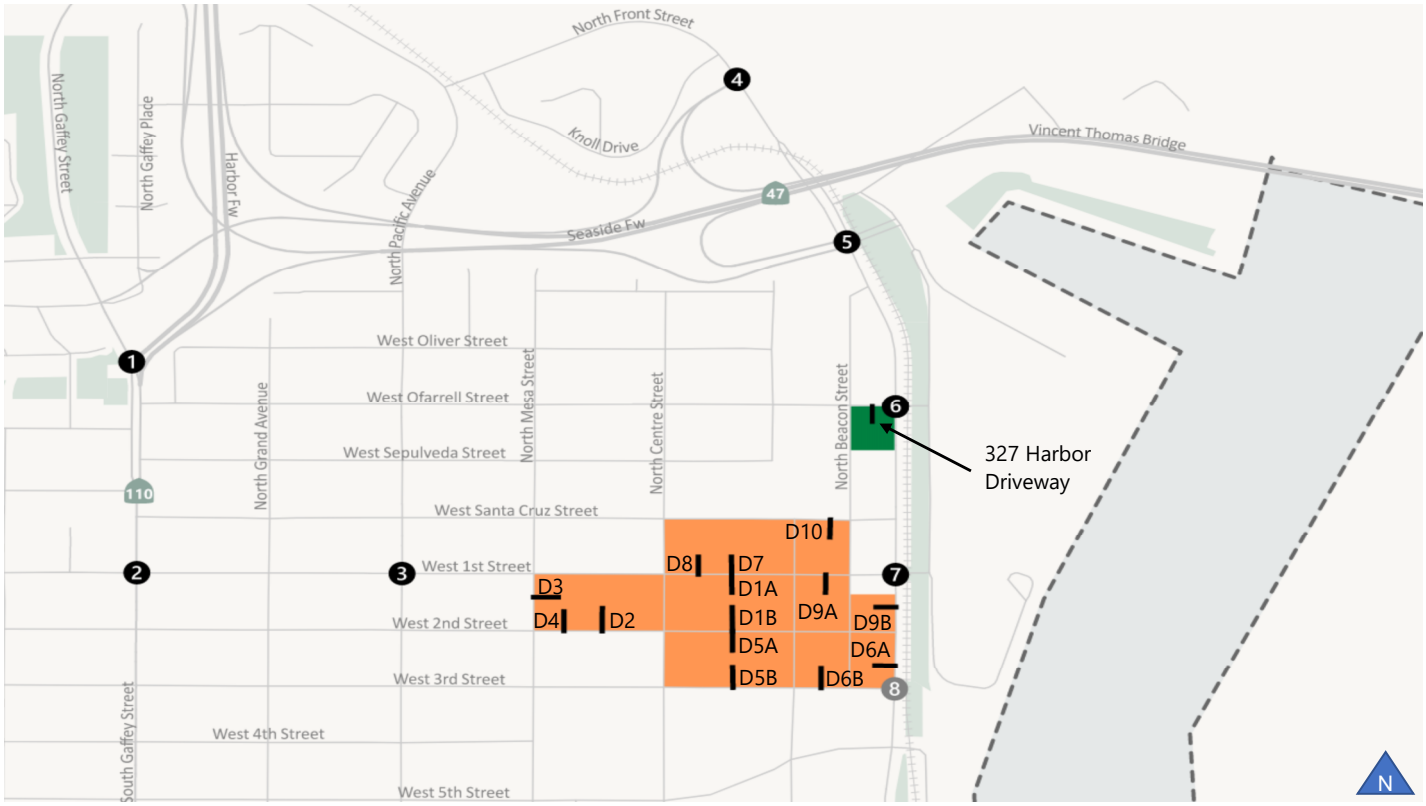
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	4	4	28	5	4
Future Vol, veh/h	115	4	4	28	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	146	5	5	35	6	5

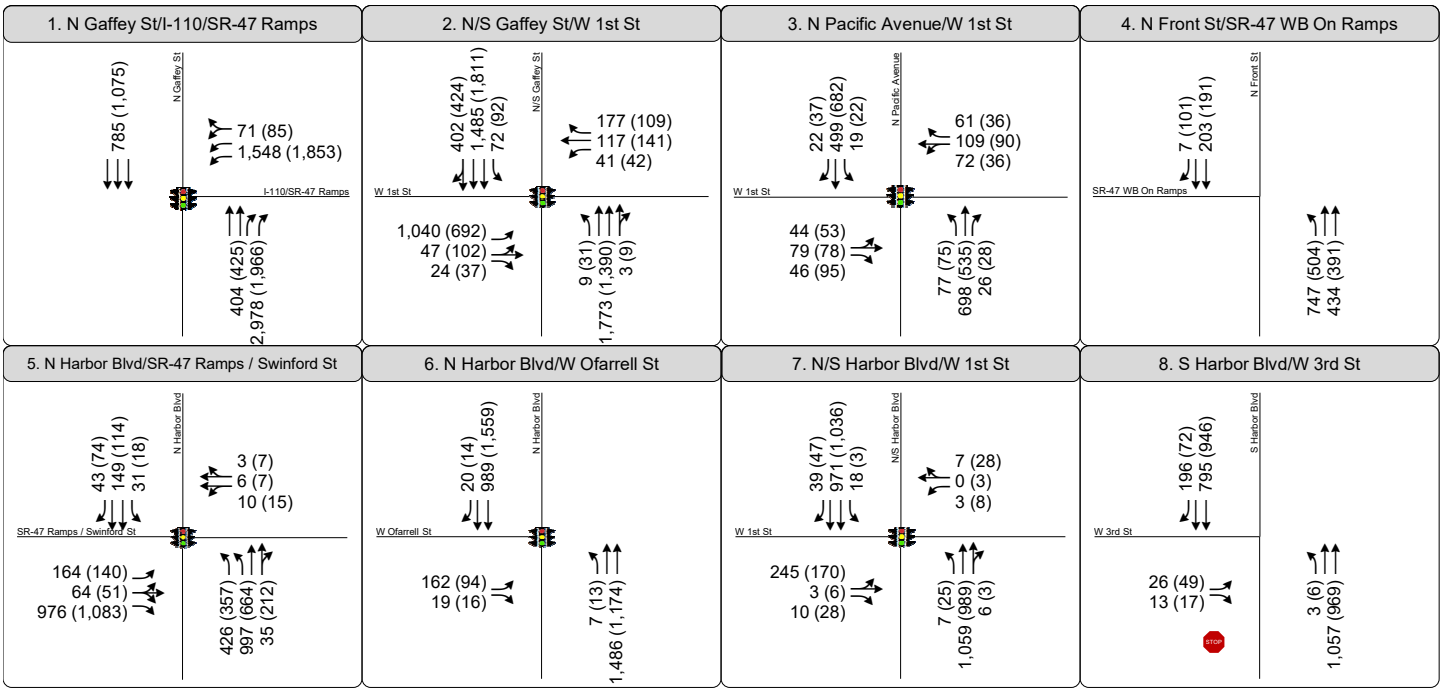
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	194	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.14	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.236	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1418	-	790	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	787	892
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	830	-	-	1418	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Appendix H: Peak Hour Traffic Volumes and Configurations



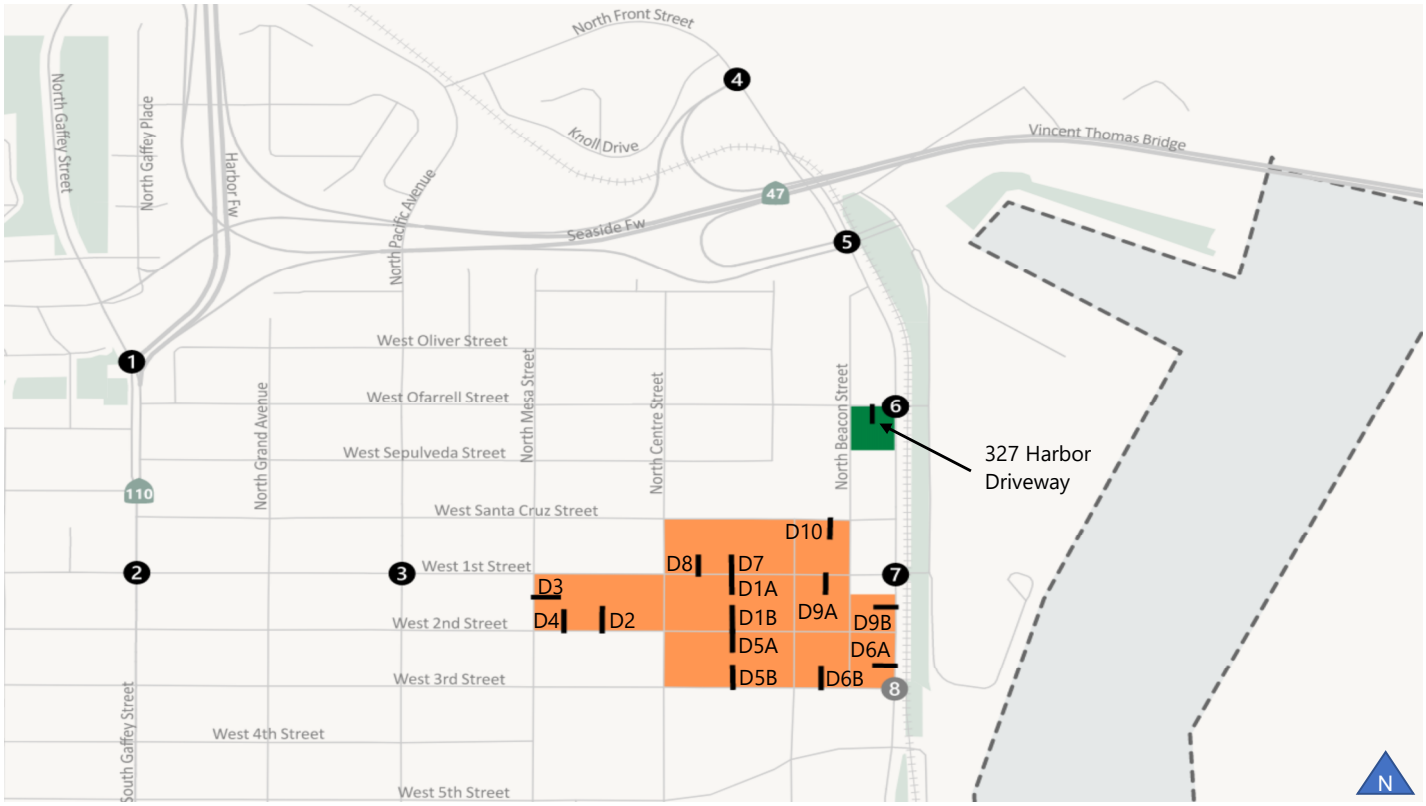


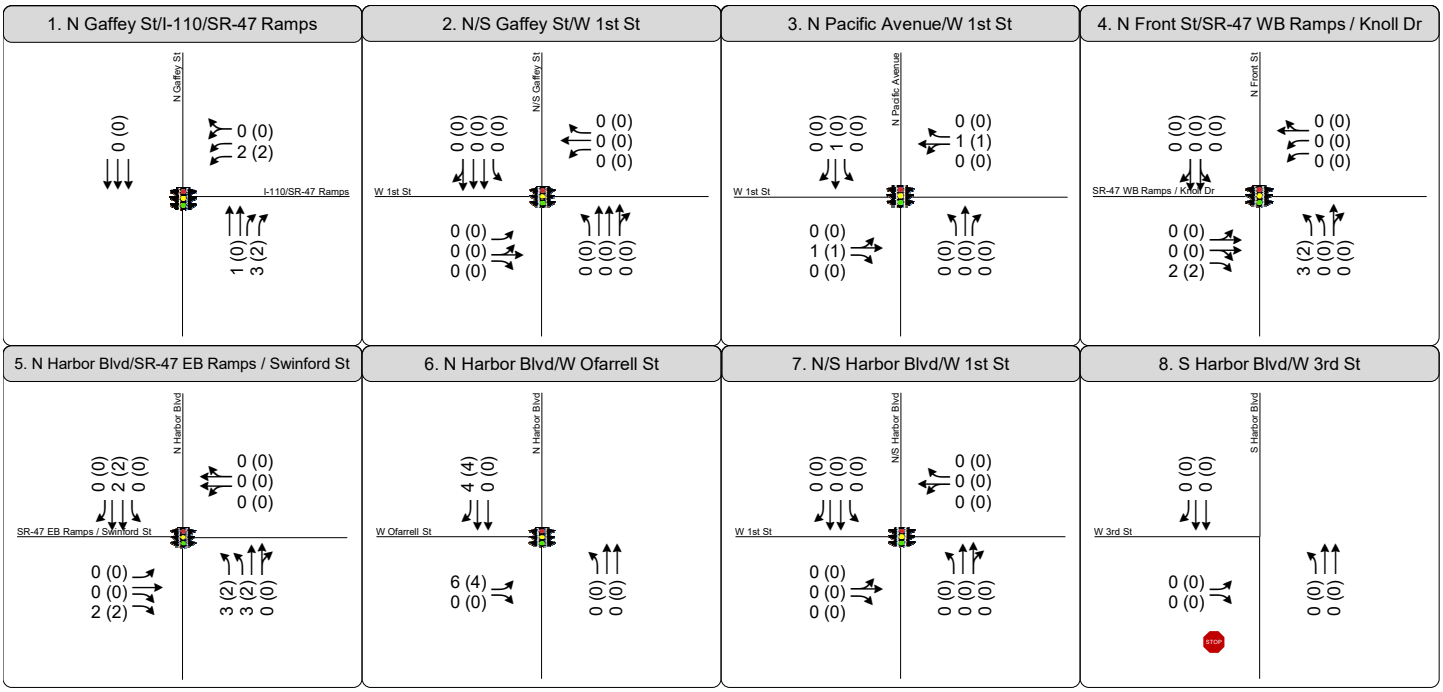
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H1

Peak Hour Traffic Volumes and Lane Configurations
Baseline Year (2021)
One San Pedro



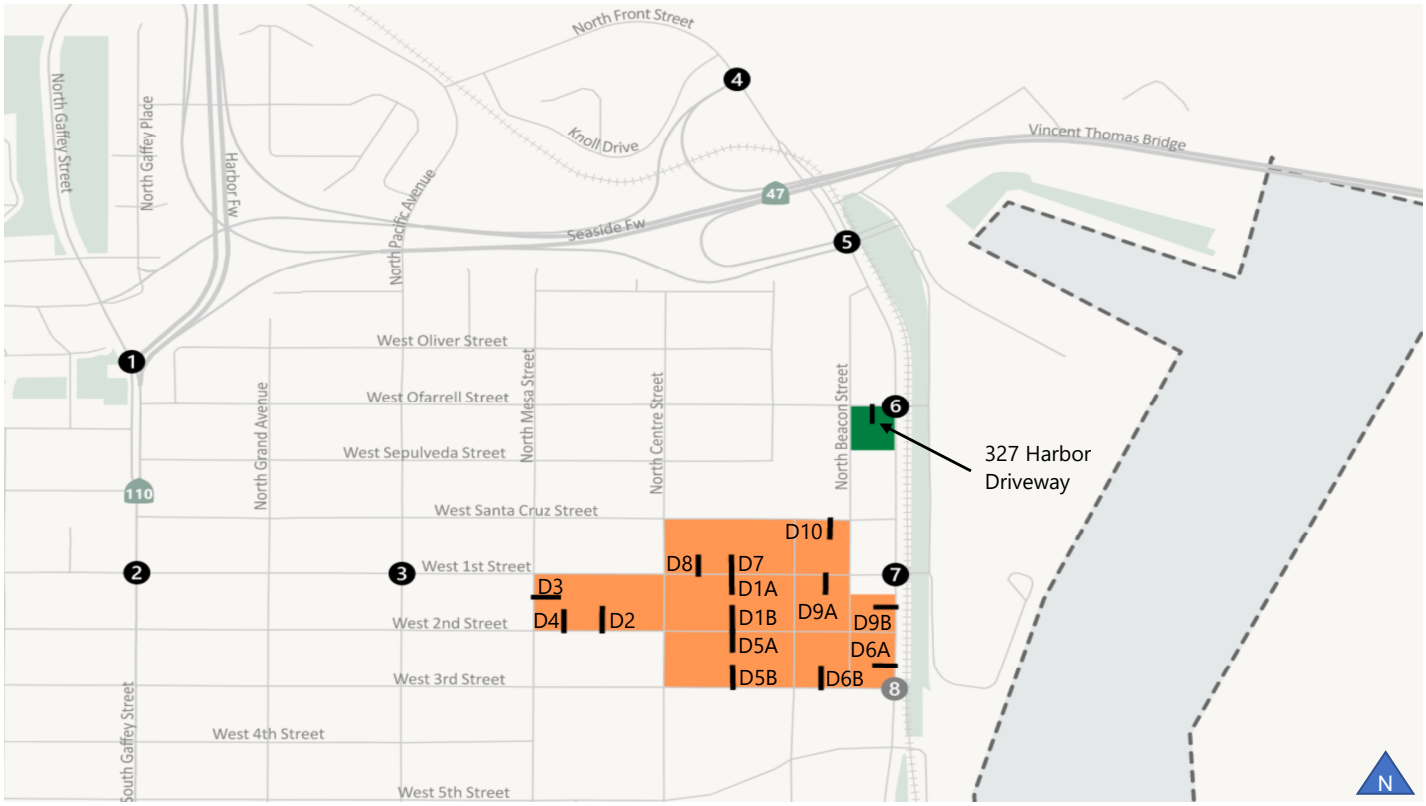


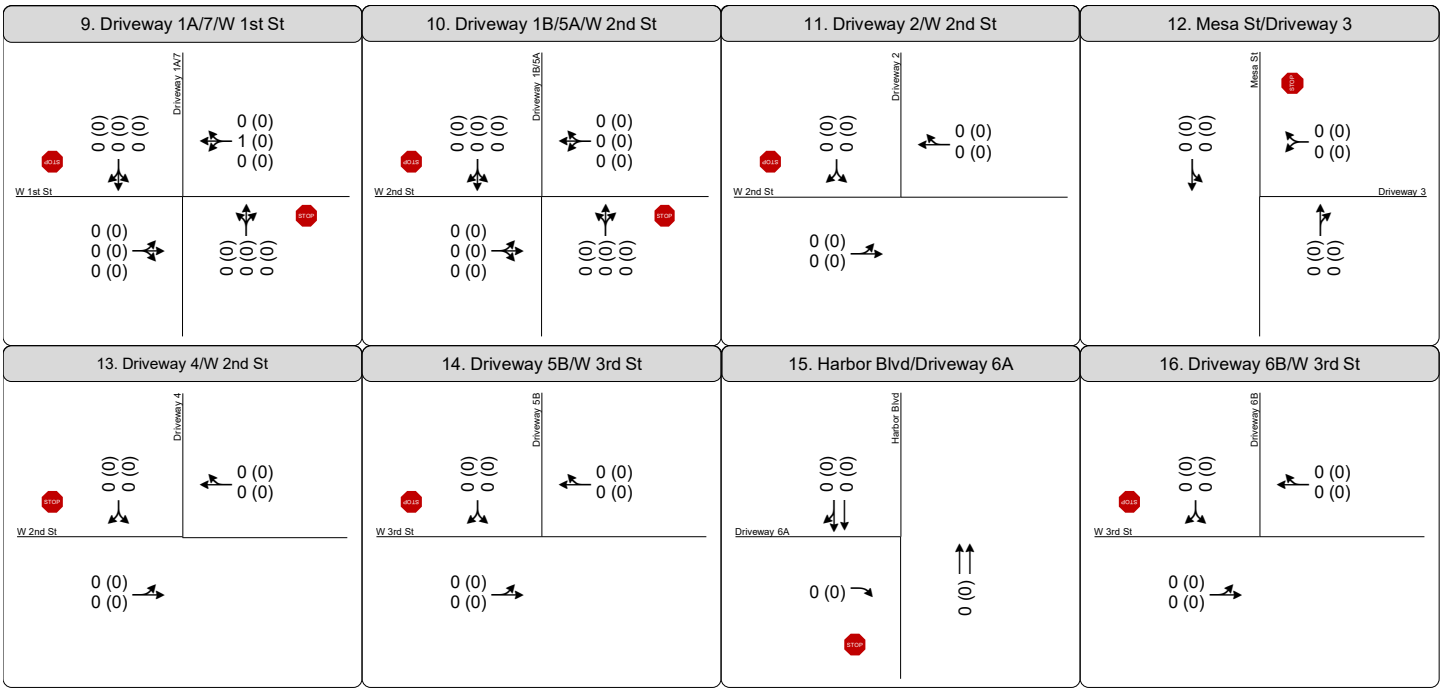
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H2

Peak Hour Traffic Volumes and Lane Configurations
Project Only, 327 Harbor Site
One San Pedro



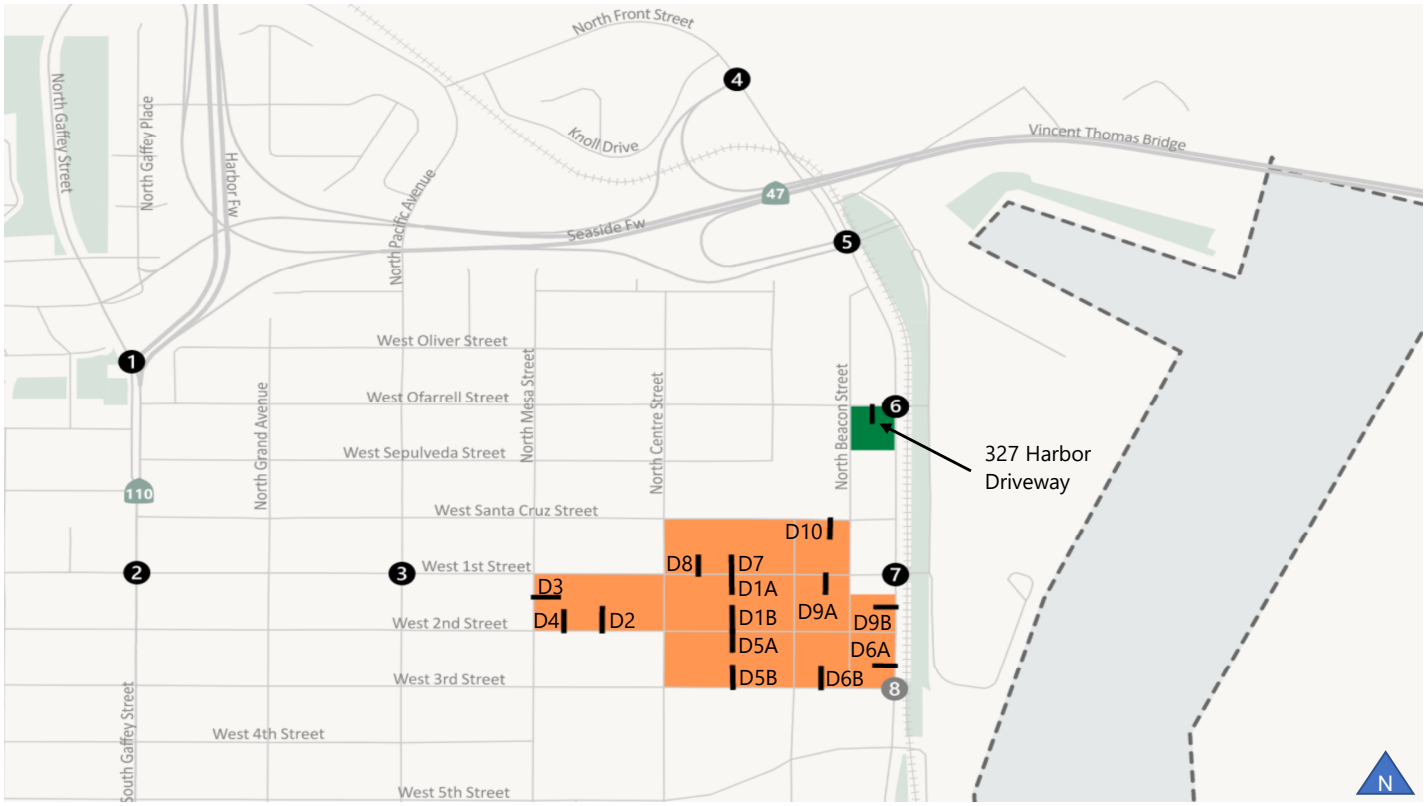


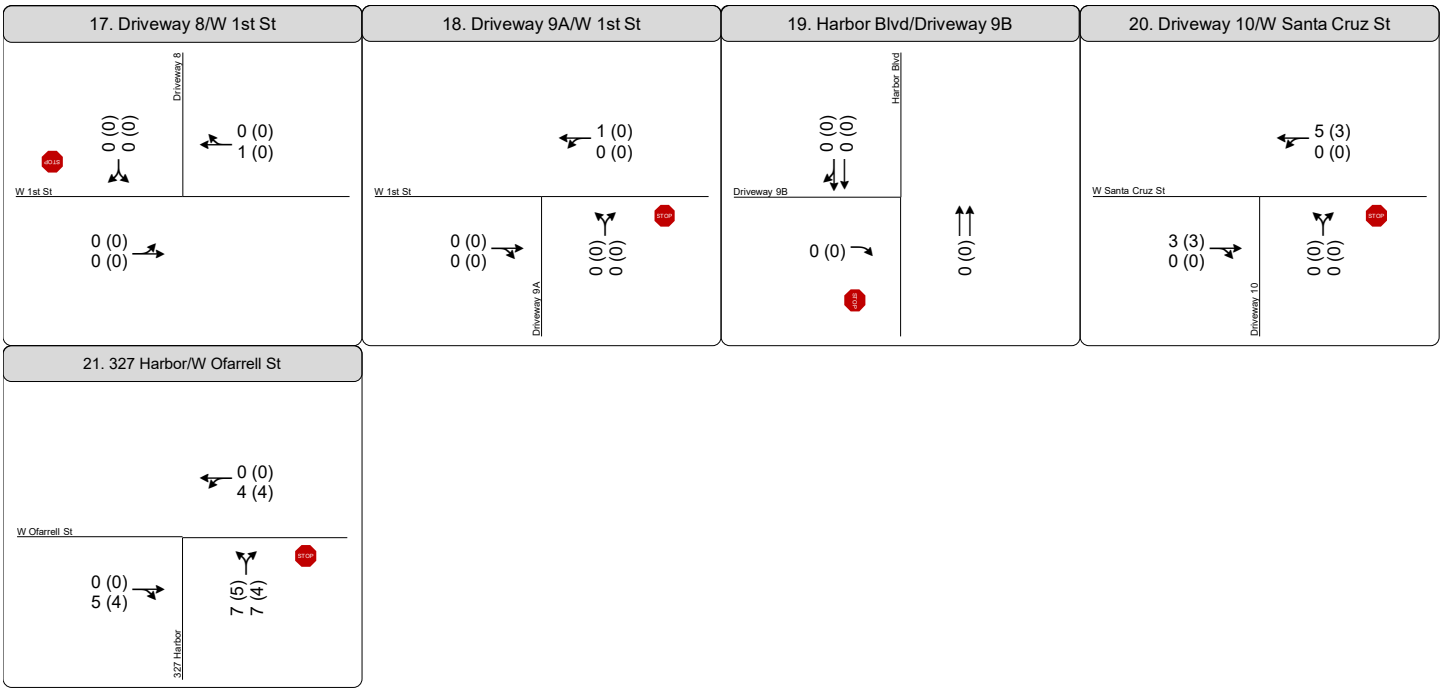
LEGEND

- (#) Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H2

Peak Hour Traffic Volumes and Lane Configurations
Project Only, 327 Harbor Site
One San Pedro



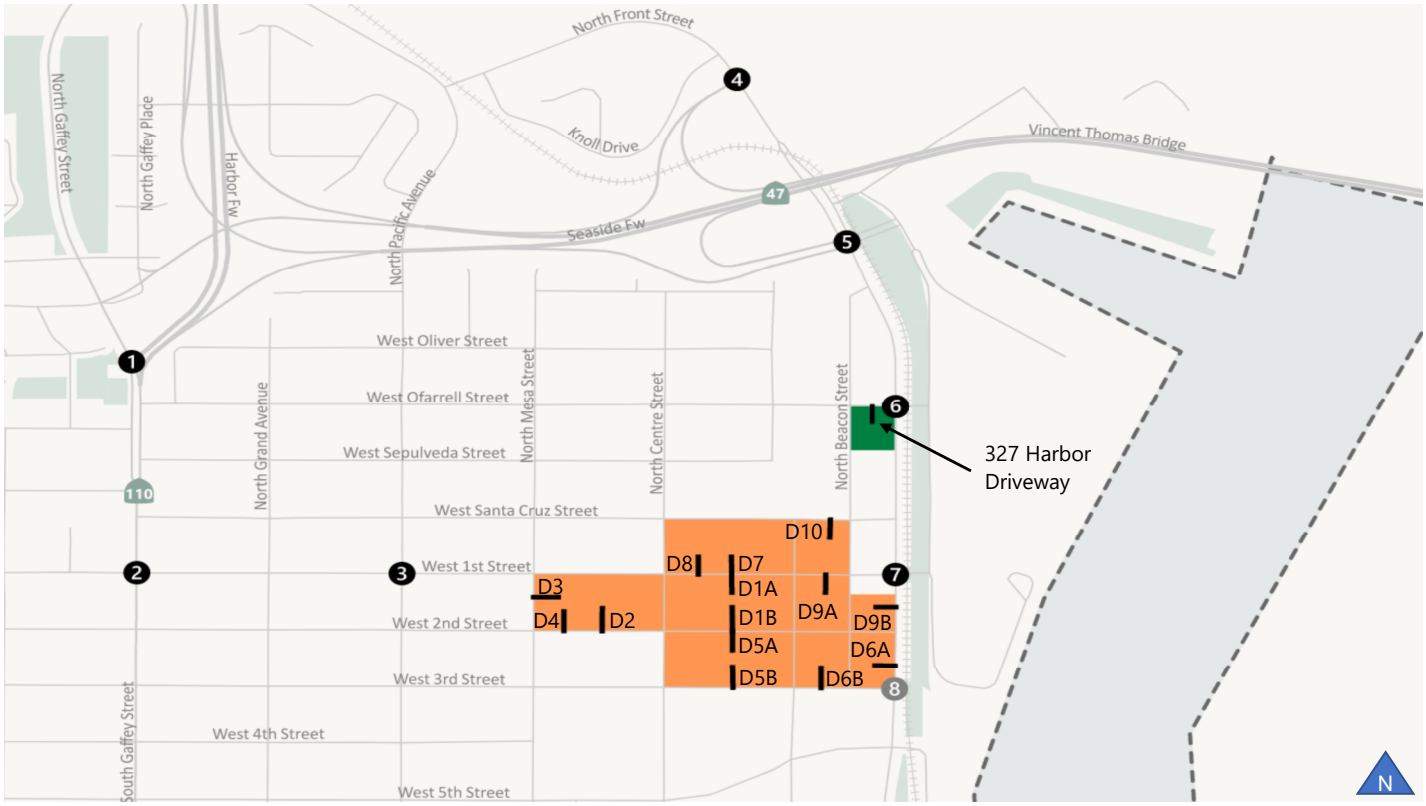


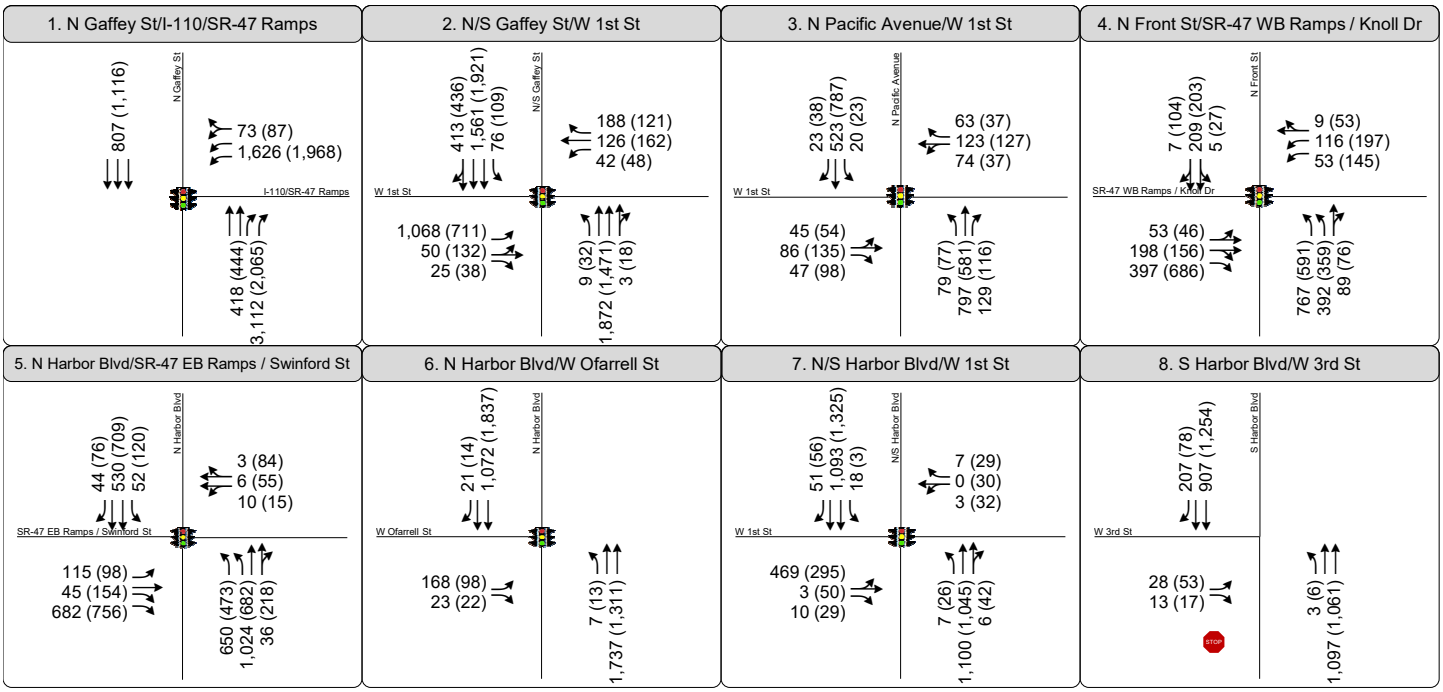
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H2

Peak Hour Traffic Volumes and Lane Configurations
Project Only, 327 Harbor Site
One San Pedro



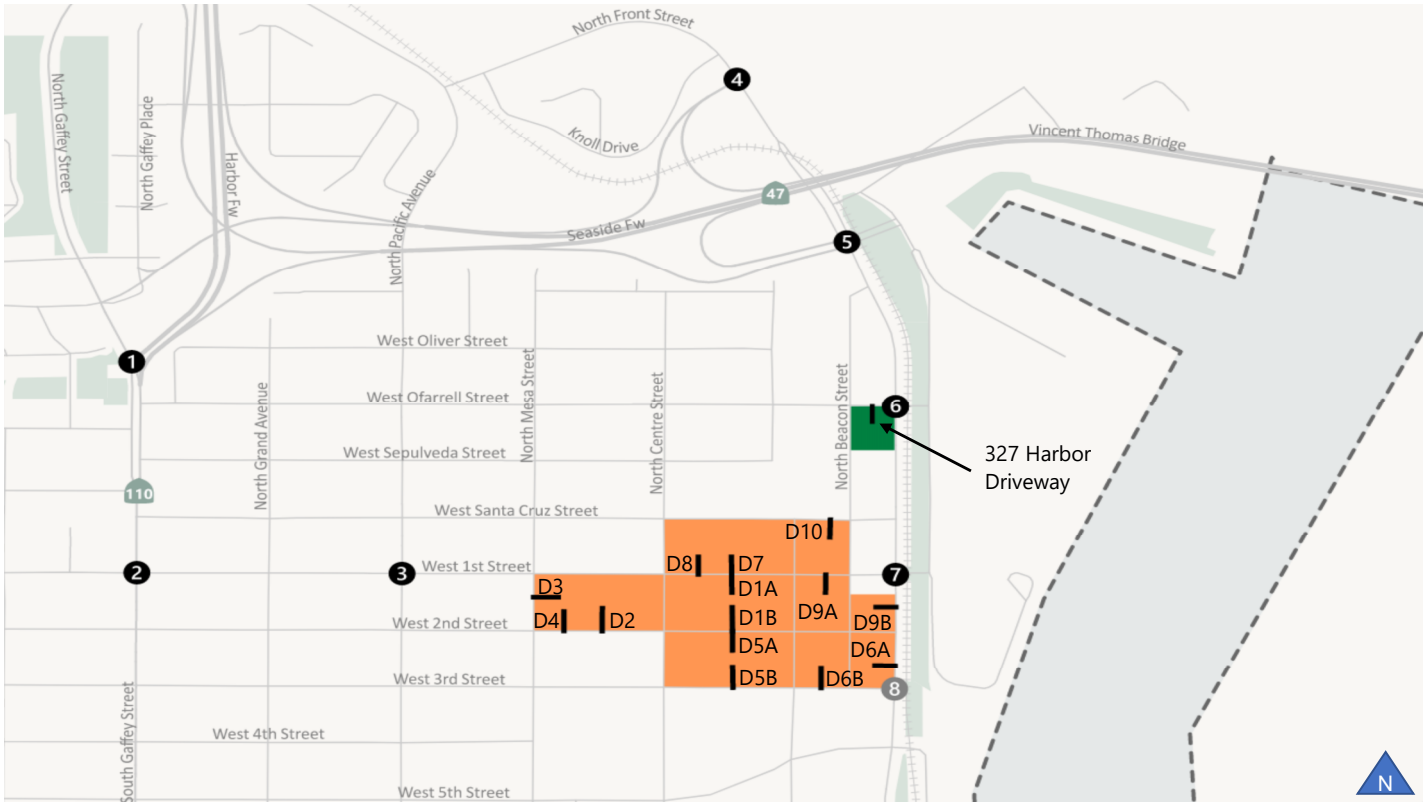


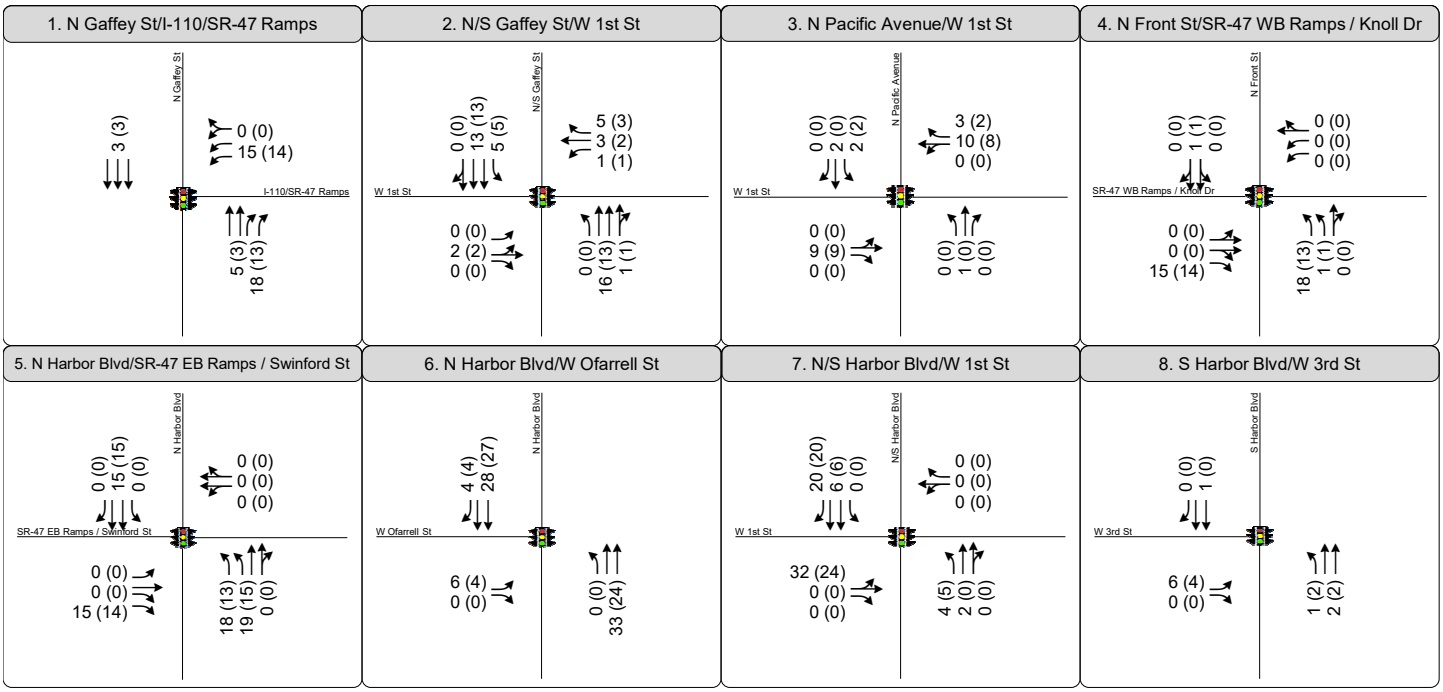
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H3

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) No Project
One San Pedro



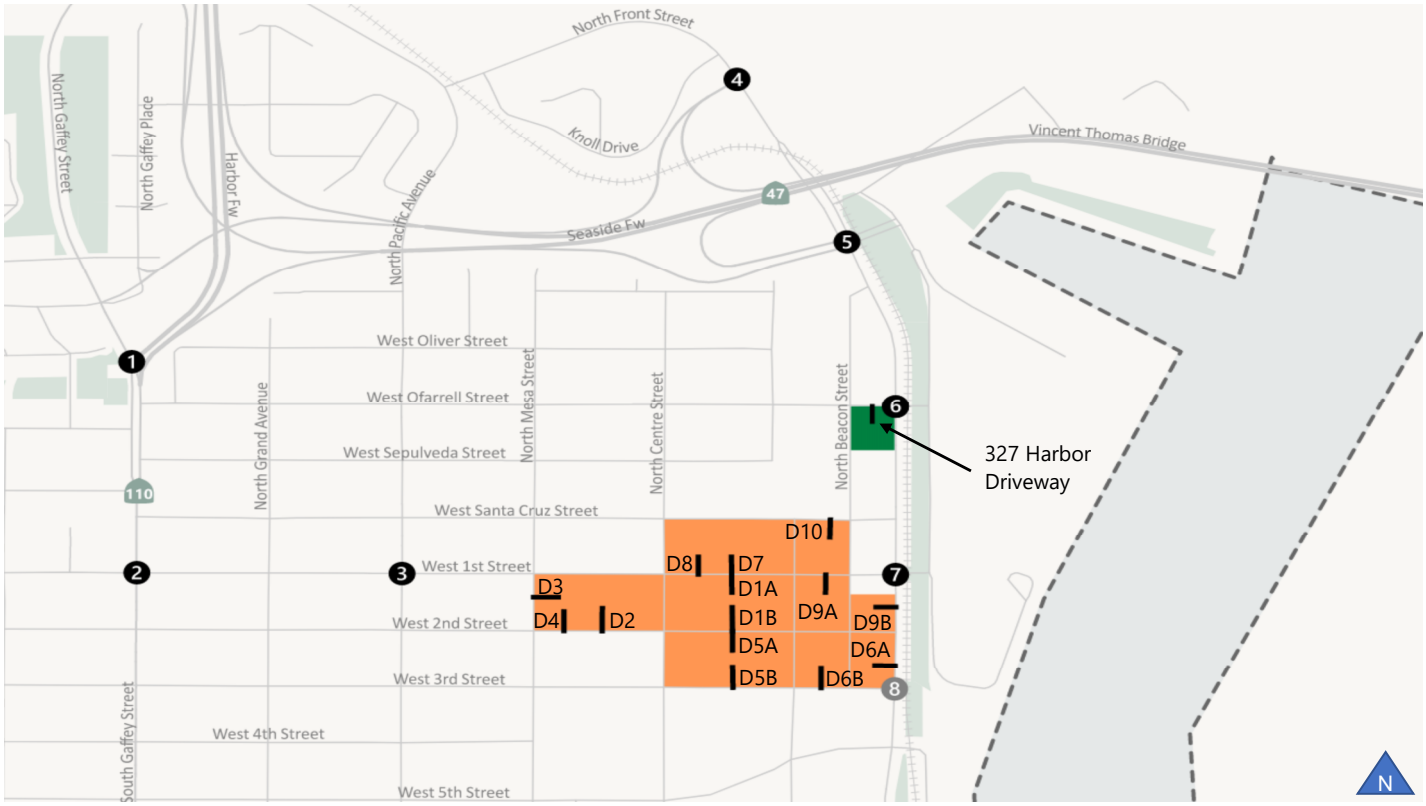


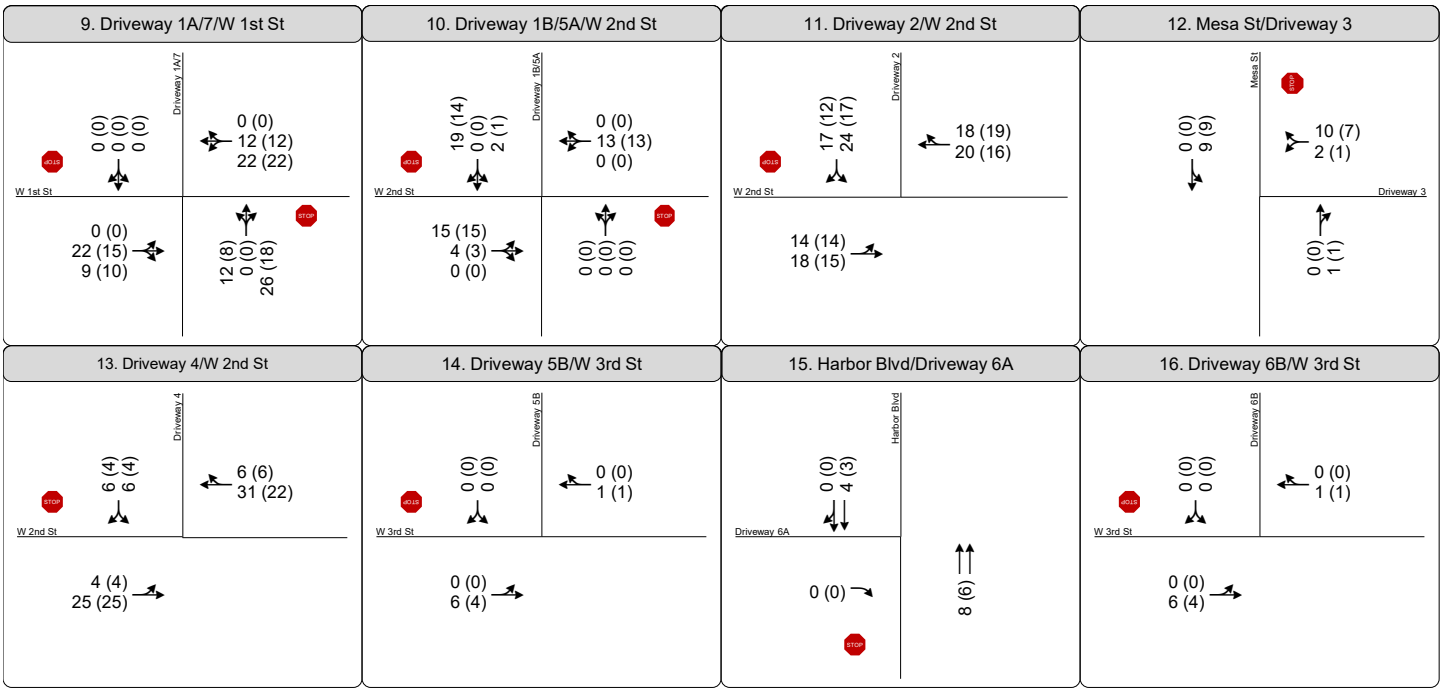
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H4

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phase 1 & 327 Harbor Site
One San Pedro Scenario A



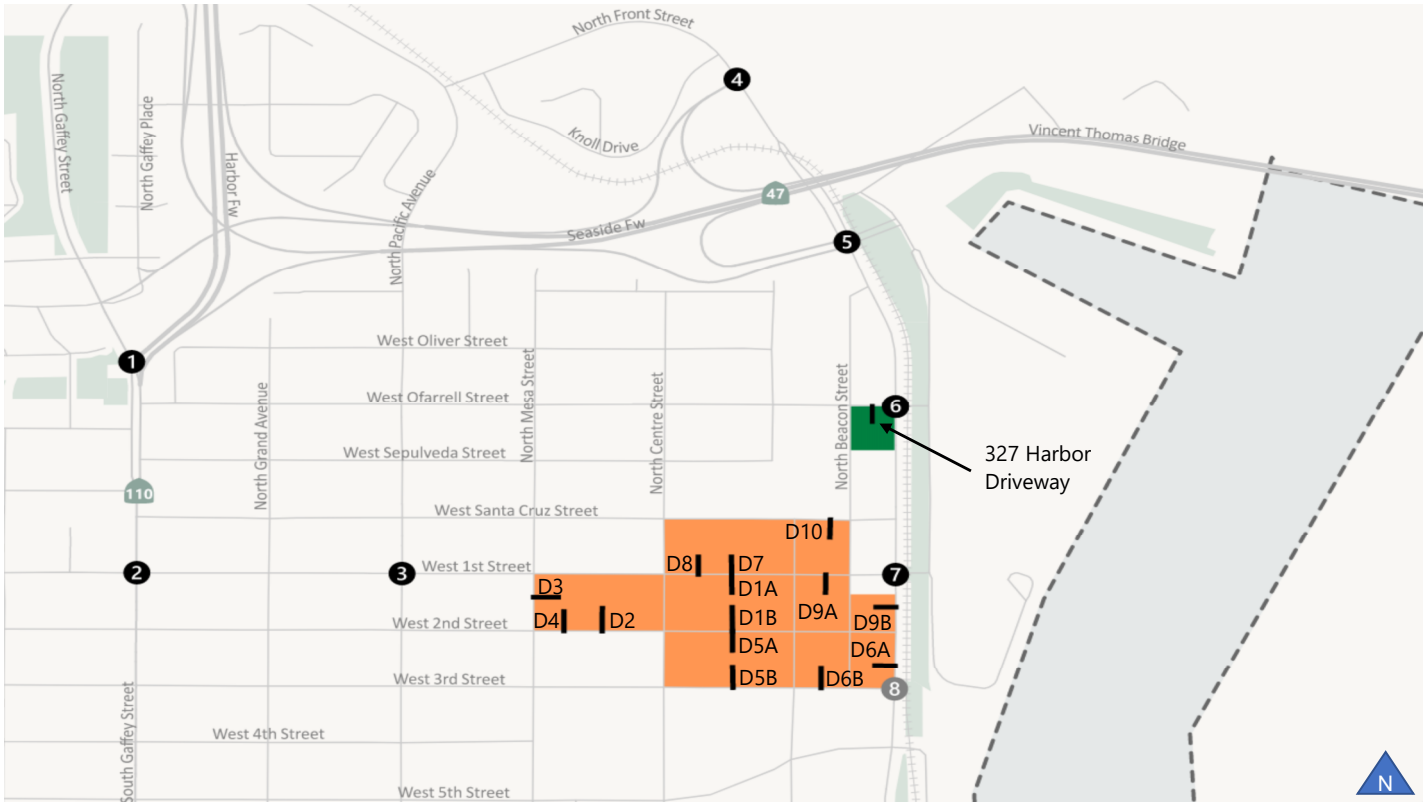


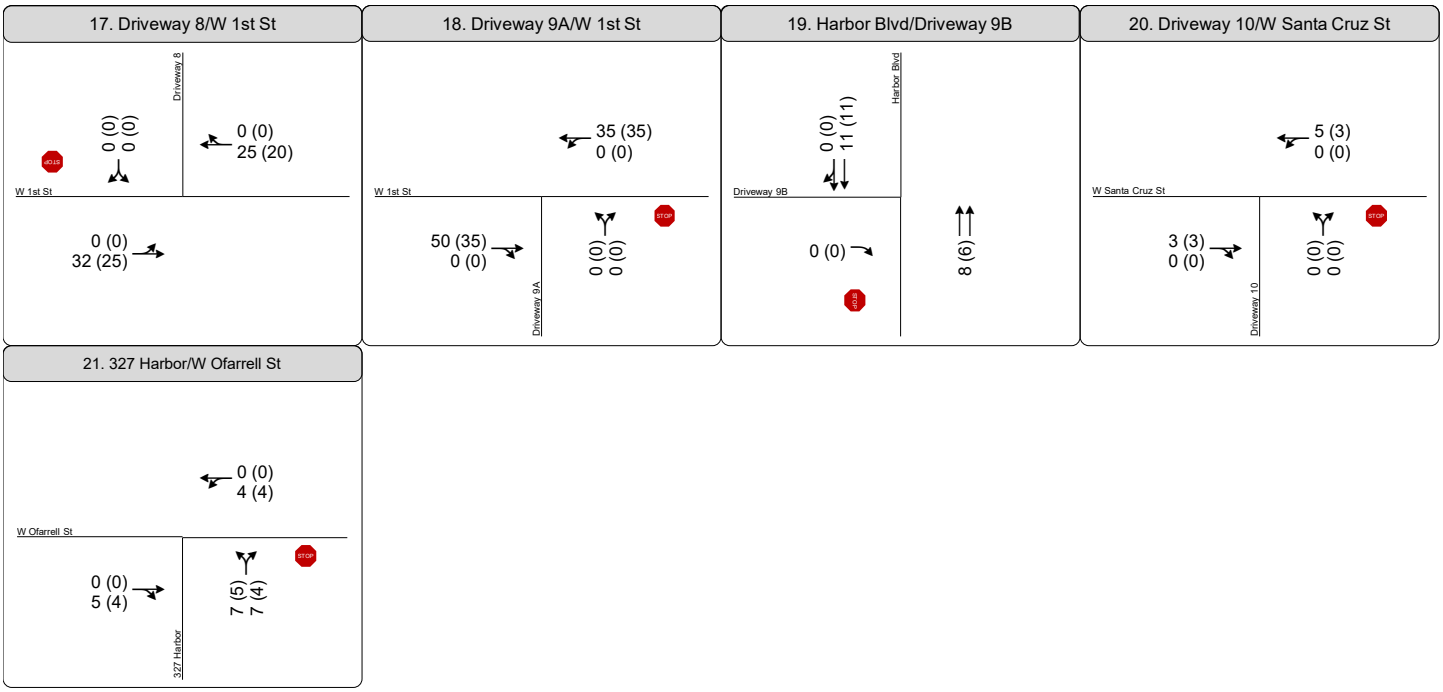
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H4

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phase 1 & 327 Harbor Site
One San Pedro Scenario A



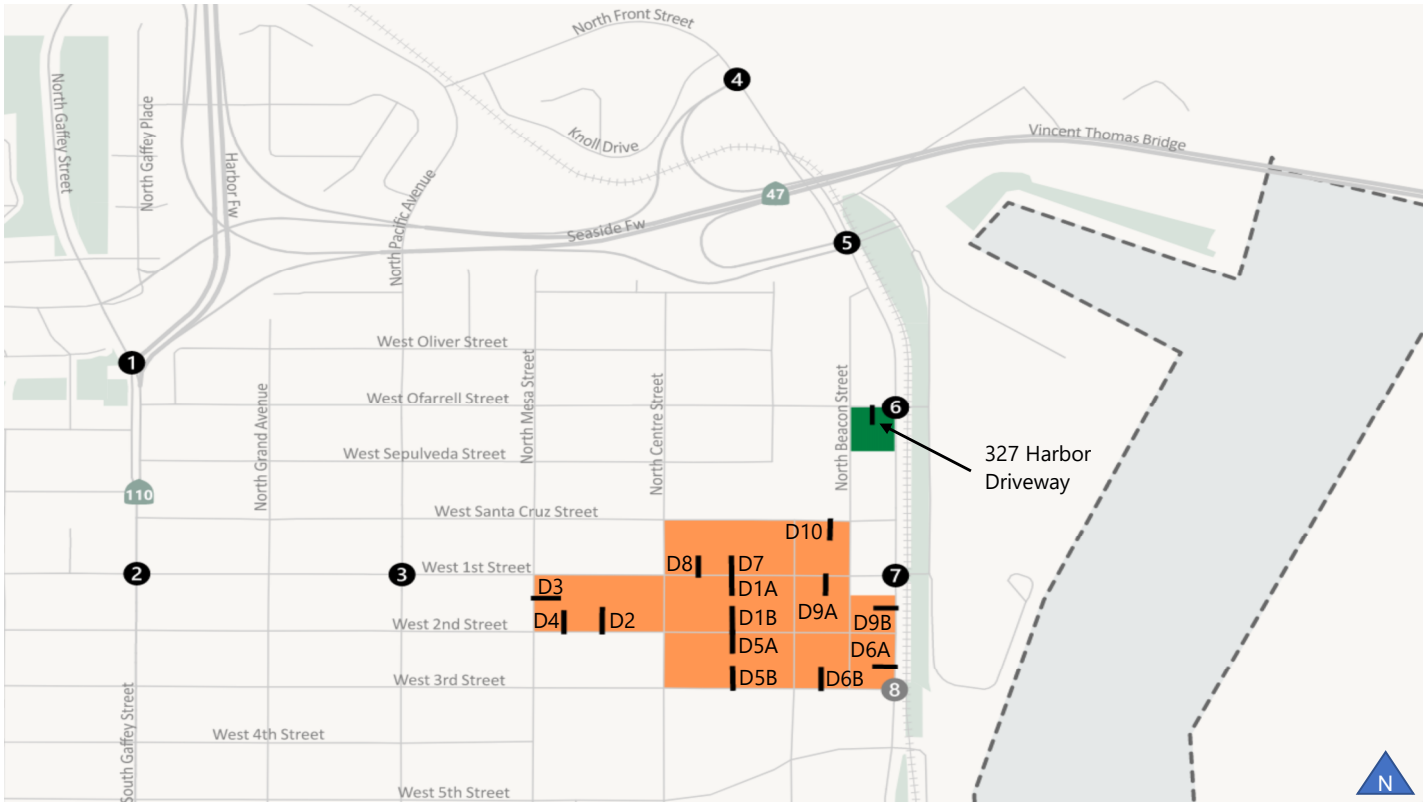


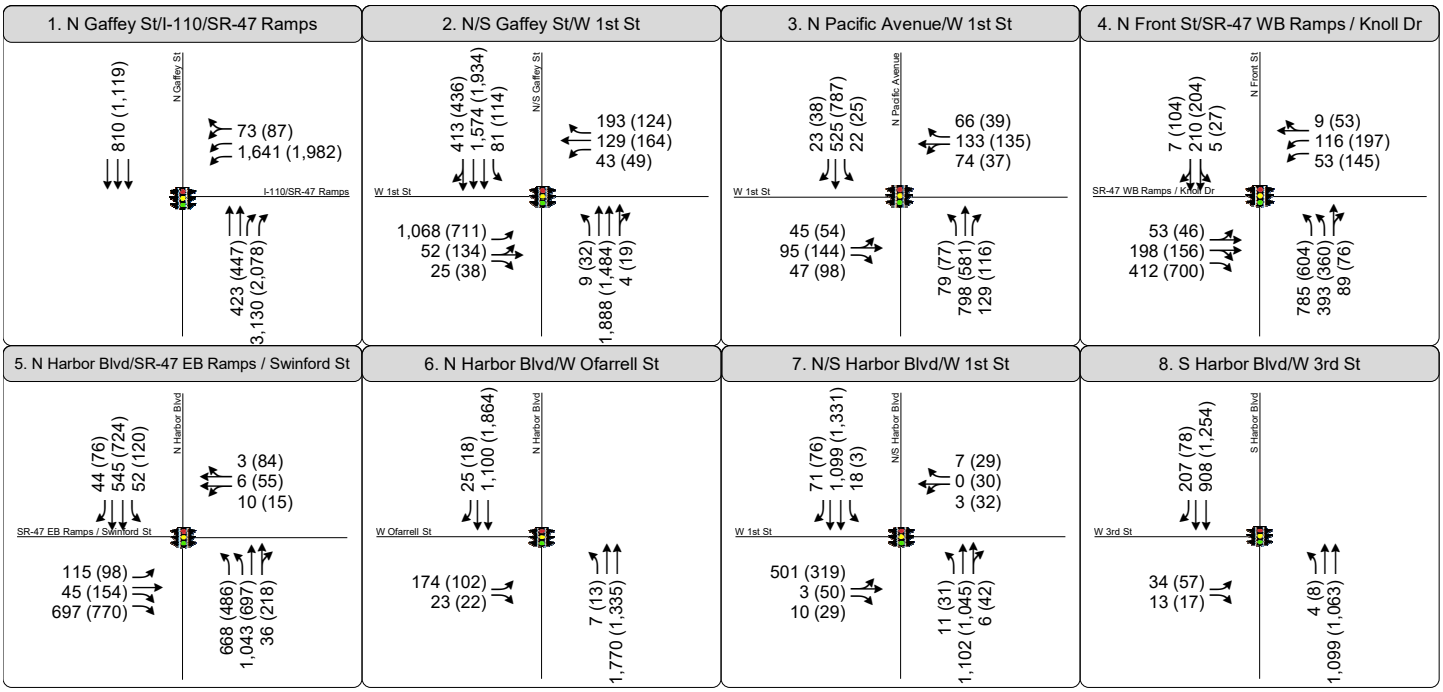
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H4

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phase 1 & 327 Harbor Site
One San Pedro Scenario A



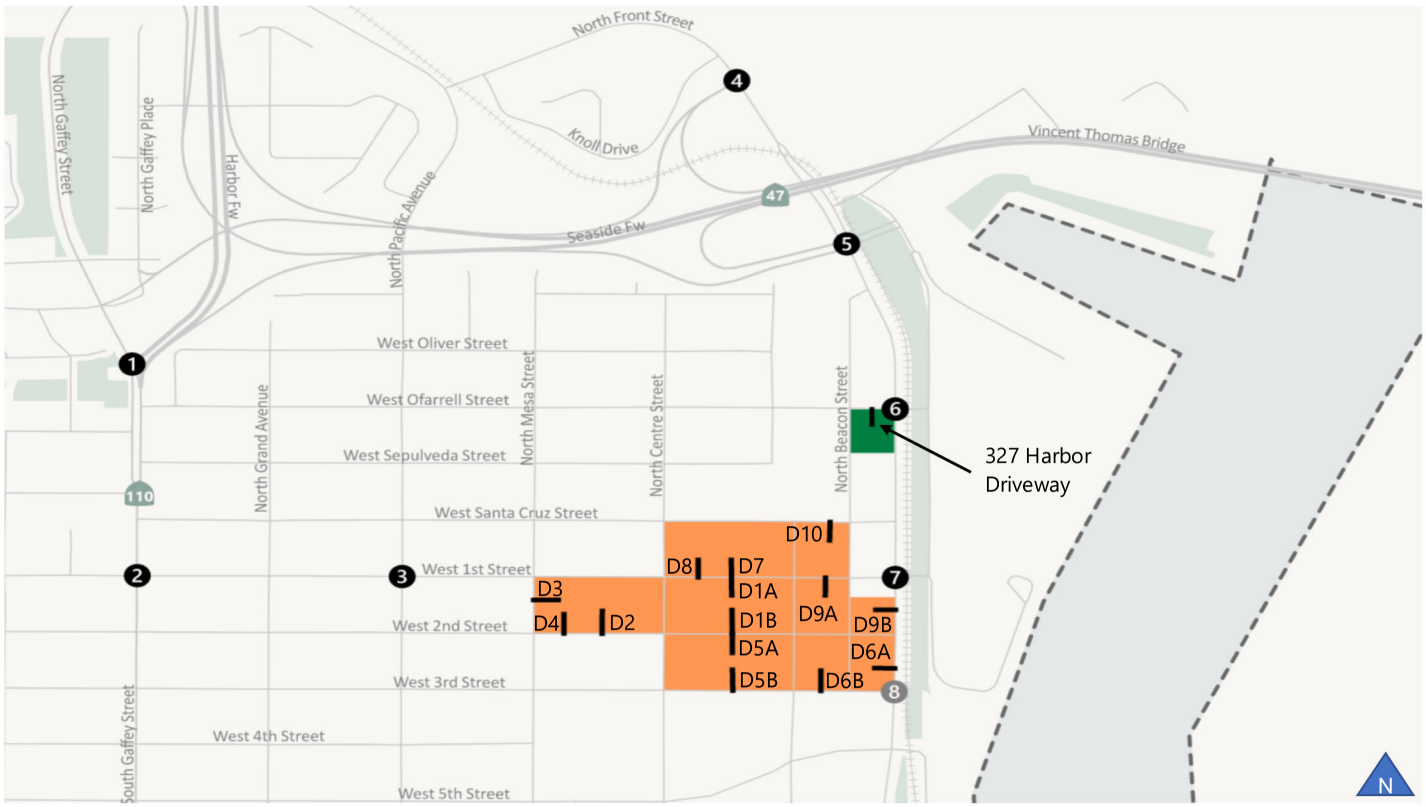


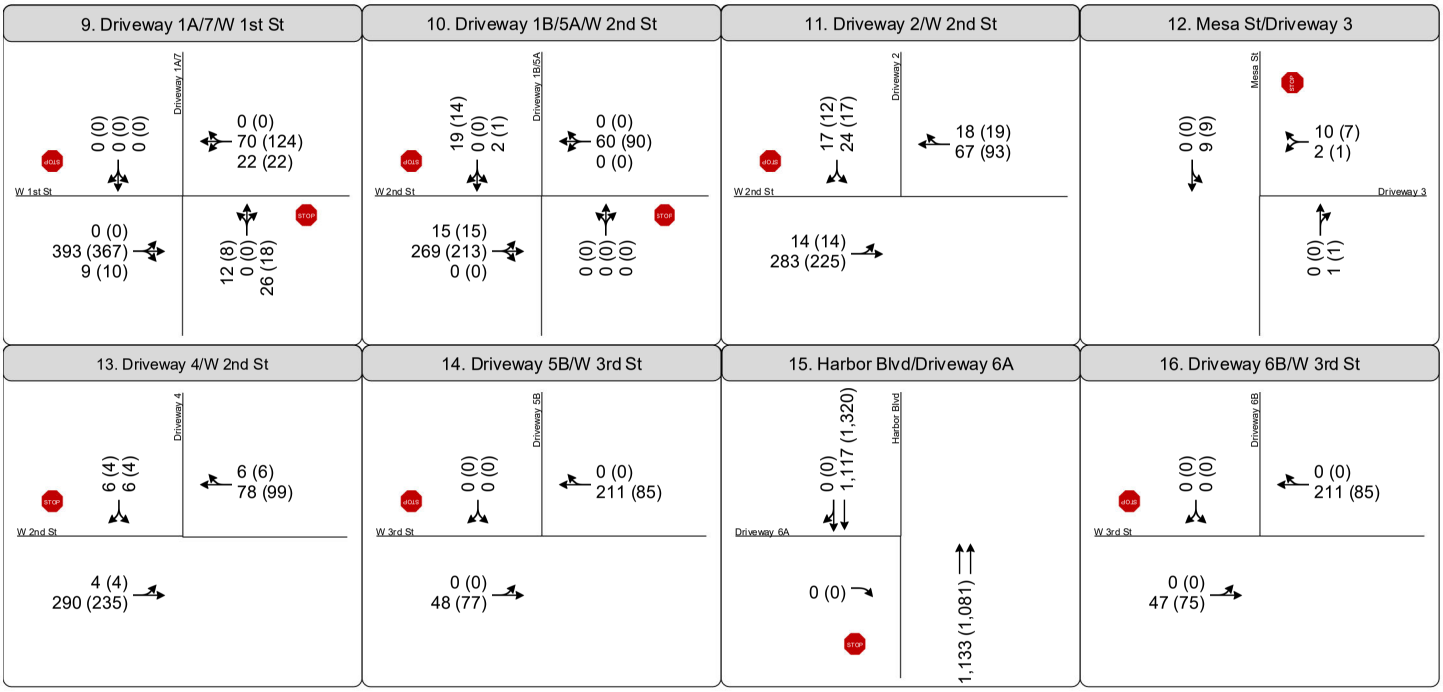
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H4

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) Plus Project, Phase 1 & 327 Harbor Site
One San Pedro Scenario A



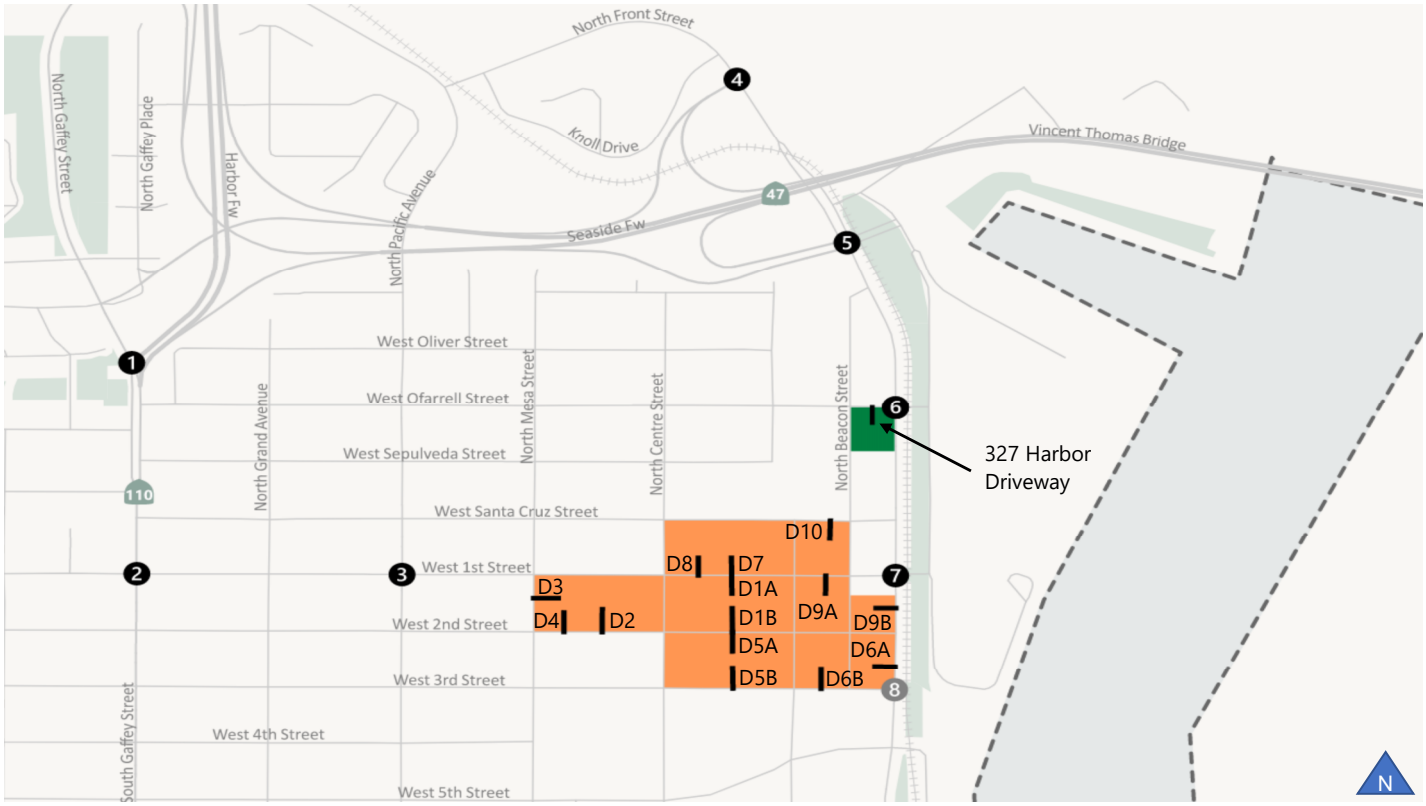


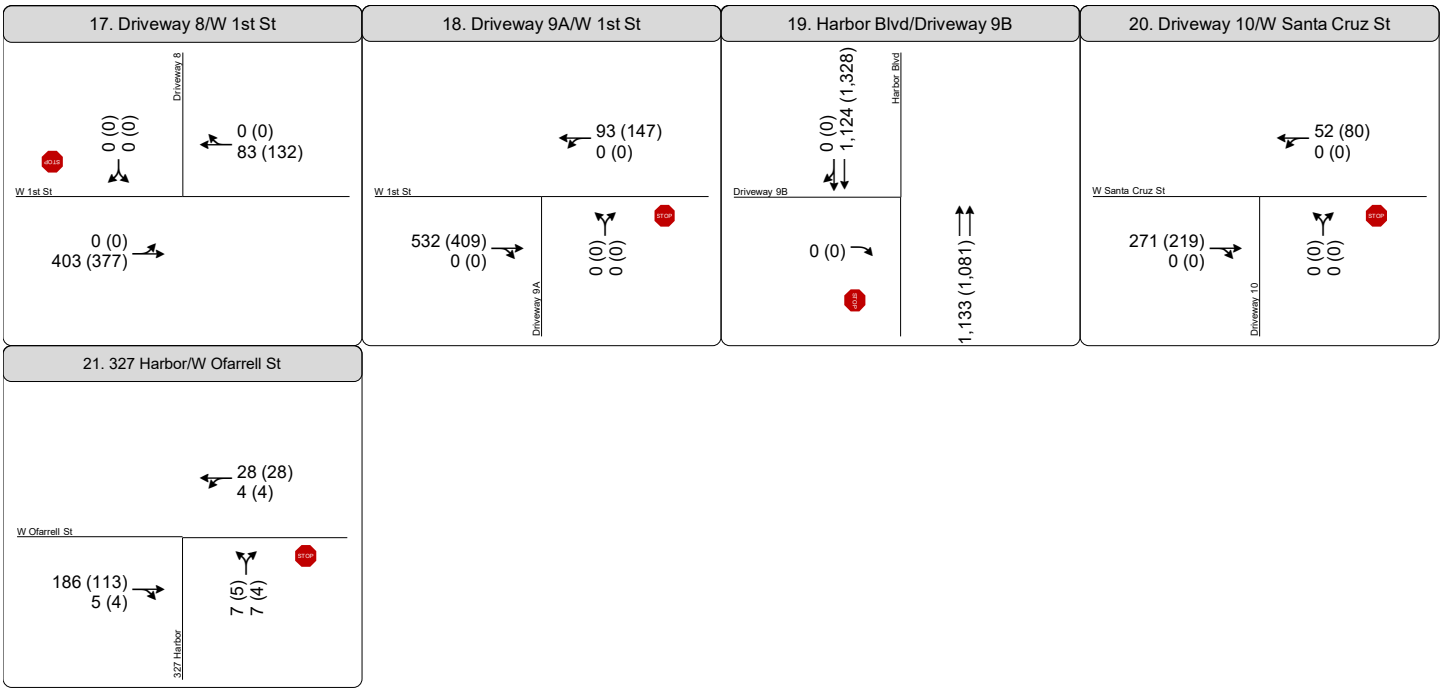
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H4

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) Plus Project, Phase 1 & 327 Harbor Site
One San Pedro Scenario A



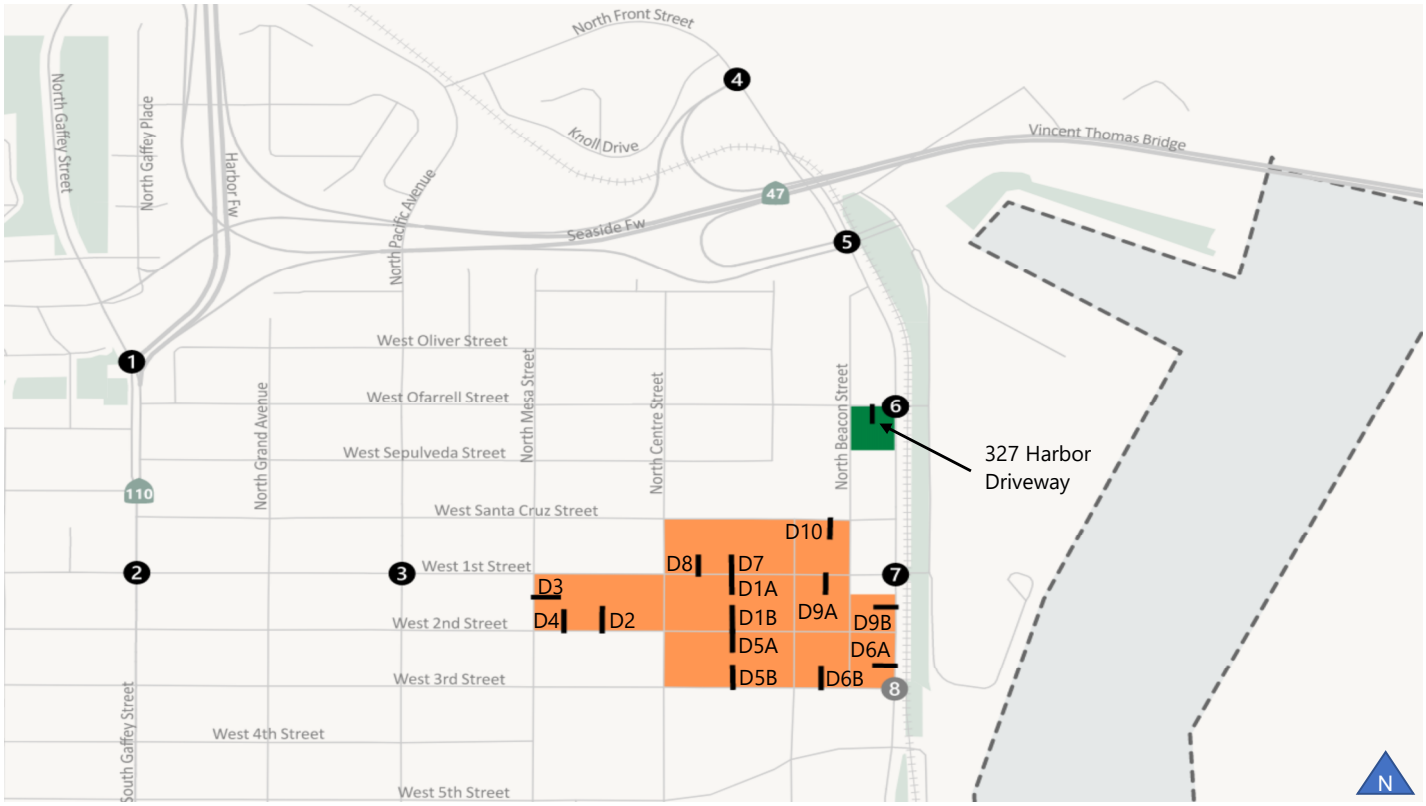


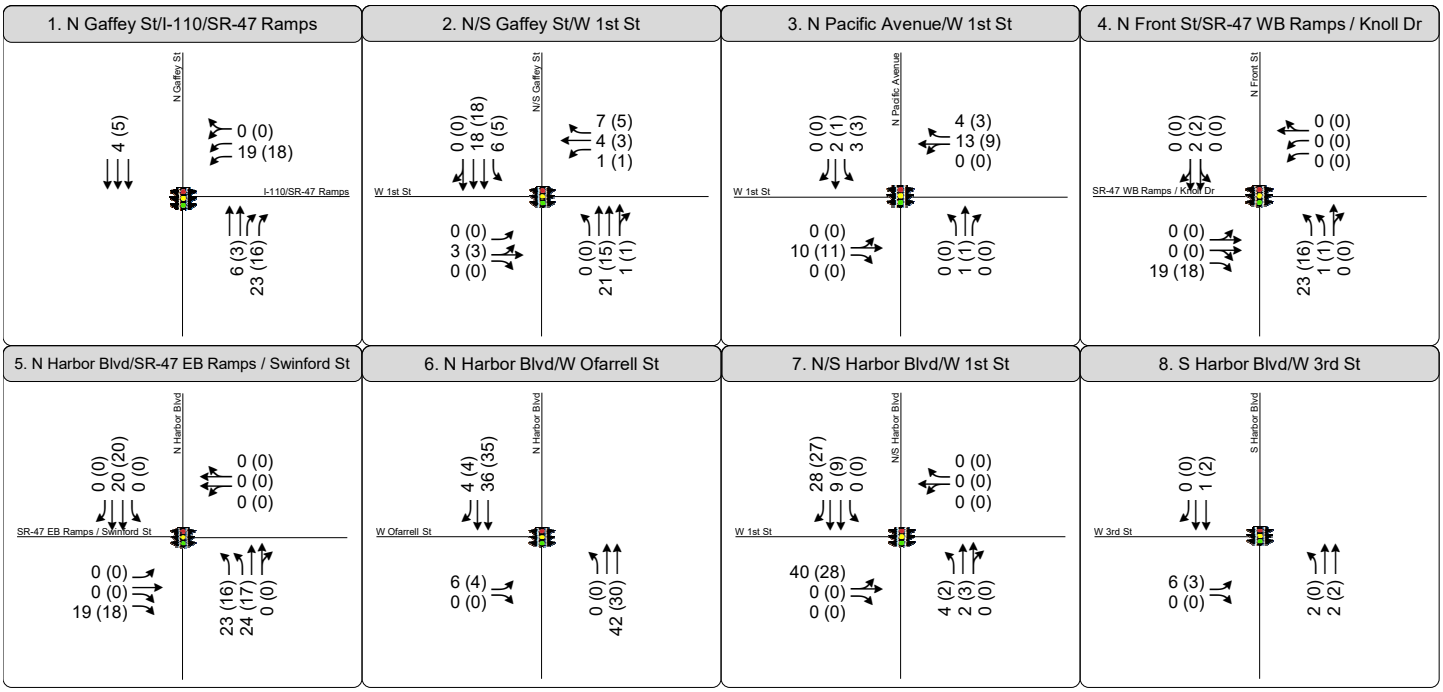
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H4

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) Plus Project, Phase 1 & 327 Harbor Site
One San Pedro Scenario A



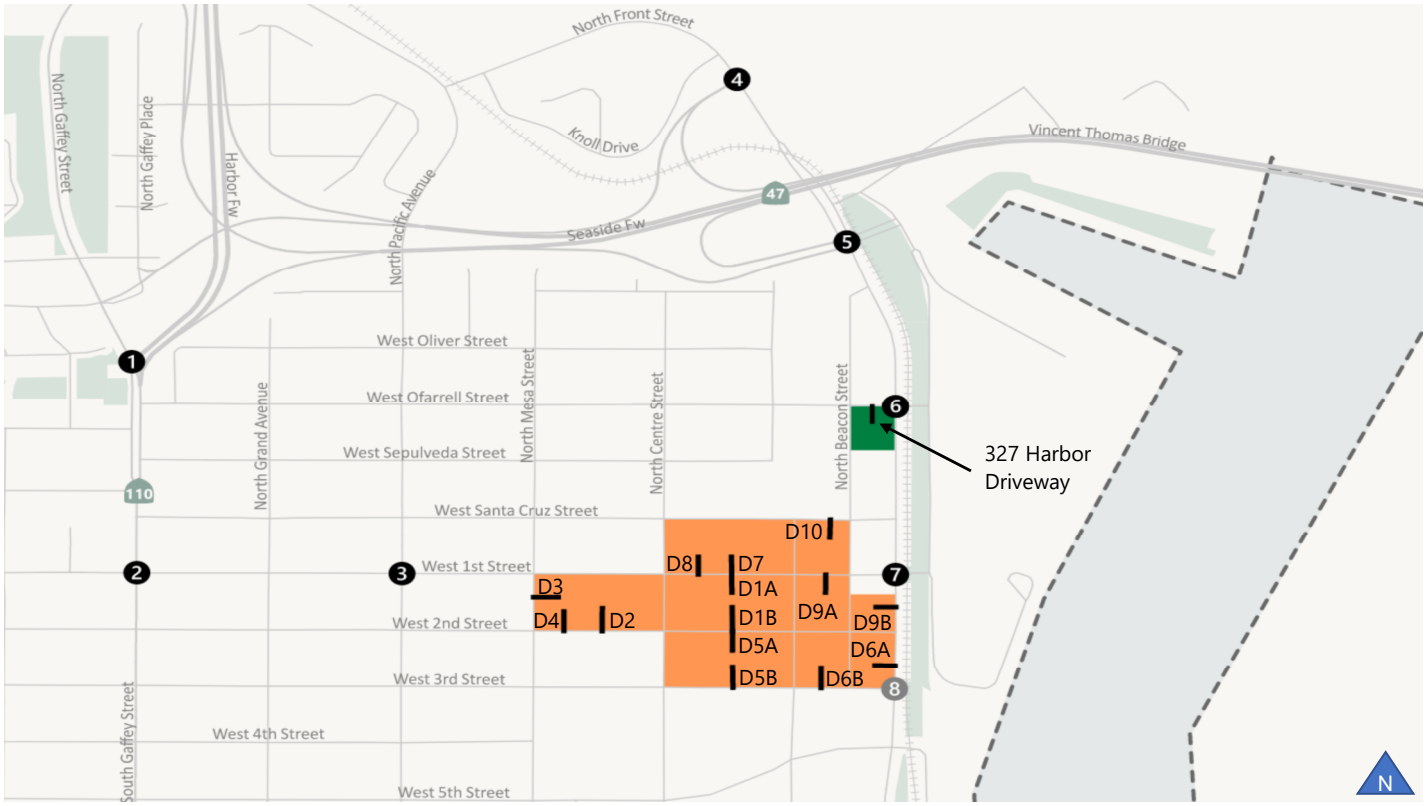


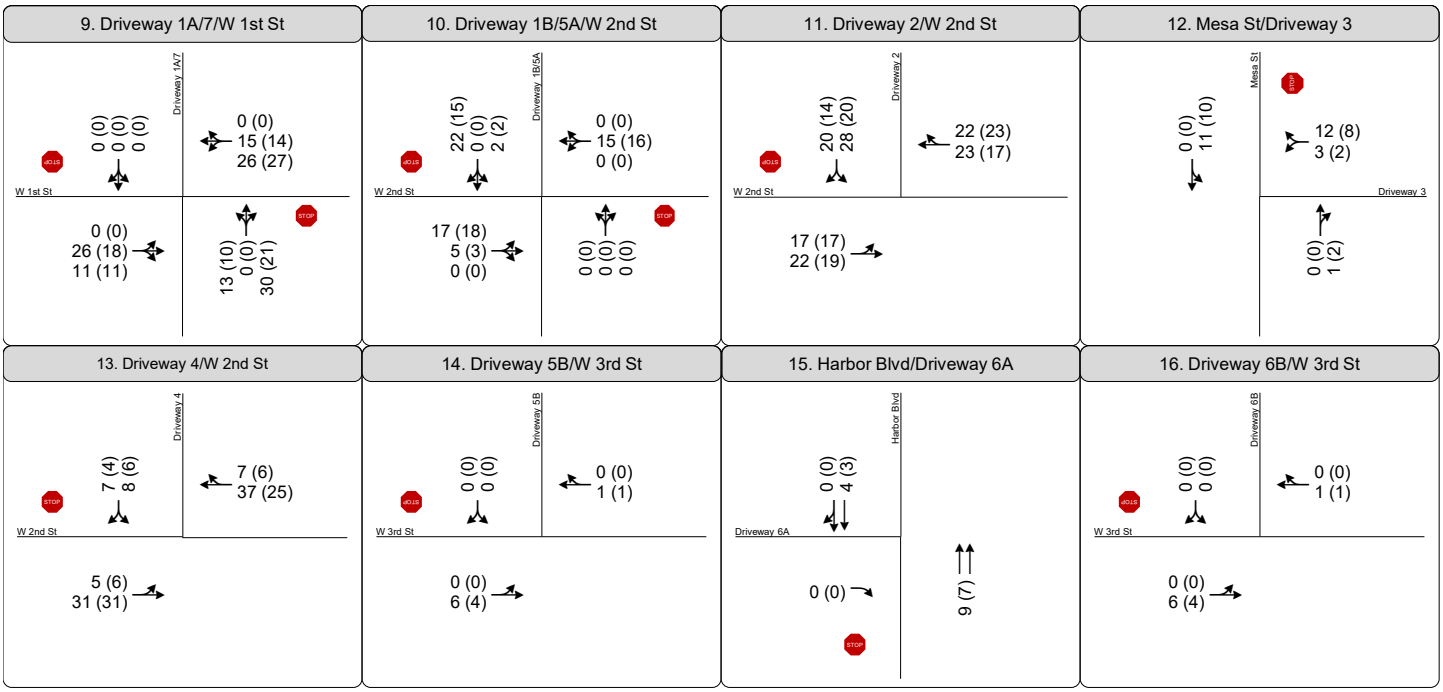
LEGEND

- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H5

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phase 1 & 327 Harbor Site
One San Pedro Scenario B



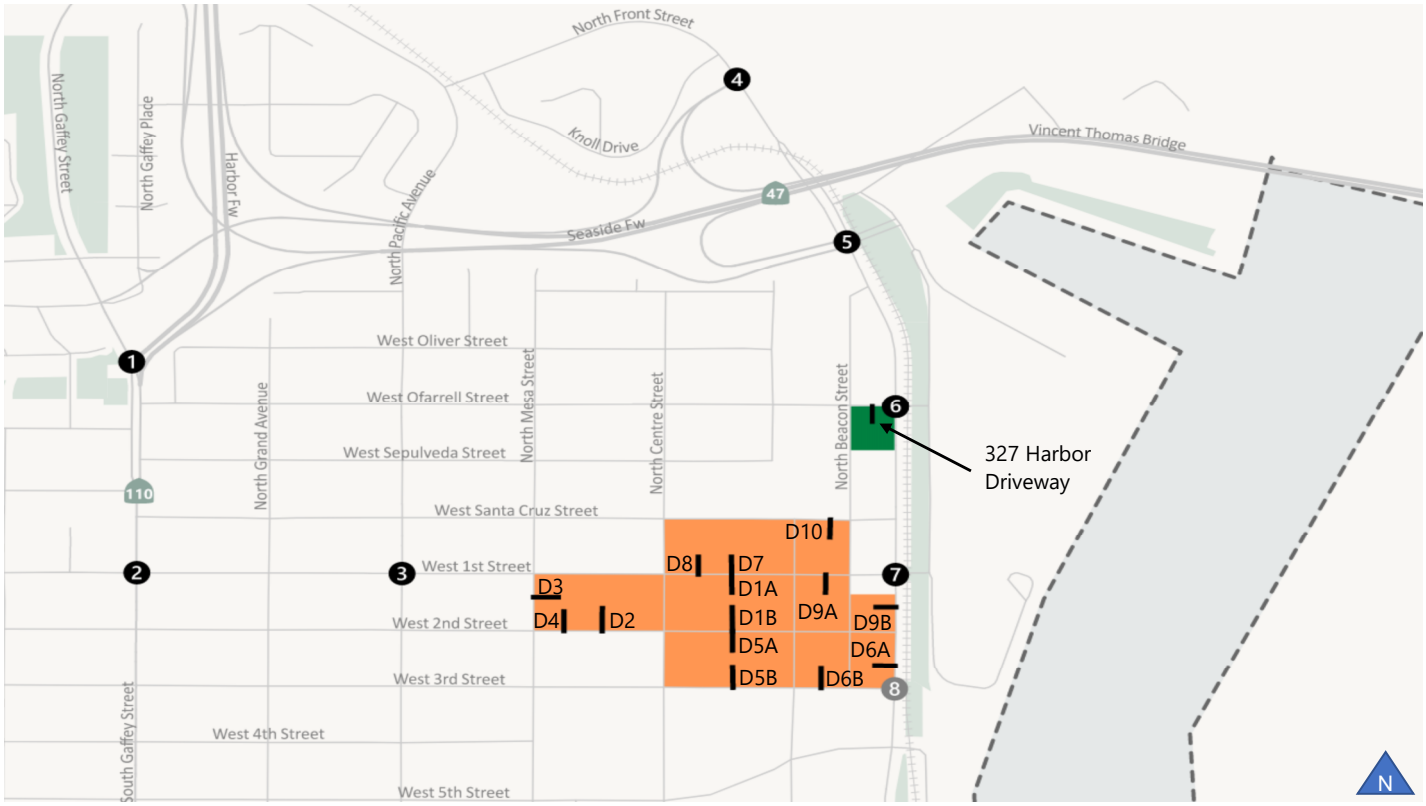


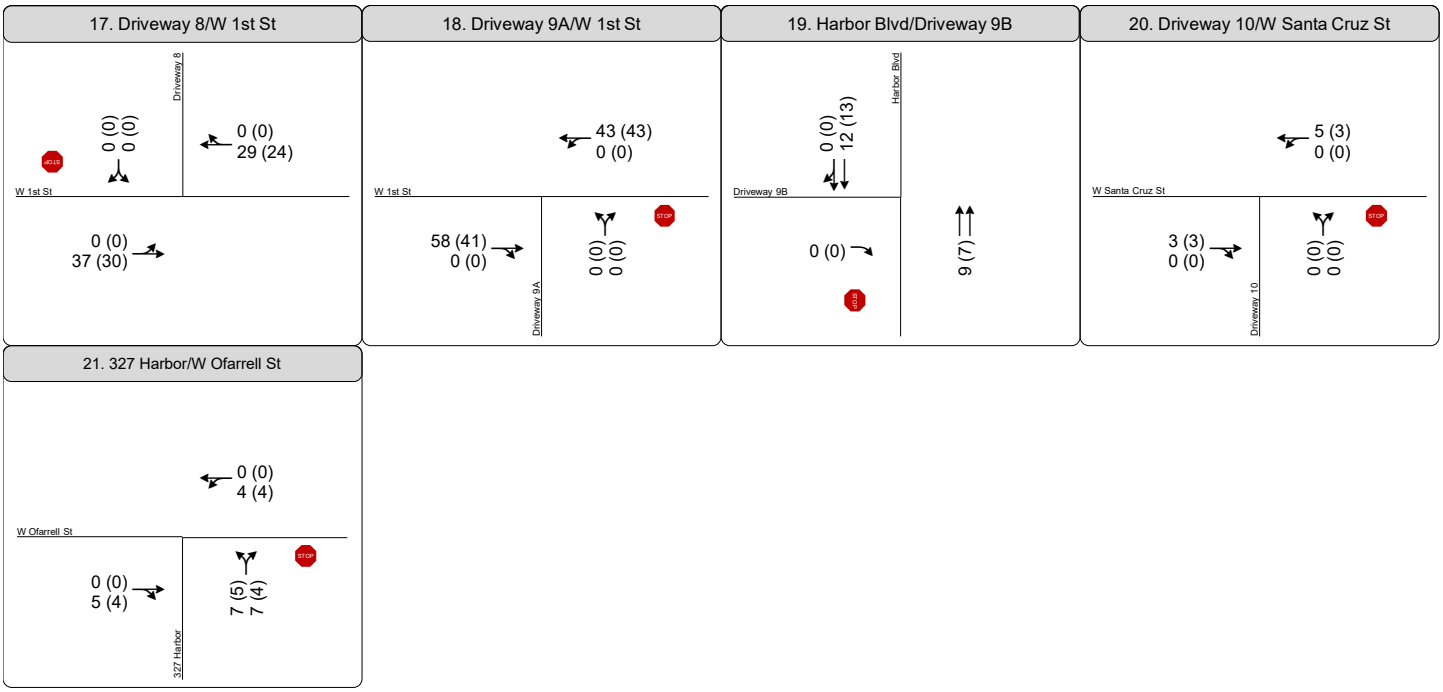
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H5

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phase 1 & 327 Harbor Site
One San Pedro Scenario B



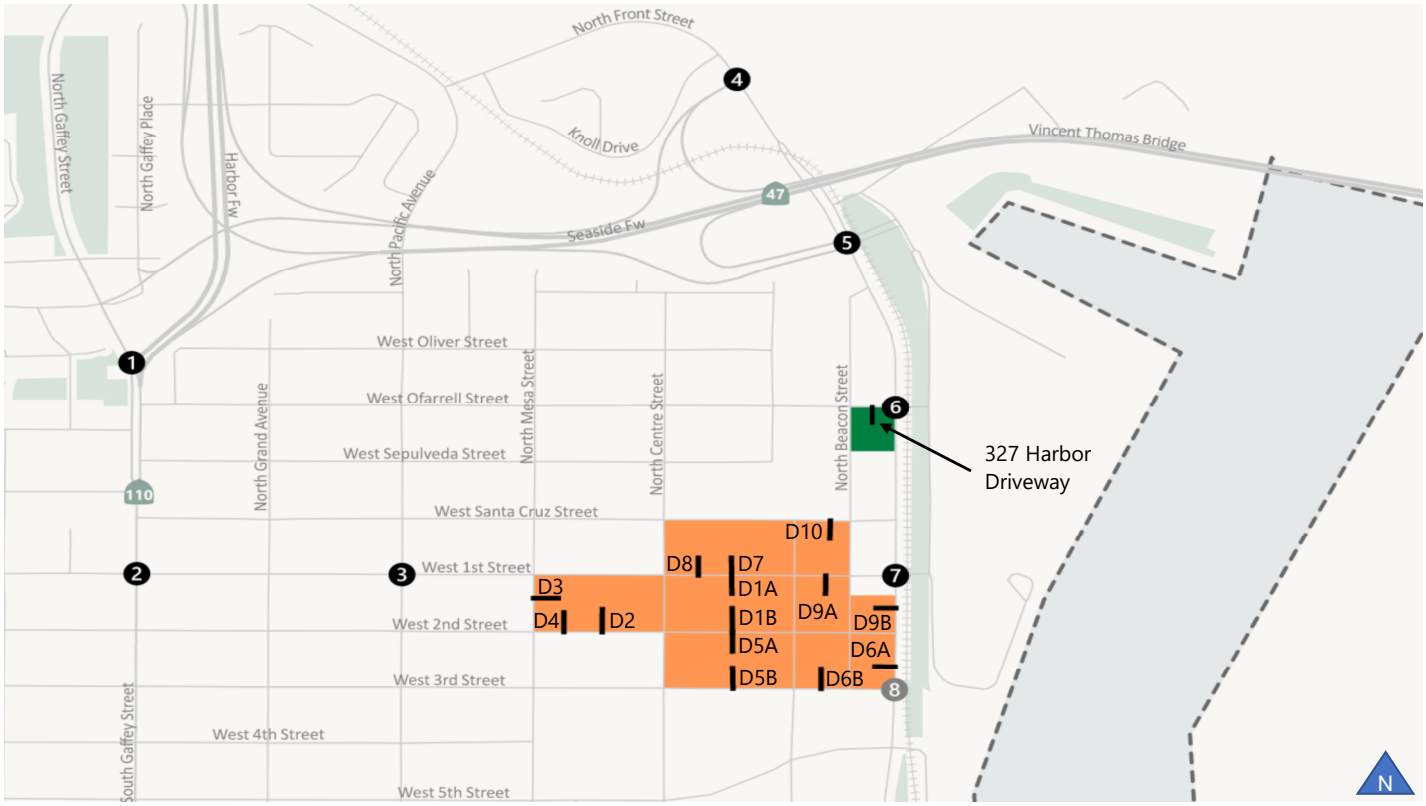


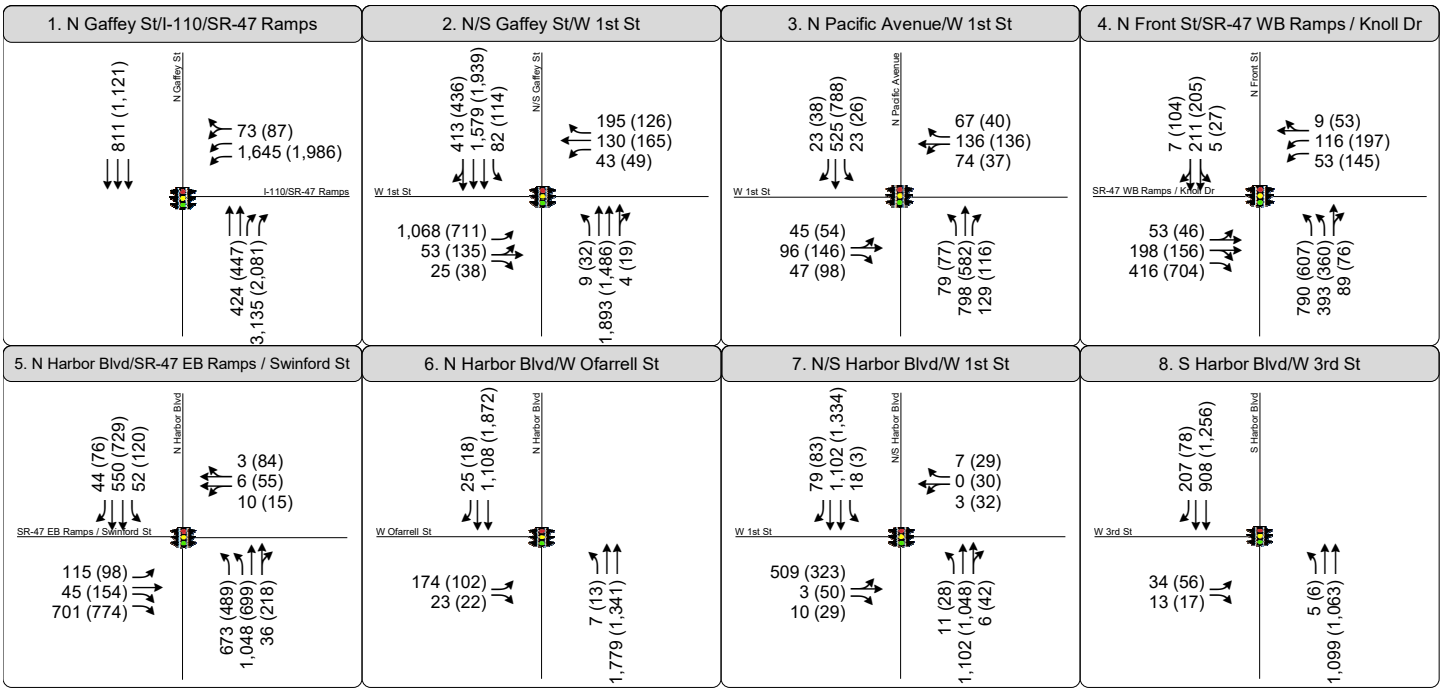
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H5

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phase 1 & 327 Harbor Site
One San Pedro Scenario B



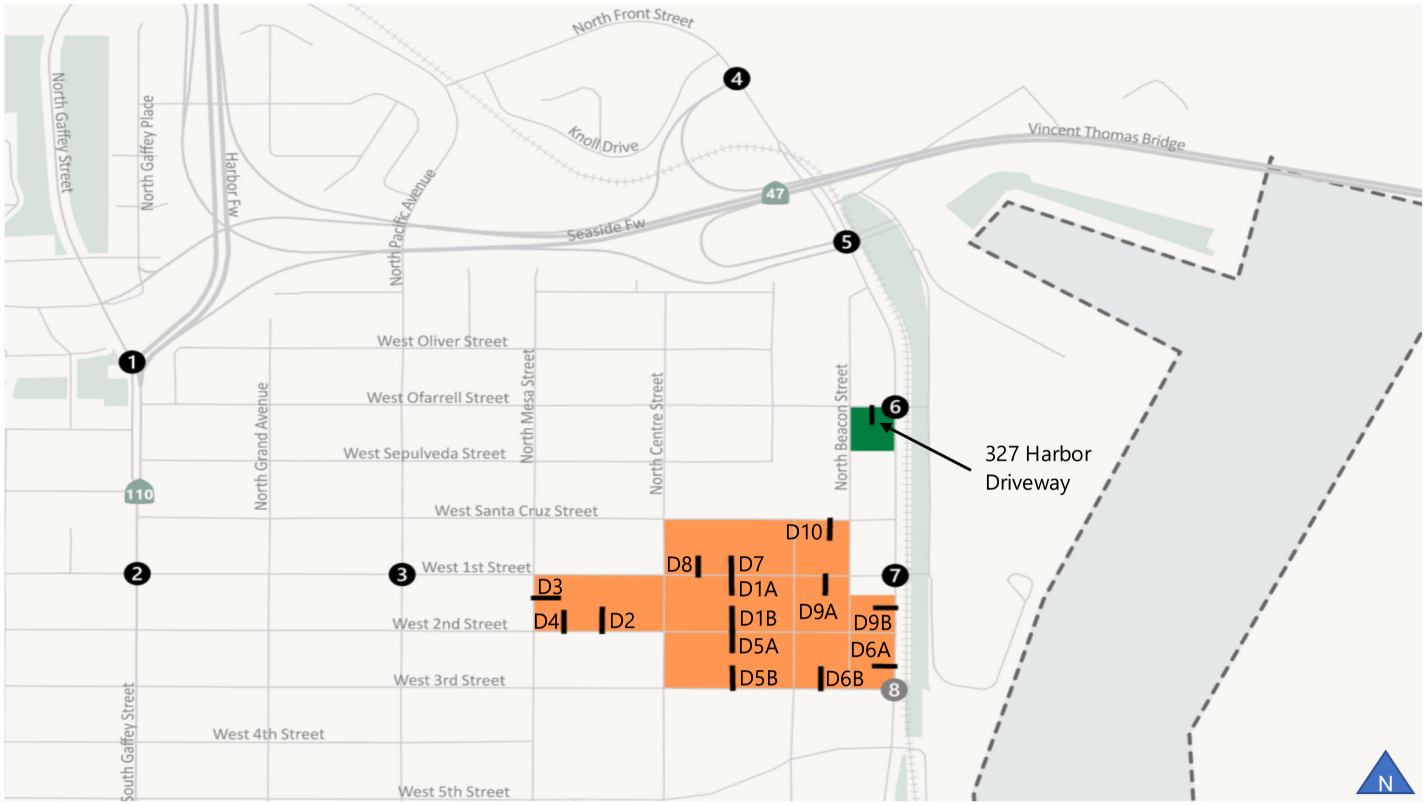


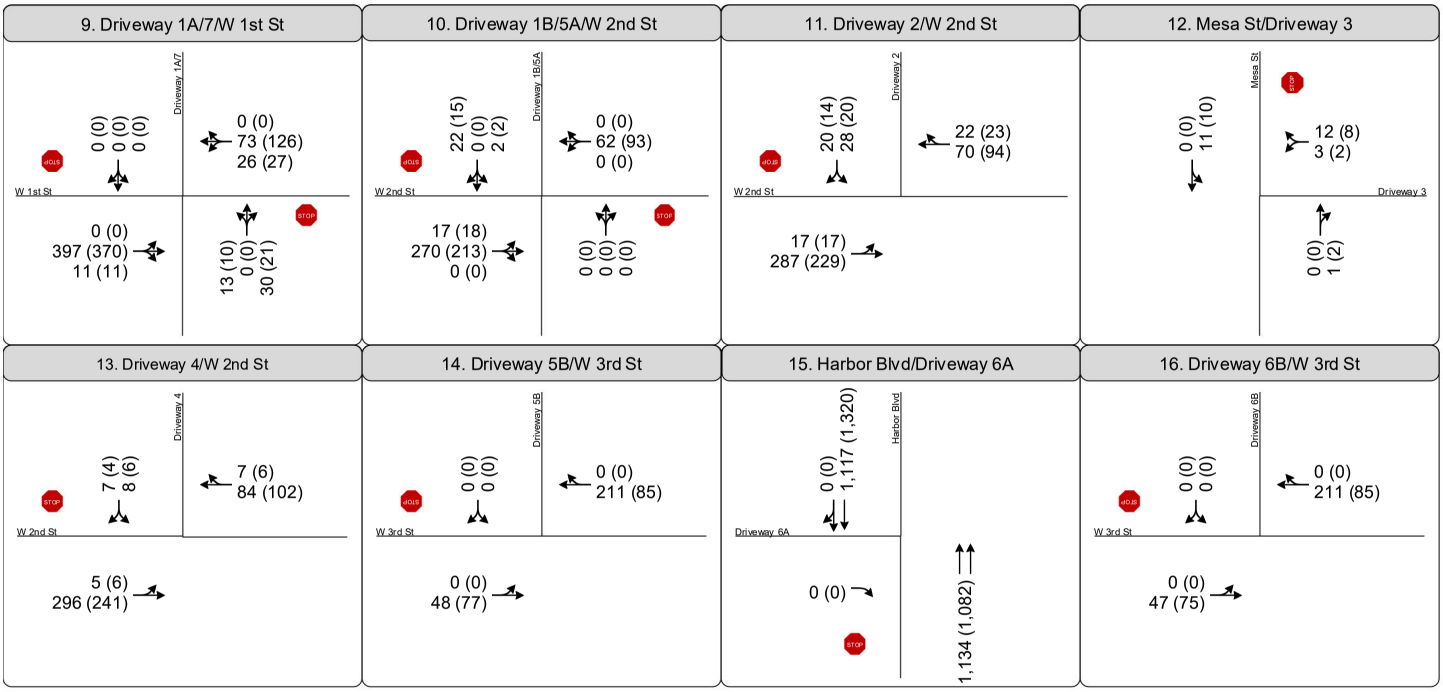
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- # — Study Intersection
- AM (PM) — Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H5

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) Plus Project, Phase 1 & 327 Harbor Site
One San Pedro Scenario B



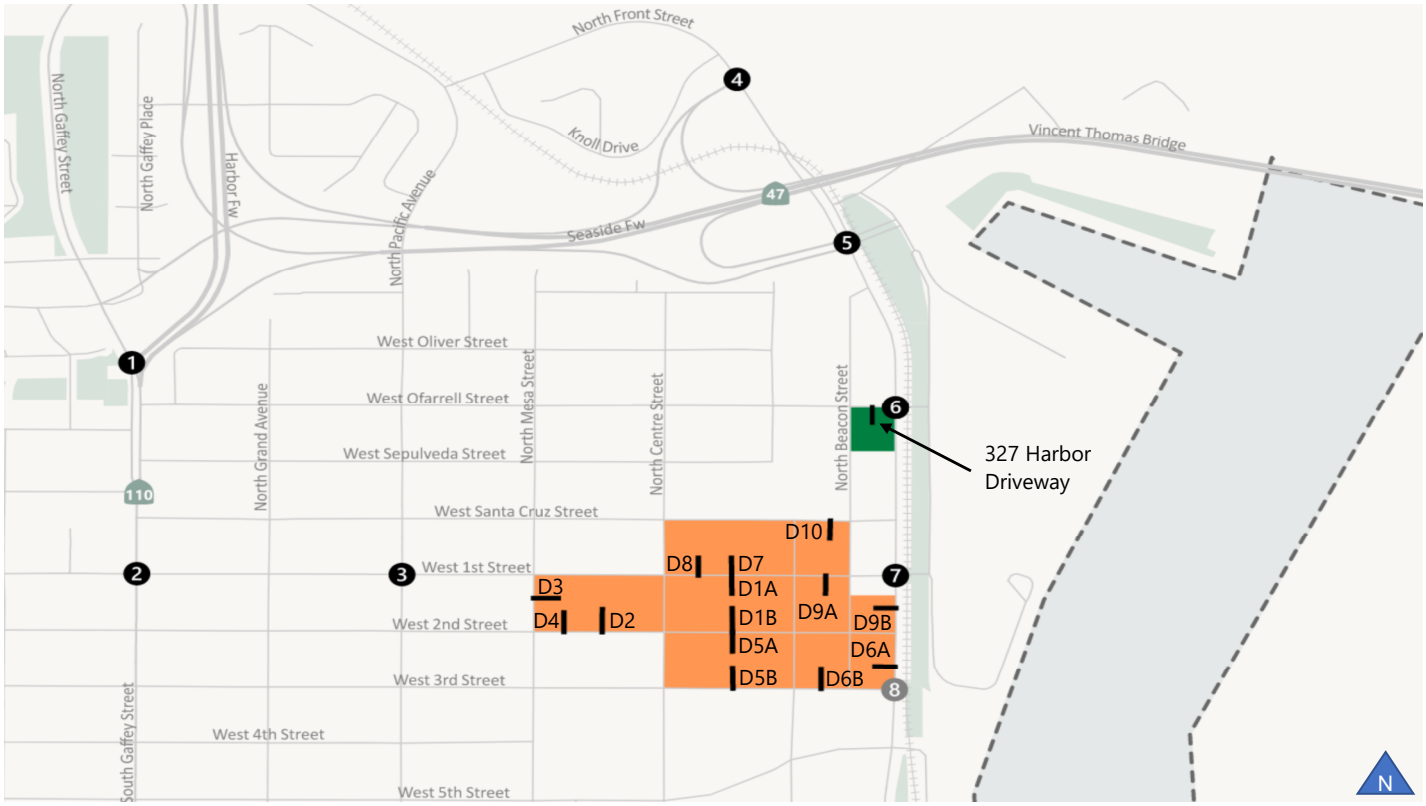


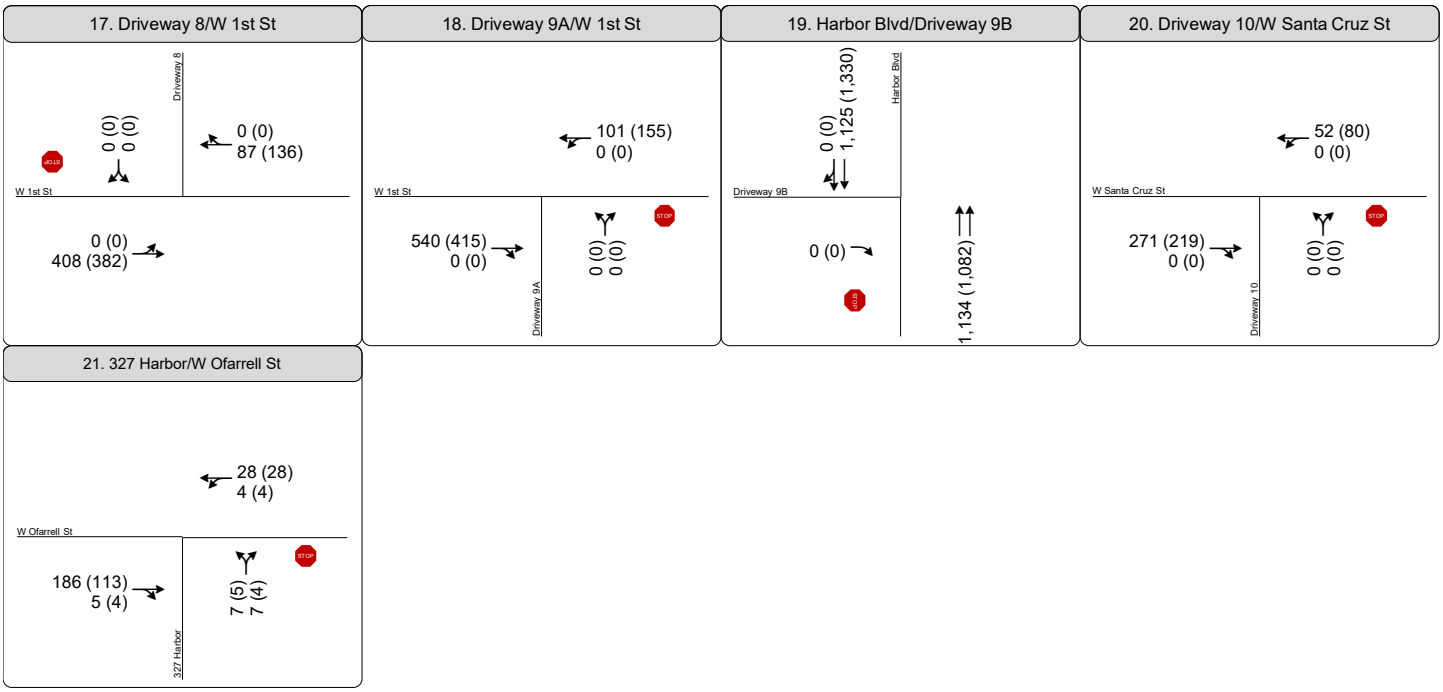
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H5

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) Plus Project, Phase 1 & 327 Harbor Site
One San Pedro Scenario B



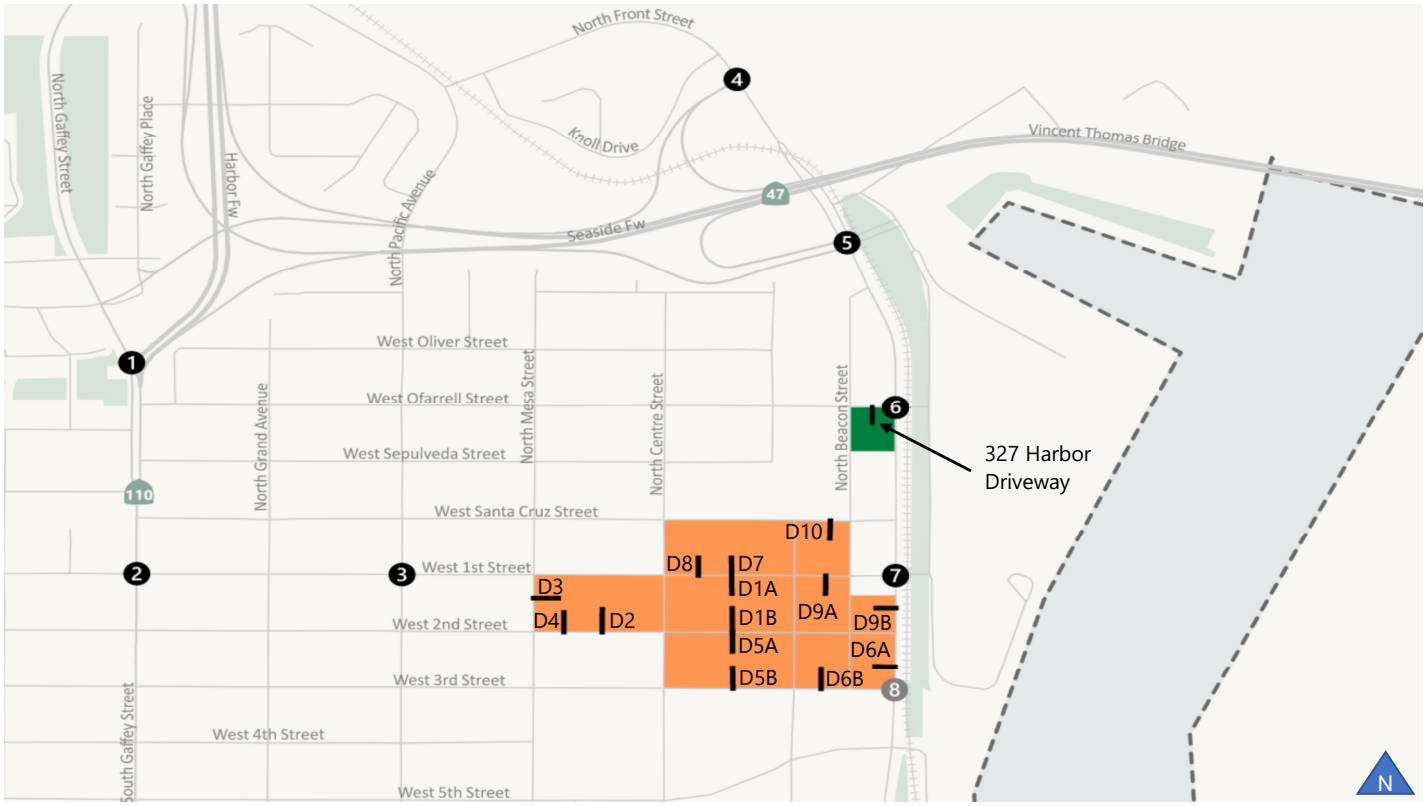


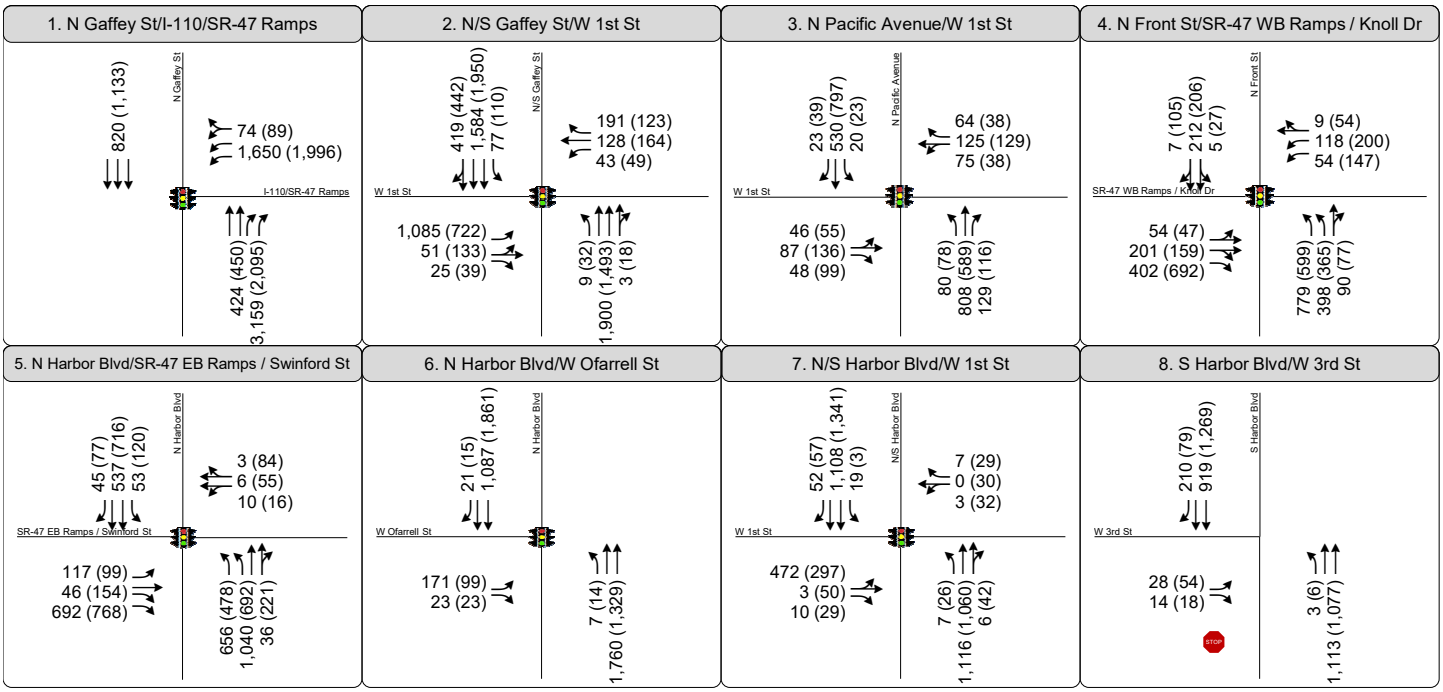
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H5

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2030) Plus Project, Phase 1 & 327 Harbor Site
One San Pedro Scenario B



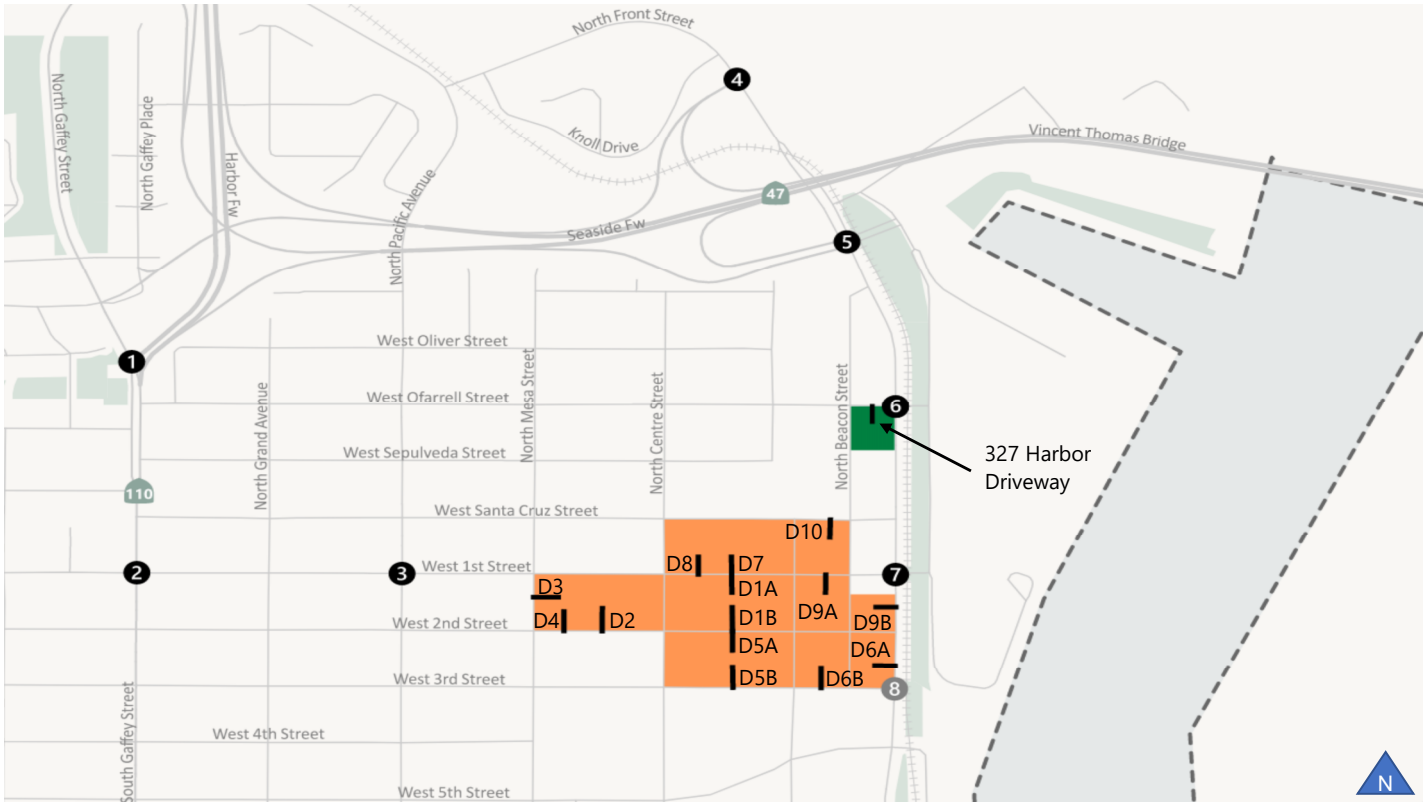


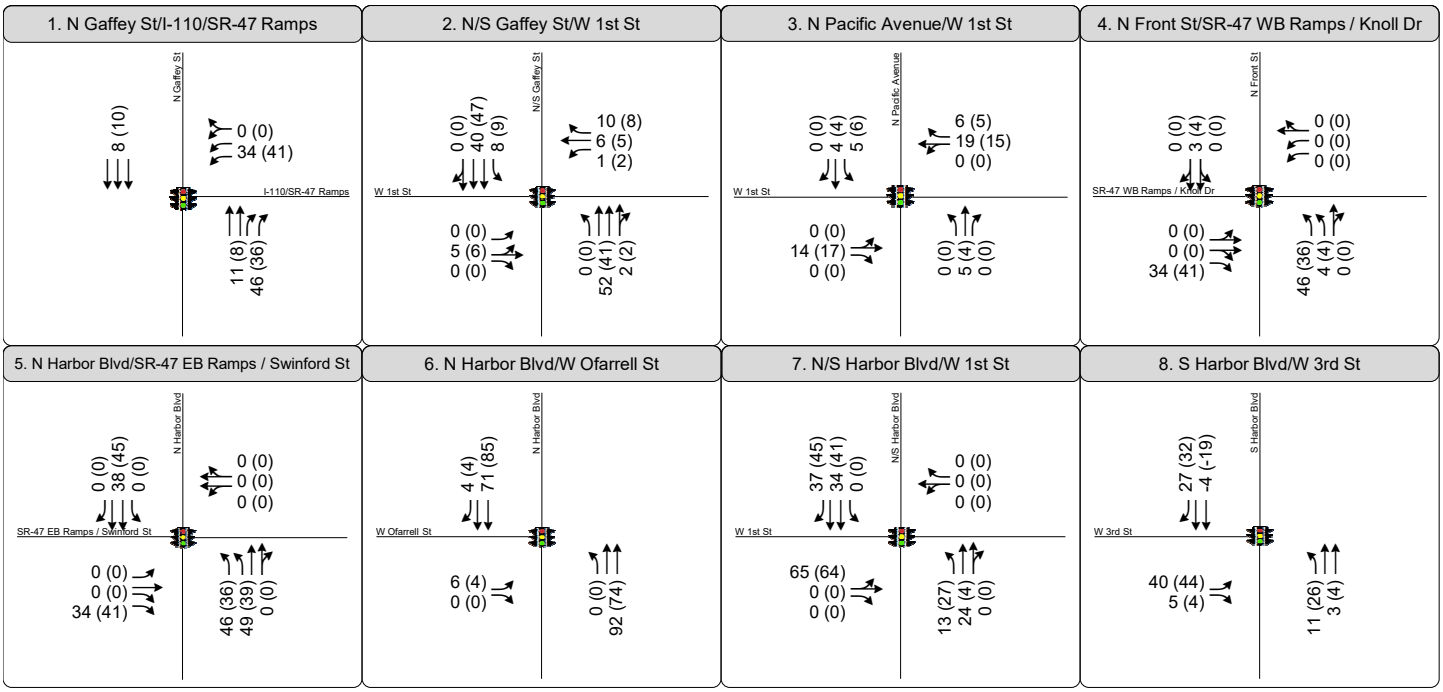
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H6

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) No Project
One San Pedro



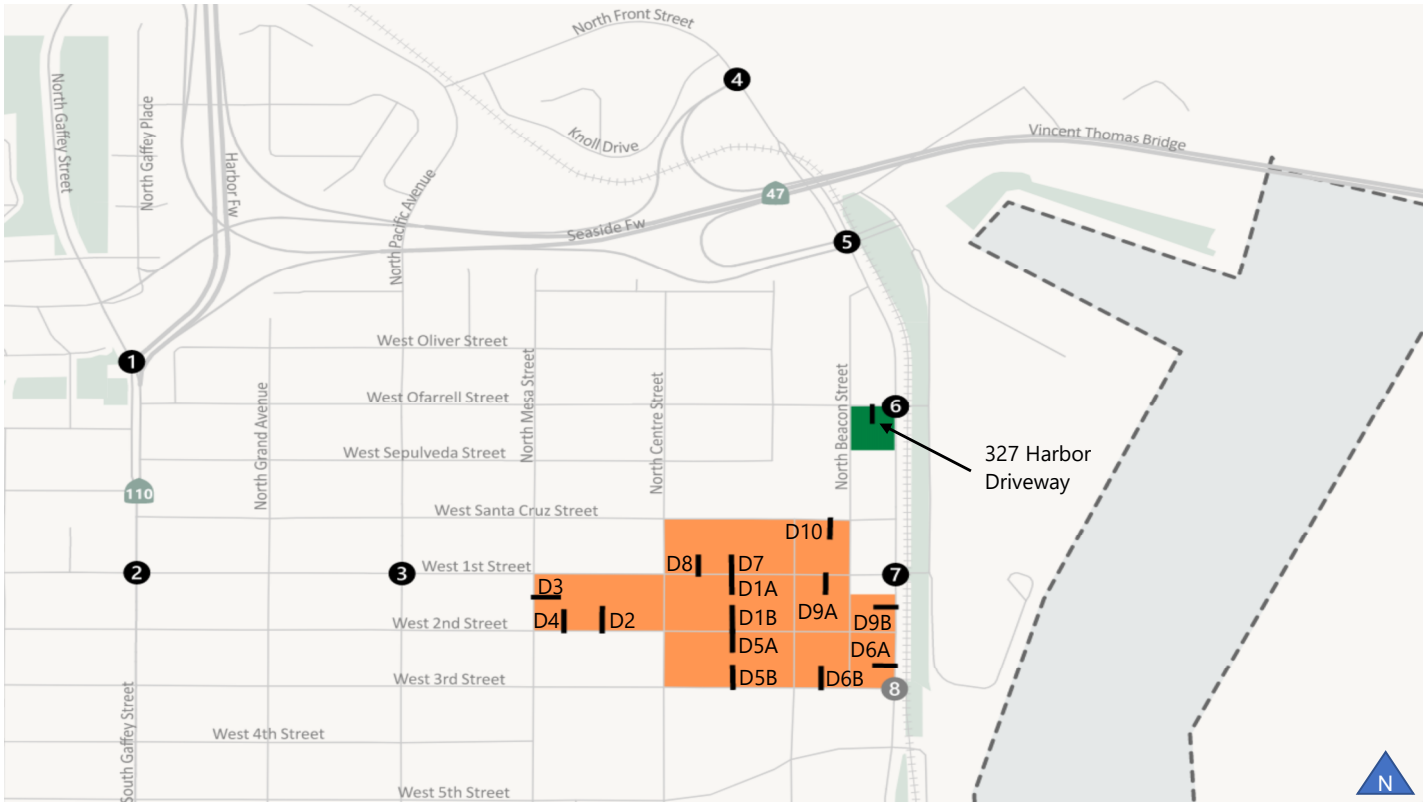


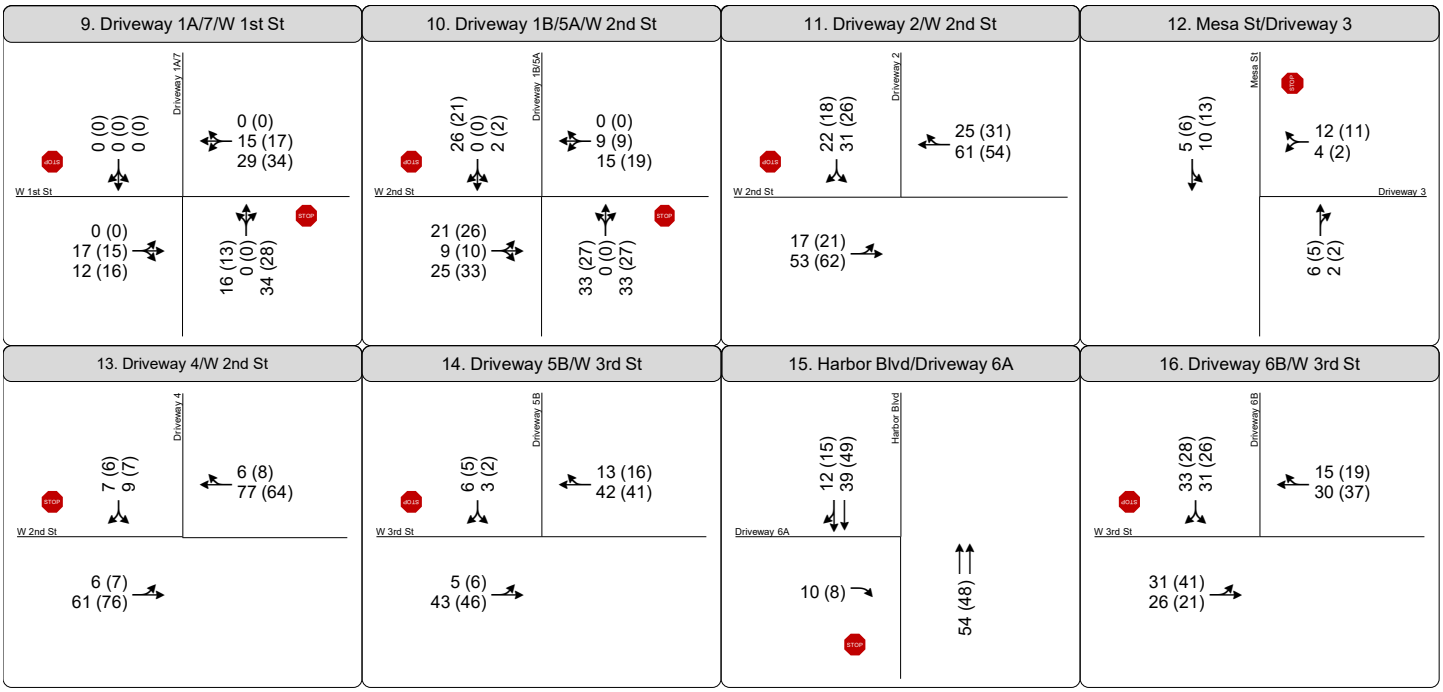
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H7

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario A



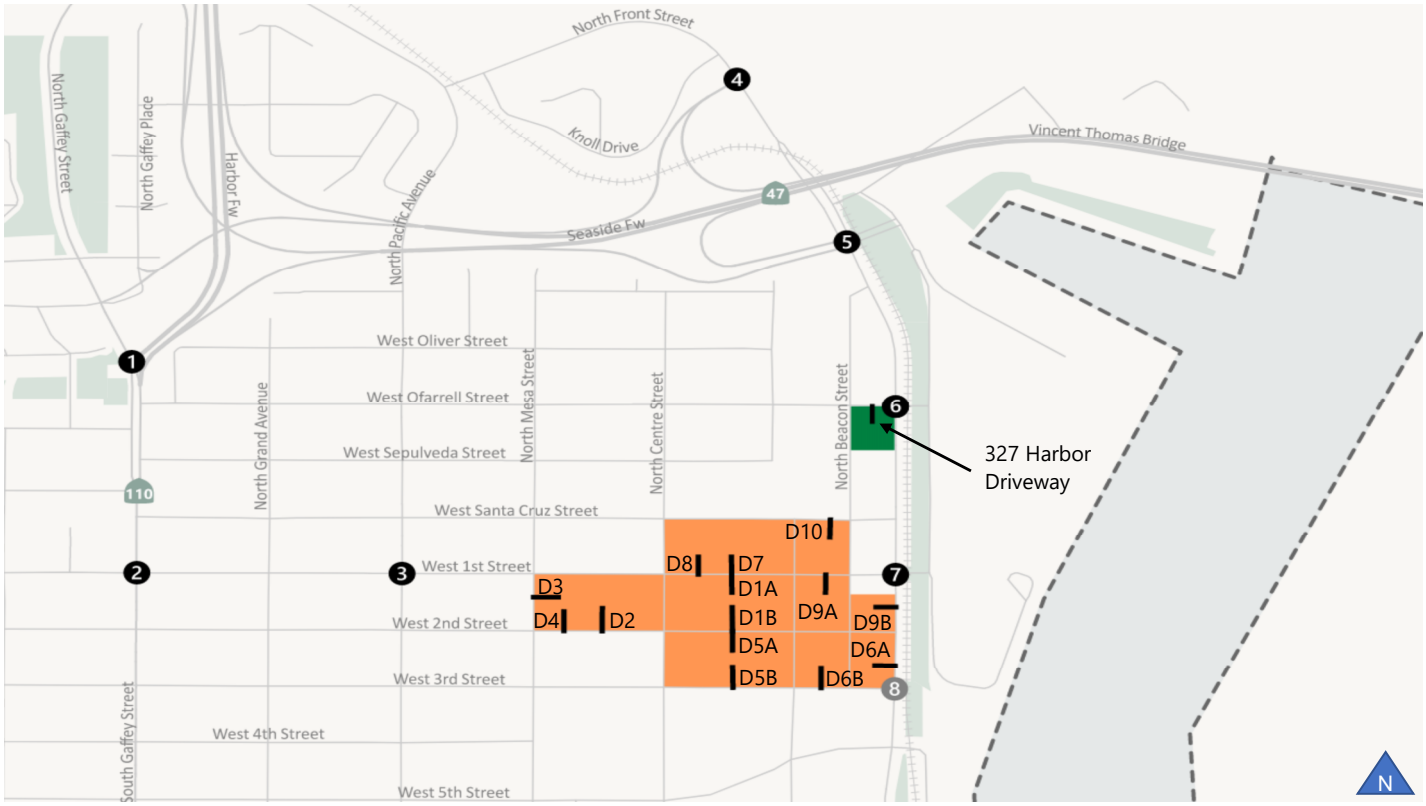


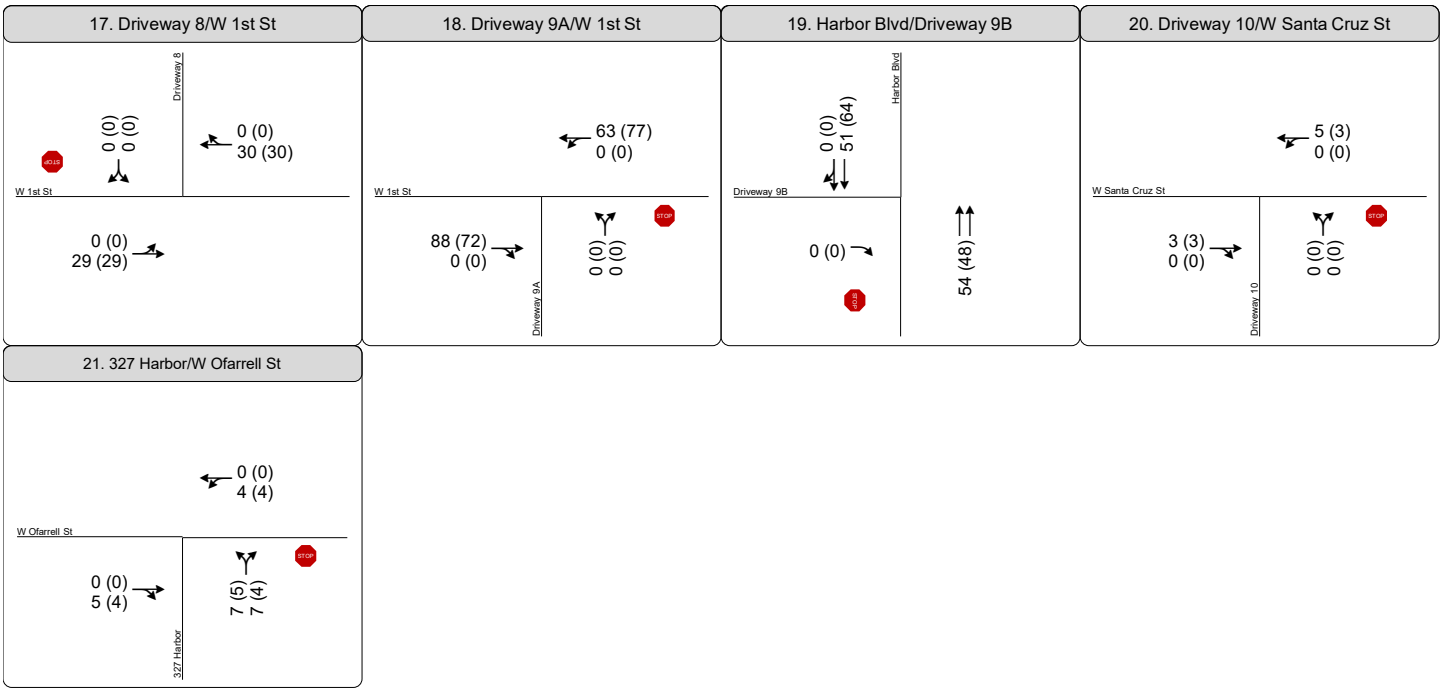
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H7

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario A



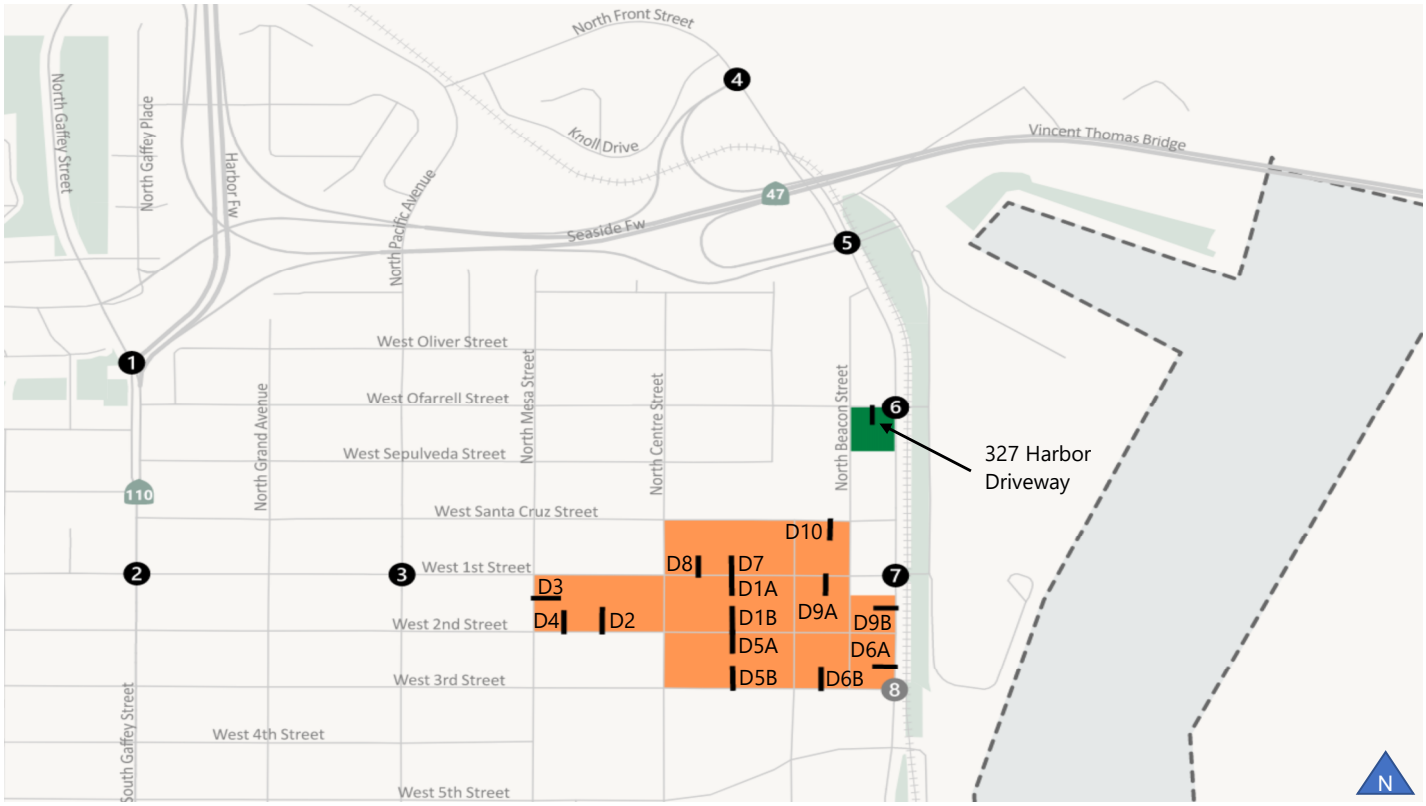


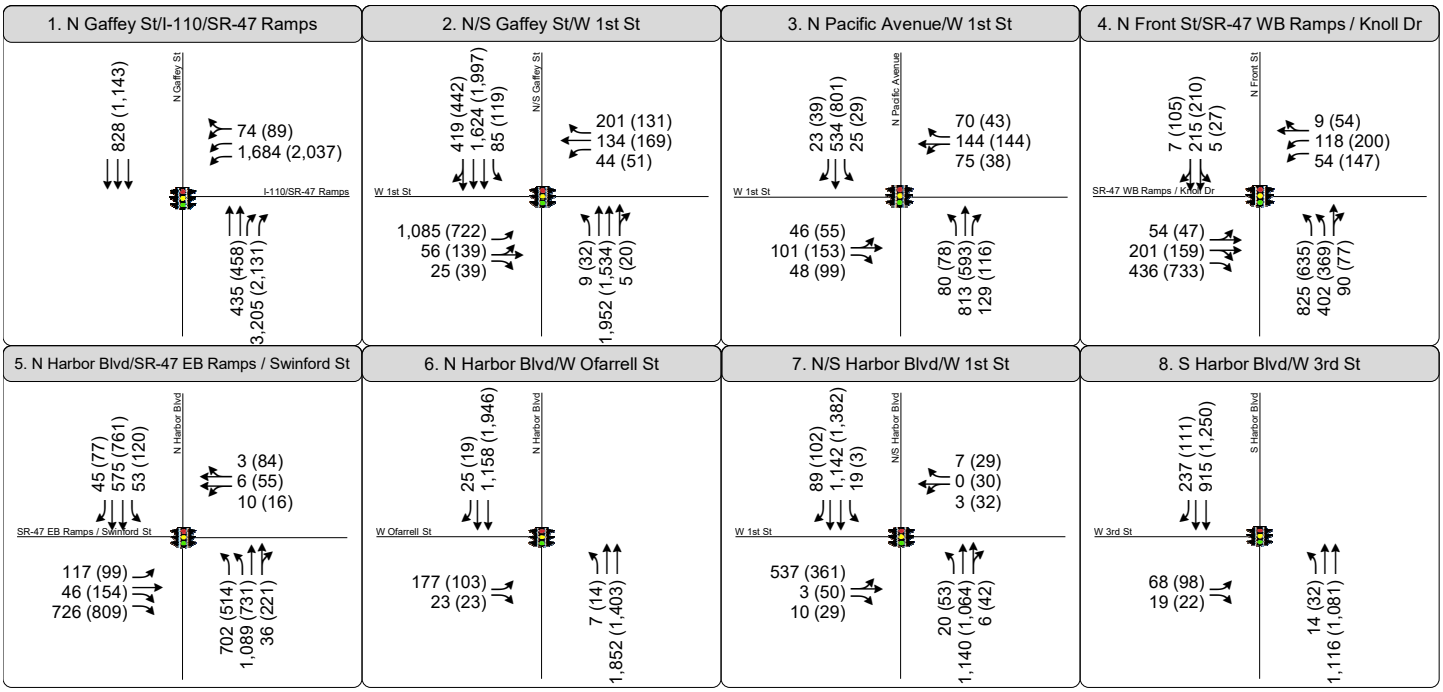
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H7

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario A



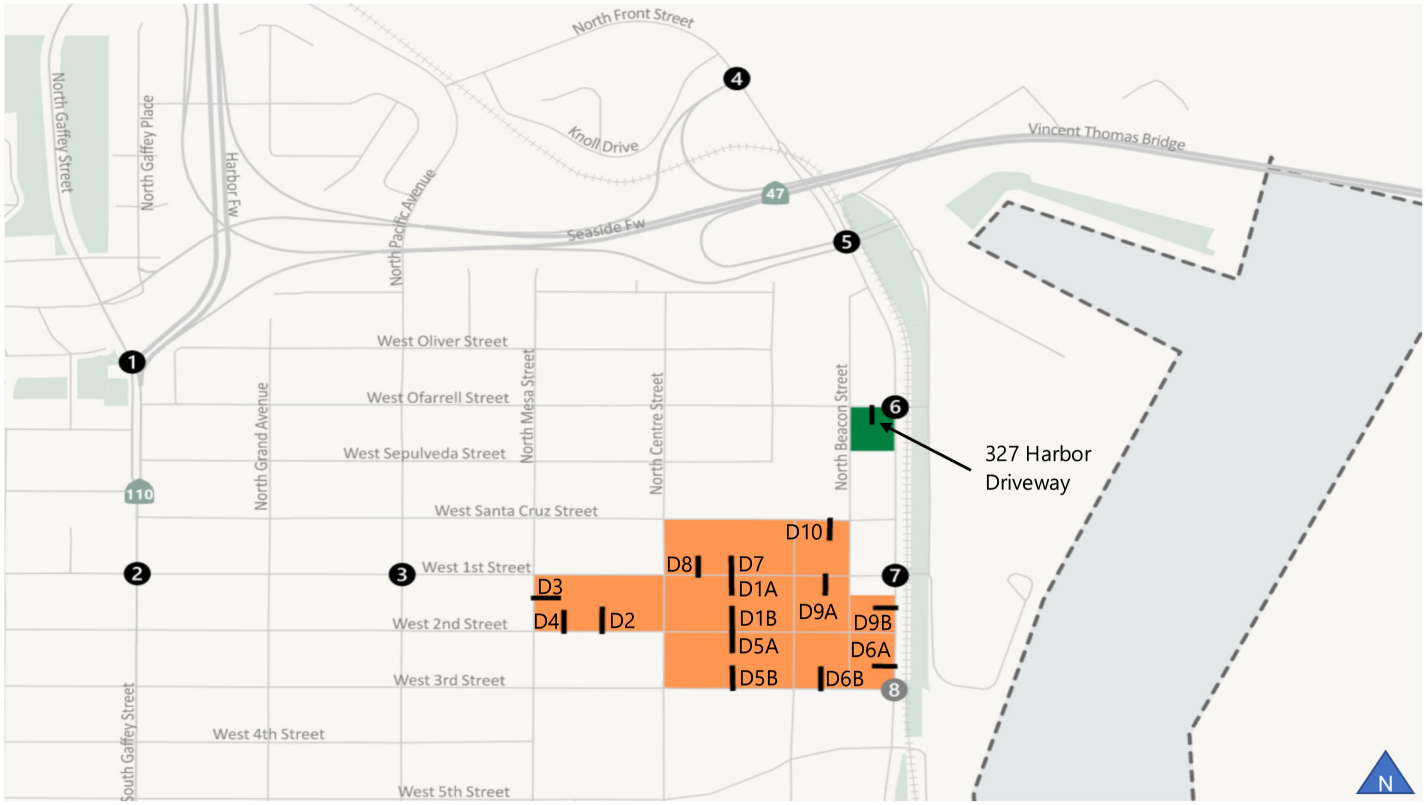


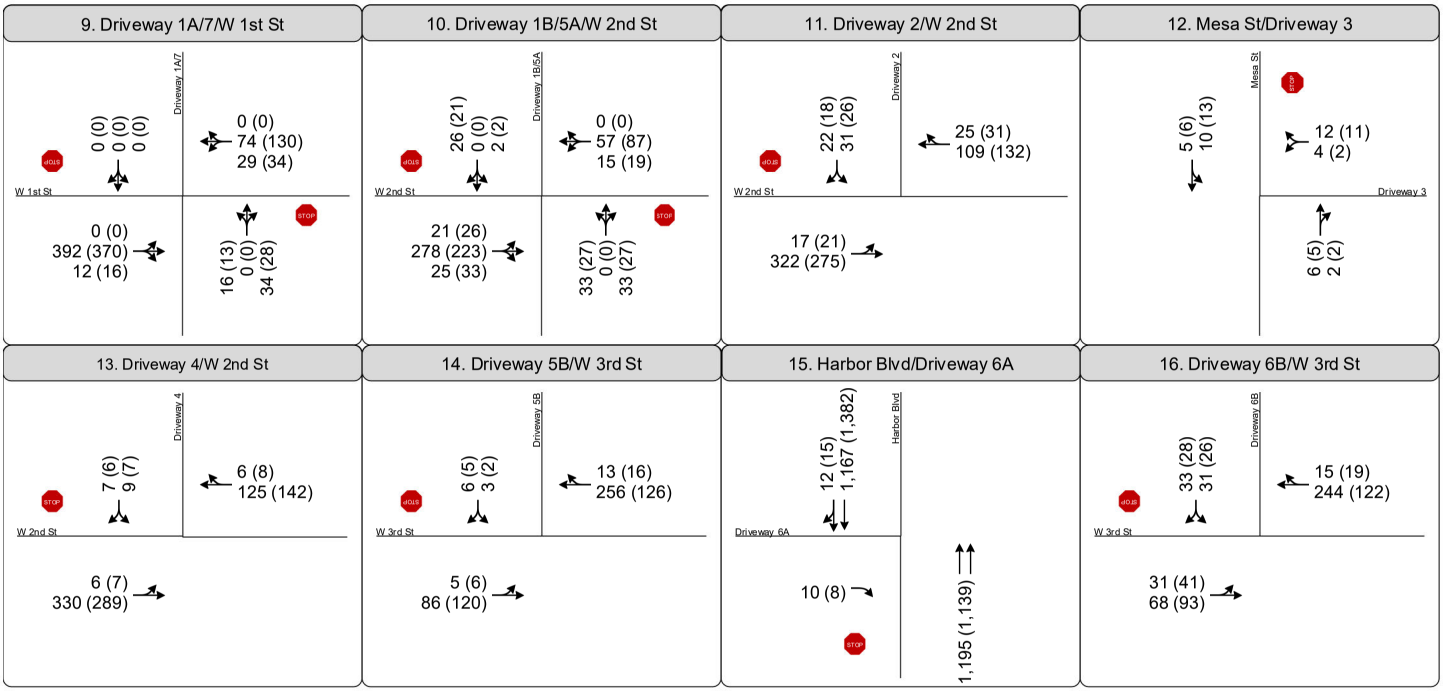
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H7

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) Plus Project, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario A



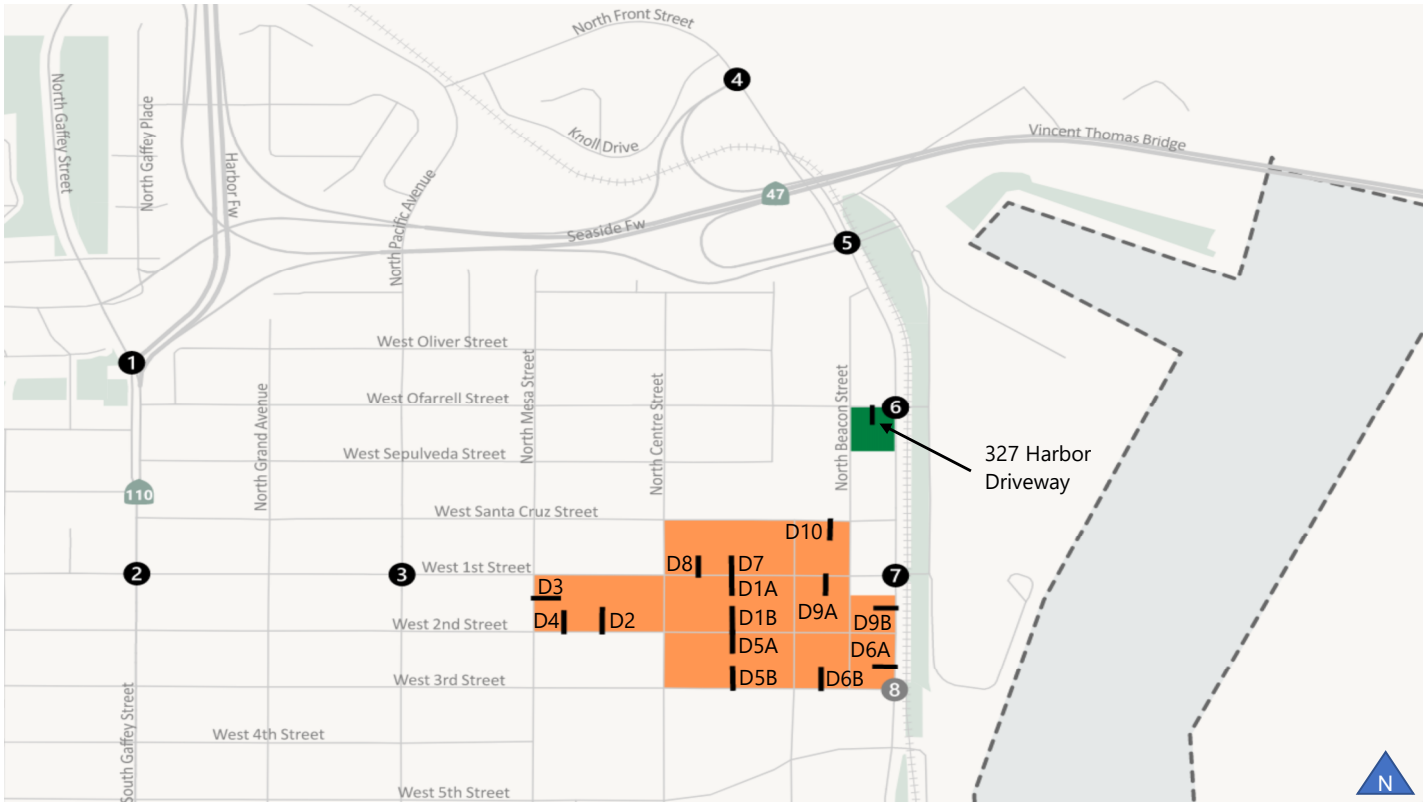


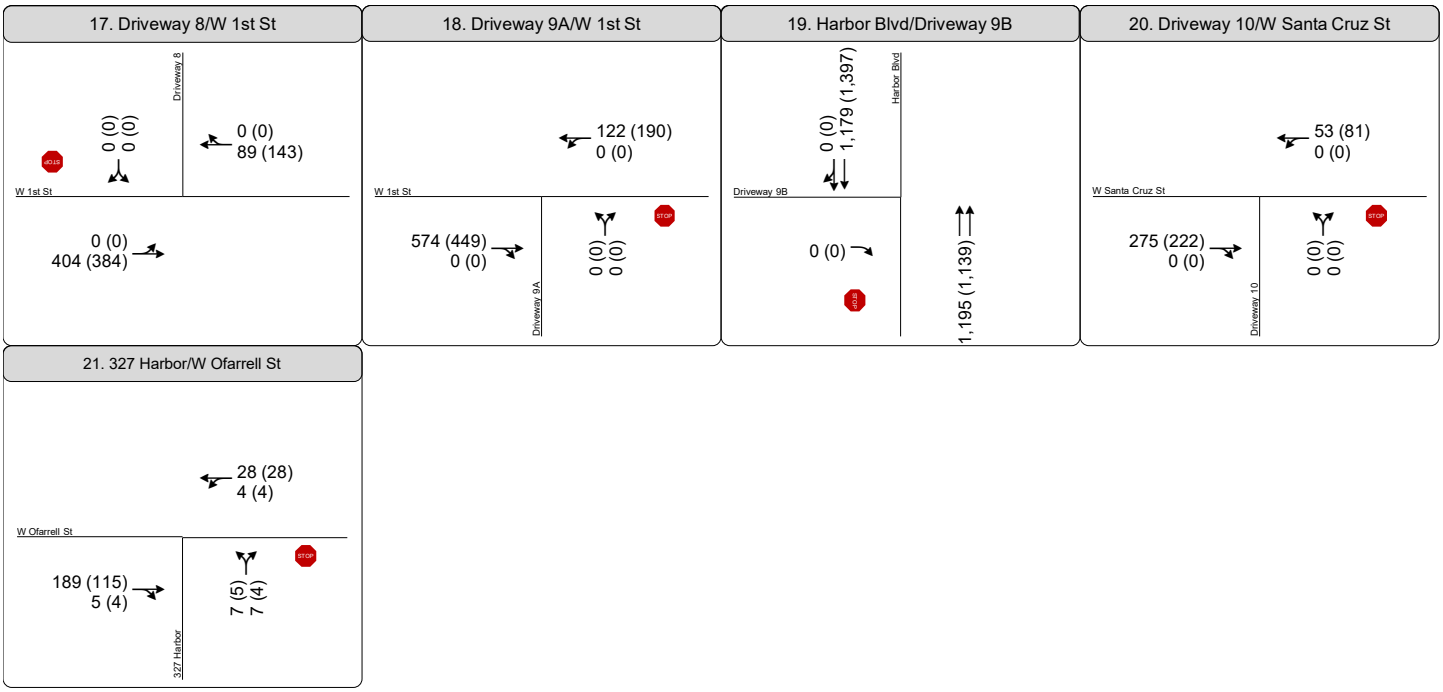
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H7

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) Plus Project, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario A



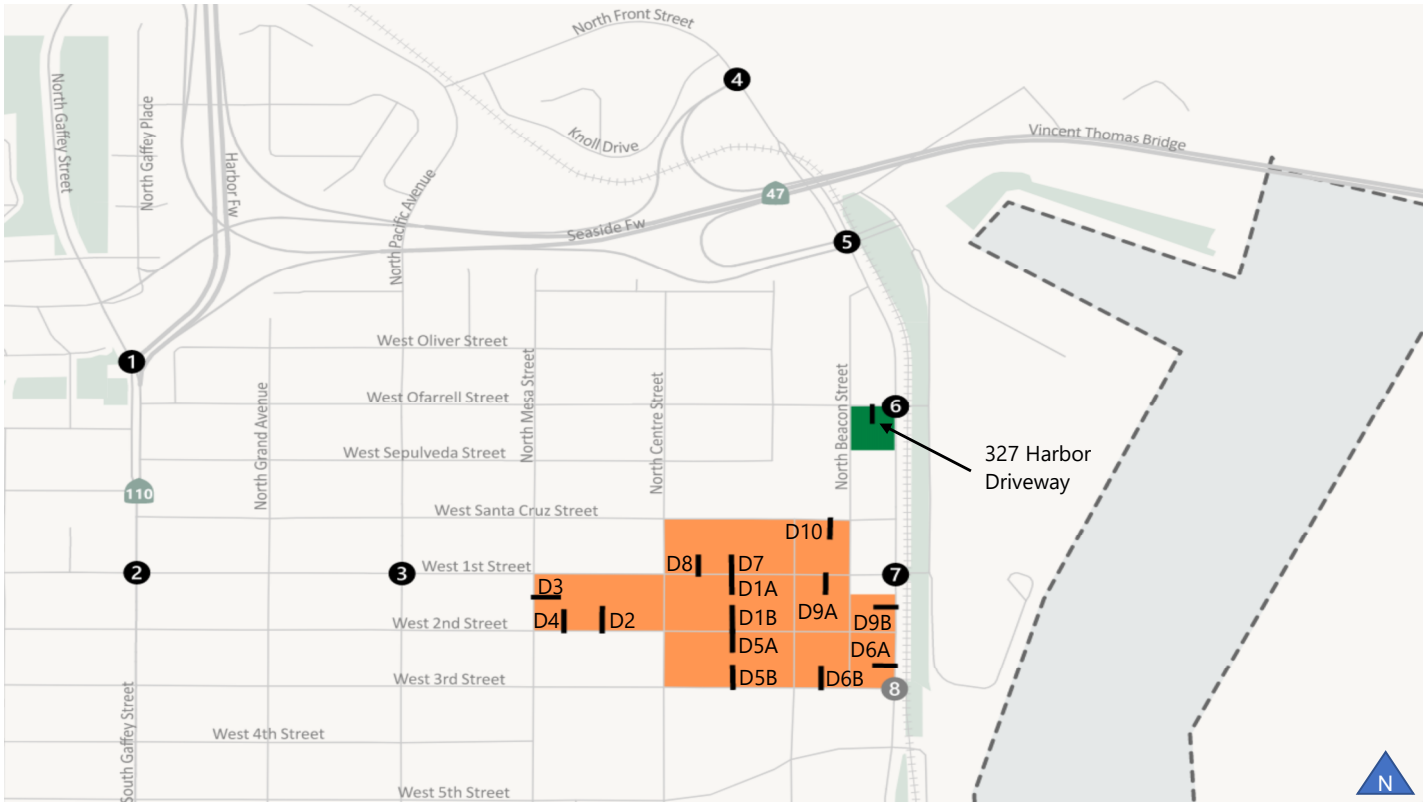


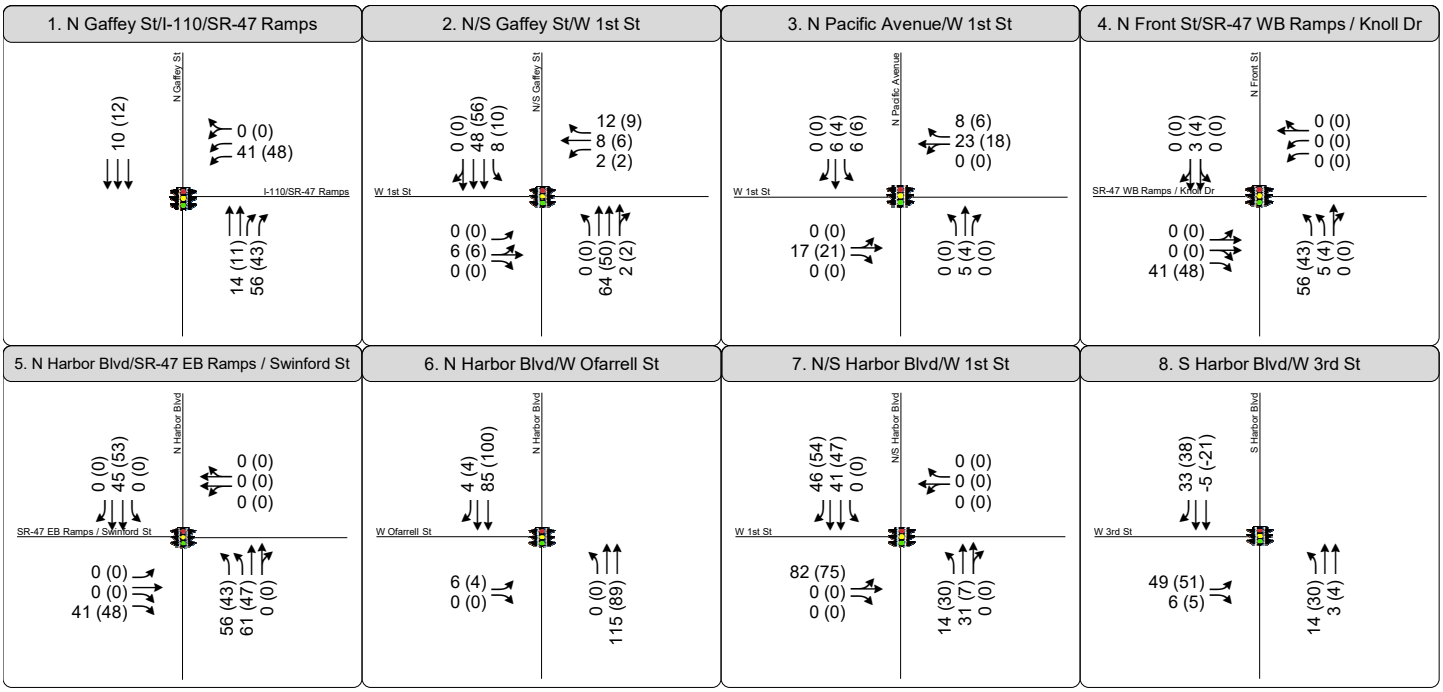
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#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H7

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) Plus Project, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario A



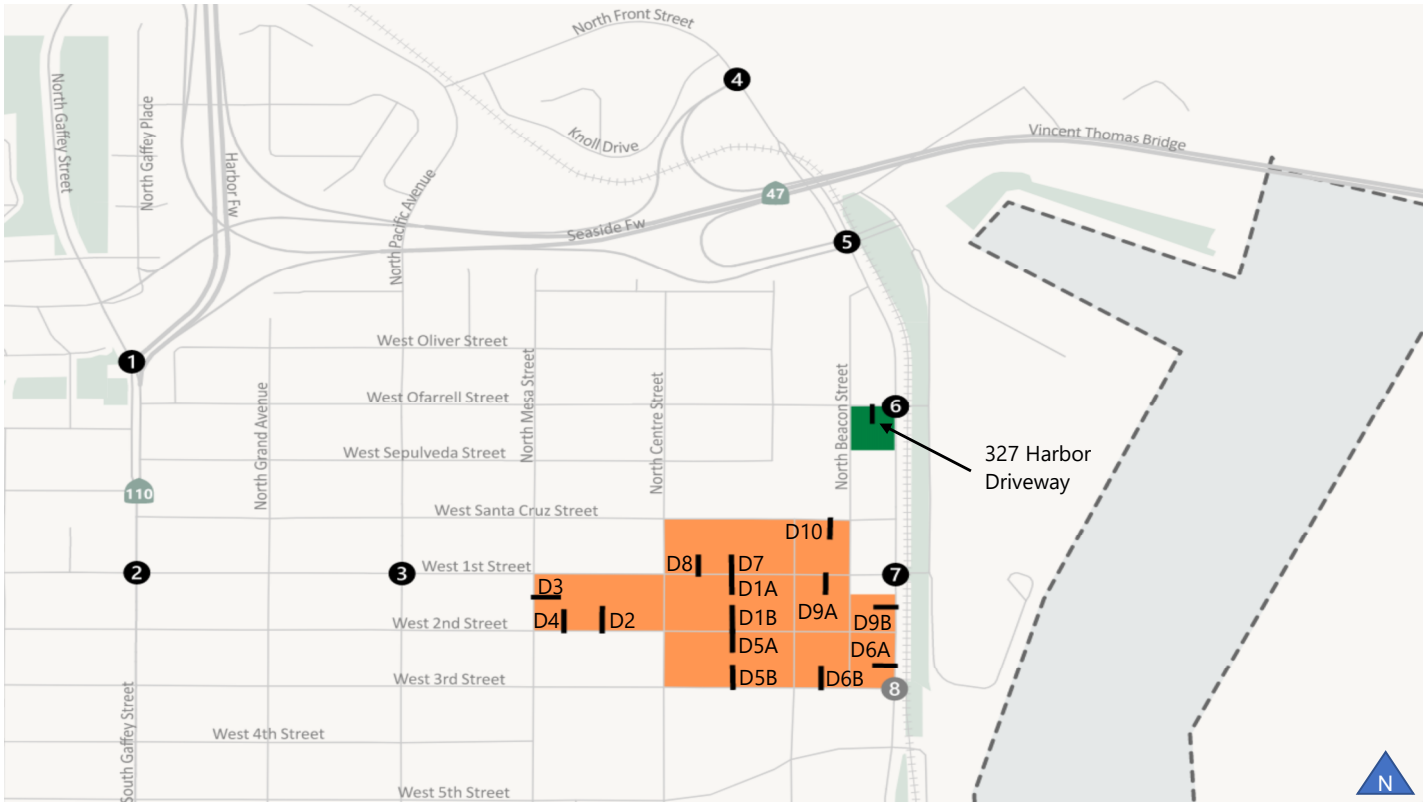


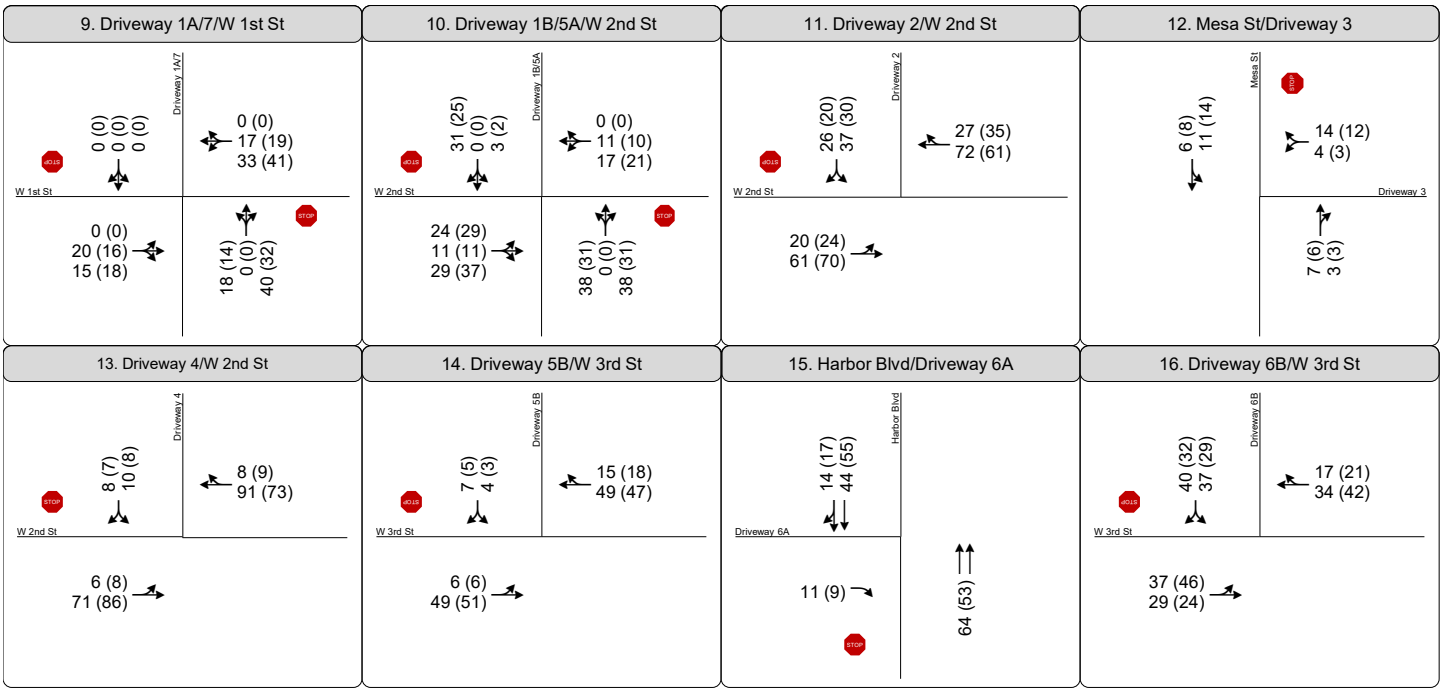
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H8

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario B



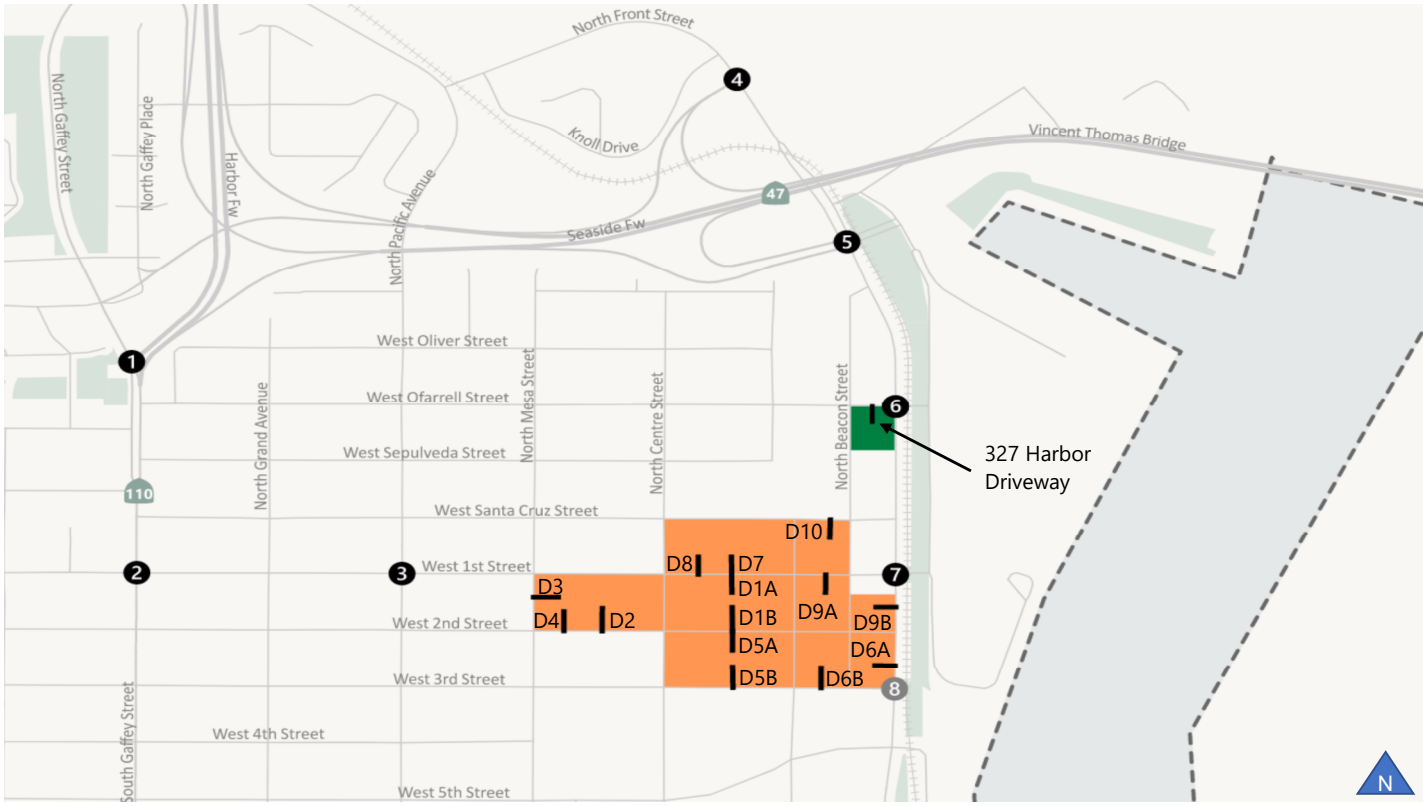


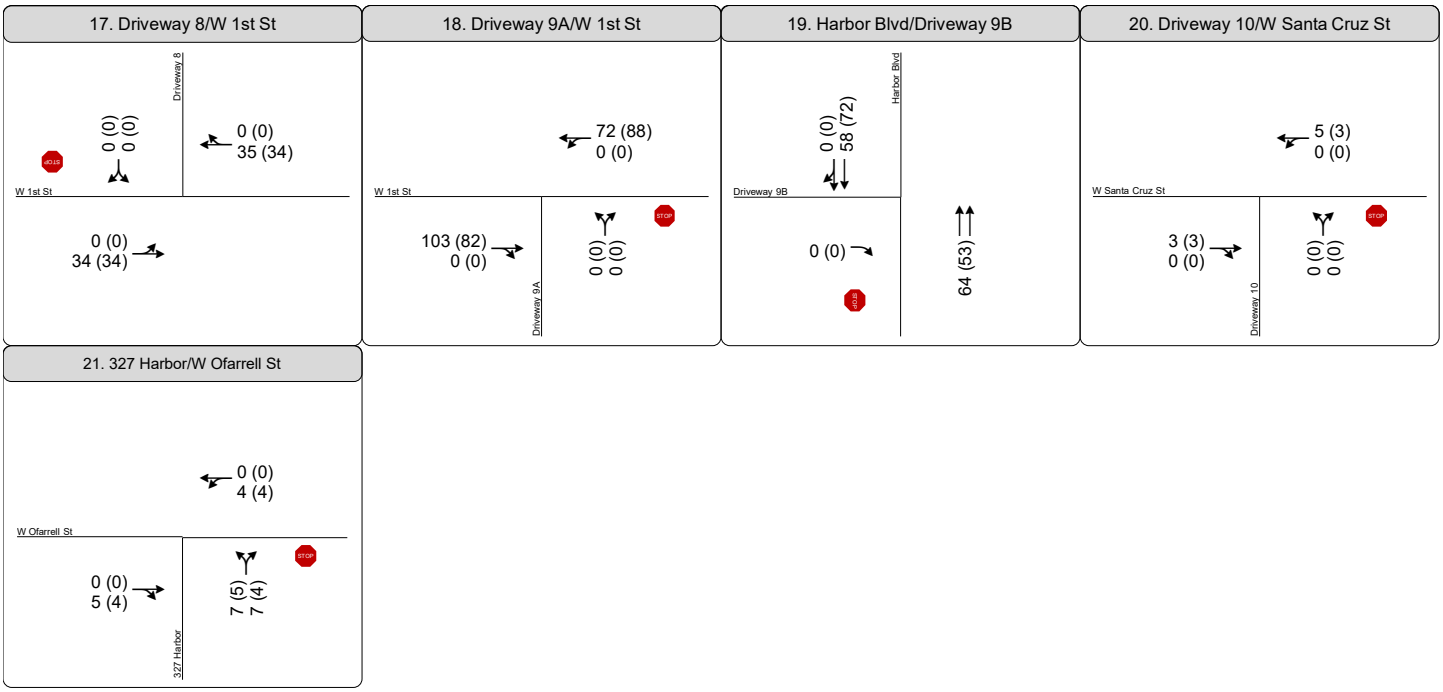
LEGEND

- (#) Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H8

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario B



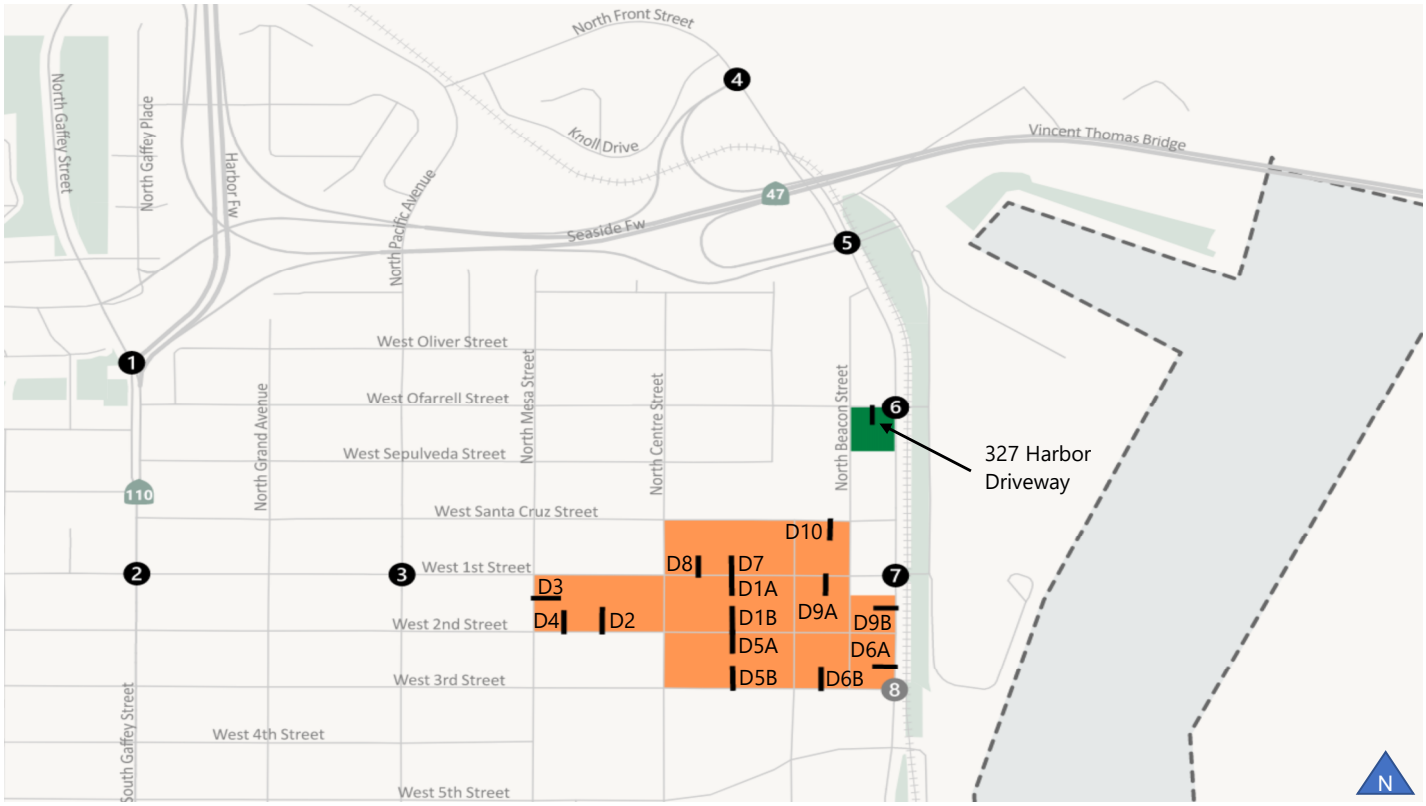


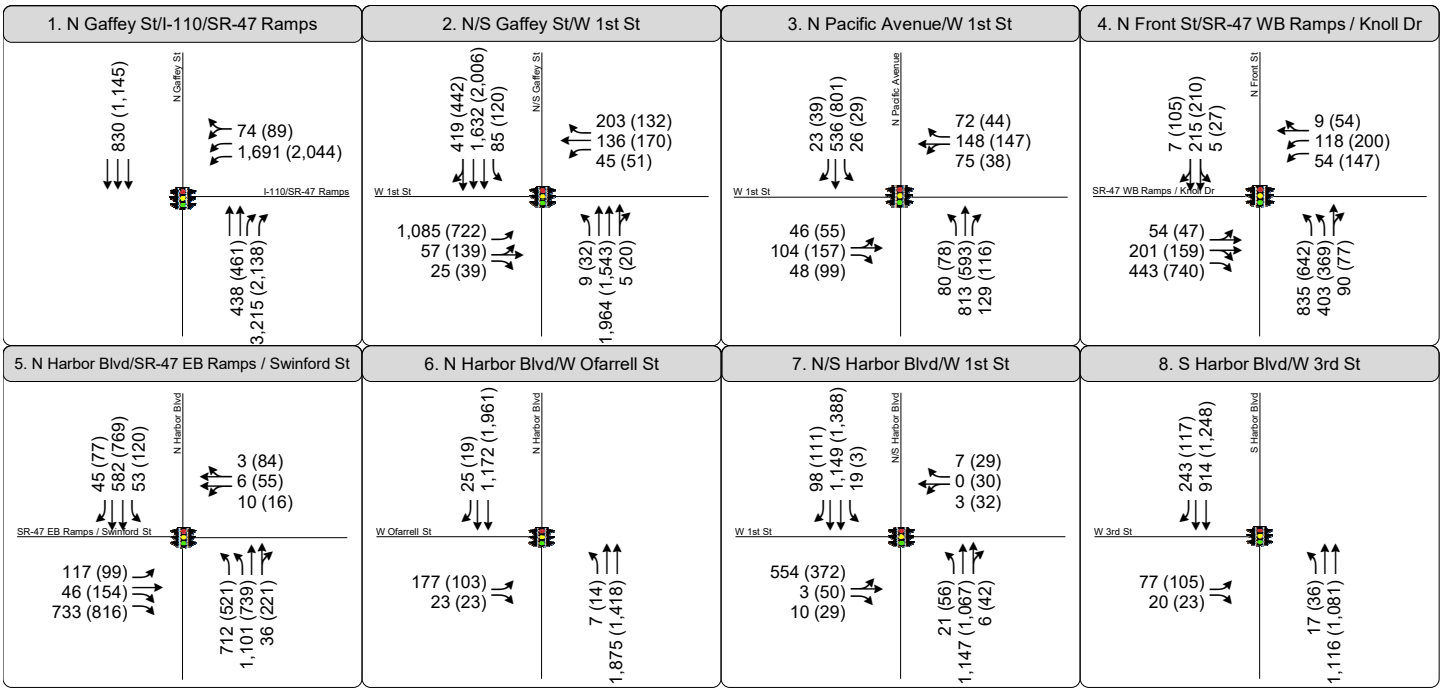
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H8

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario B



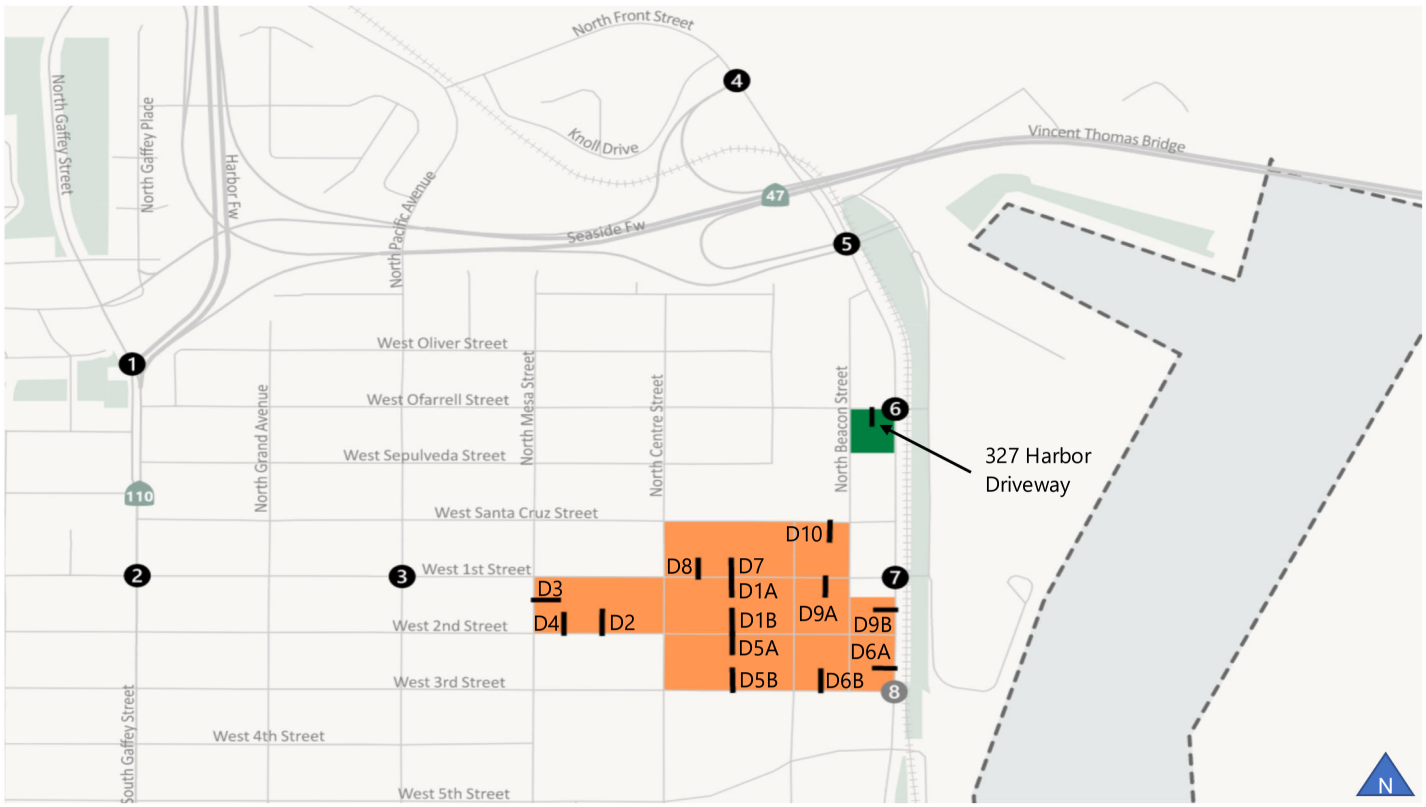


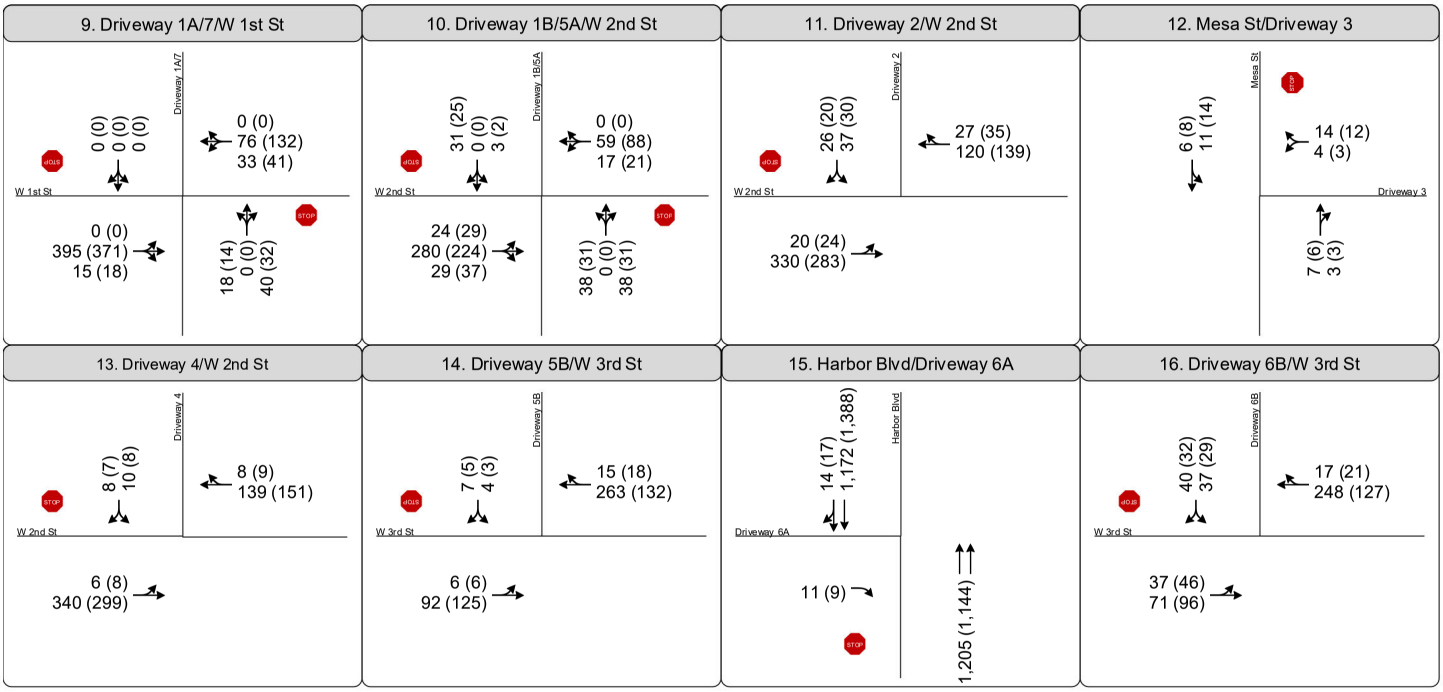
LEGEND

- (#) Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H8

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) Plus Project, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario B



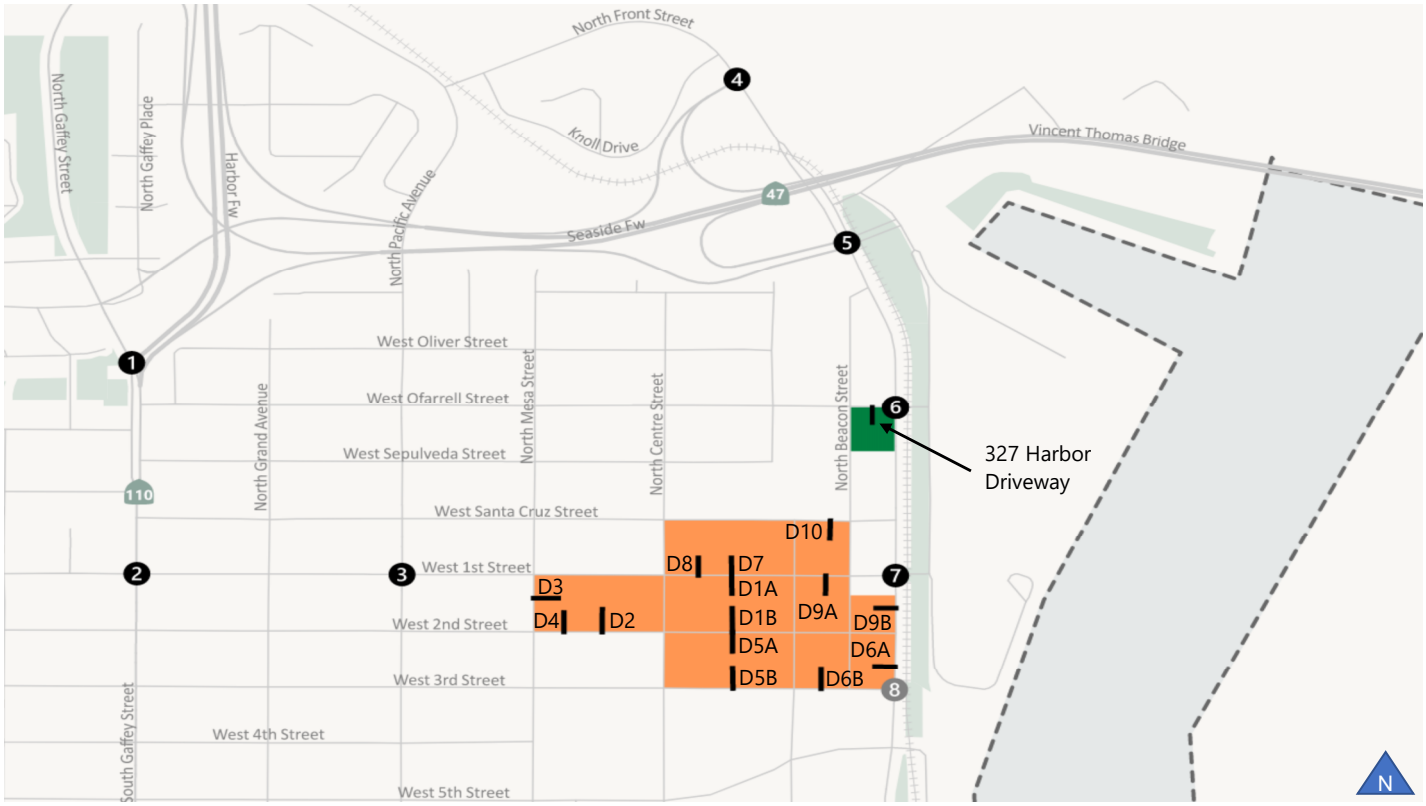


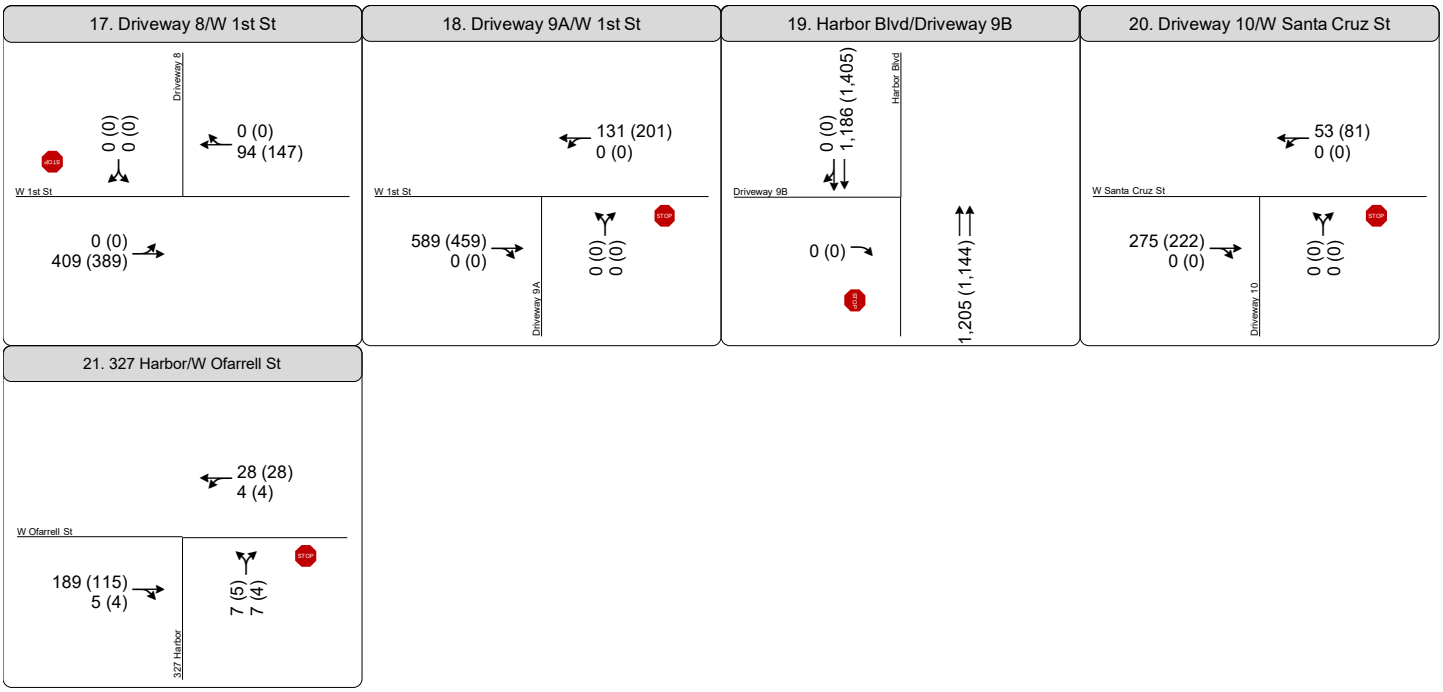
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H8

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) Plus Project, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario B



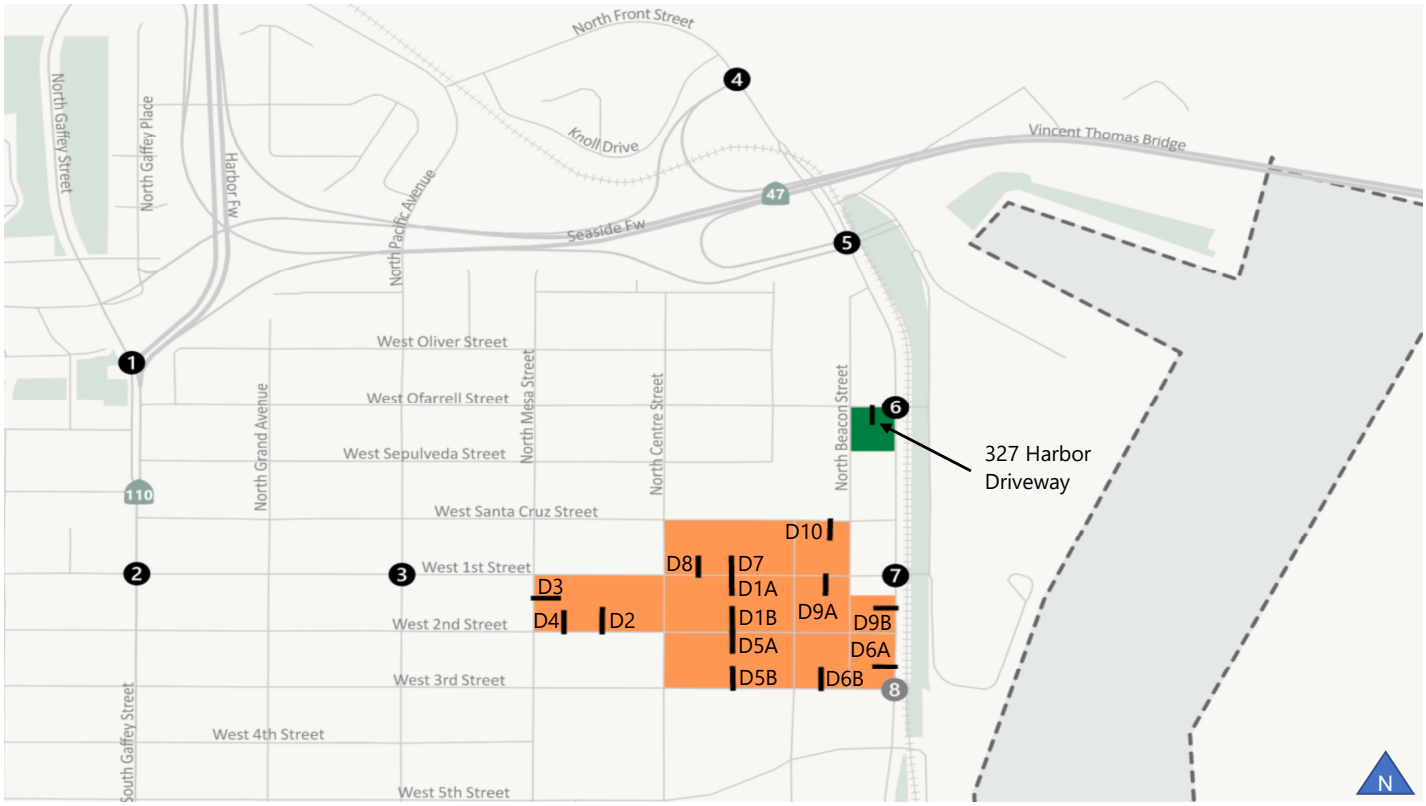


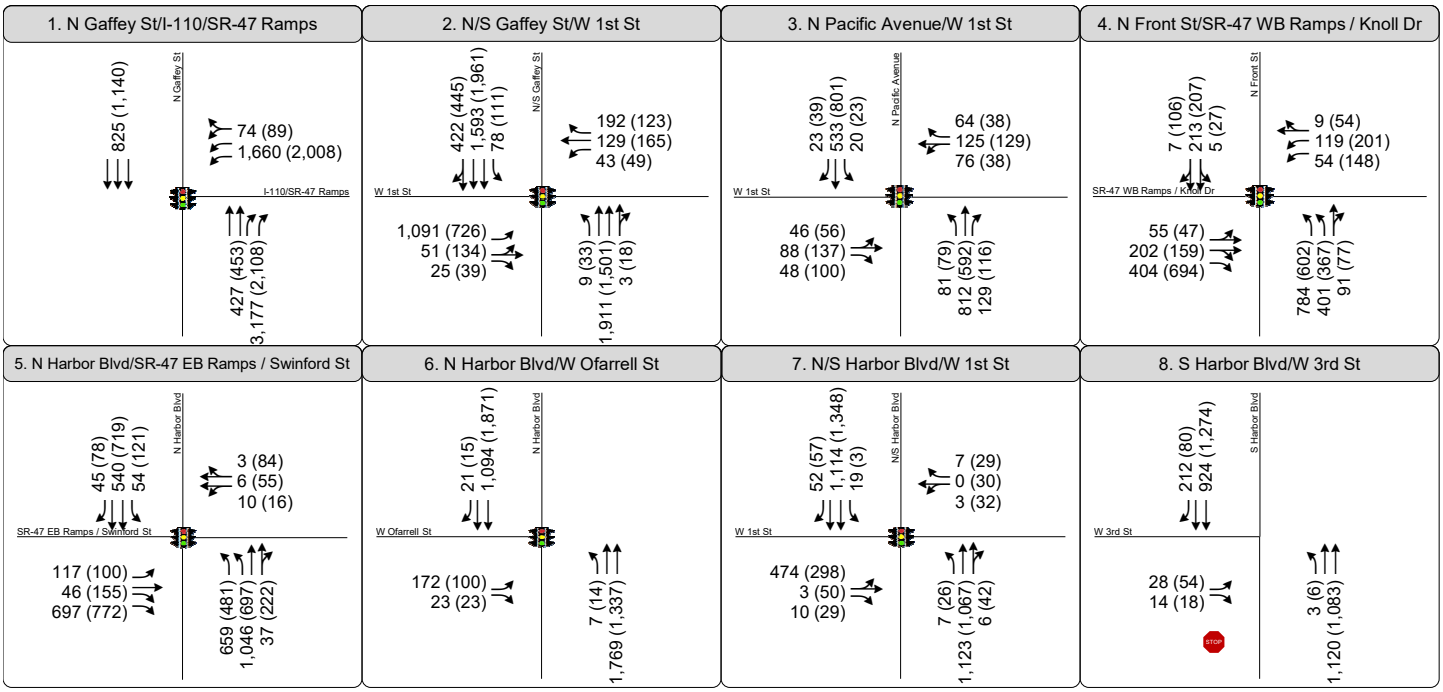
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H8

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2035) Plus Project, Phases 1, 2, & 327 Harbor Site
One San Pedro Scenario B



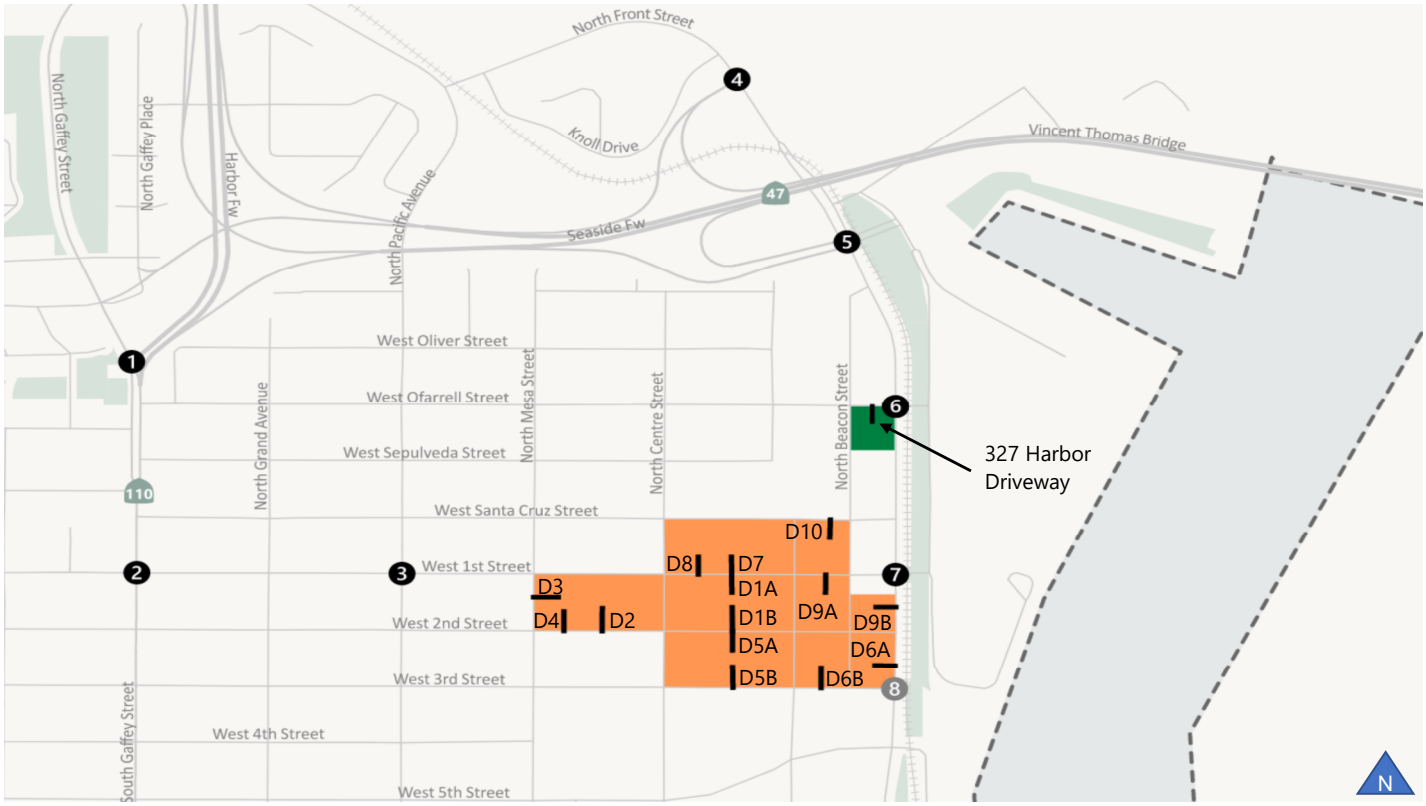


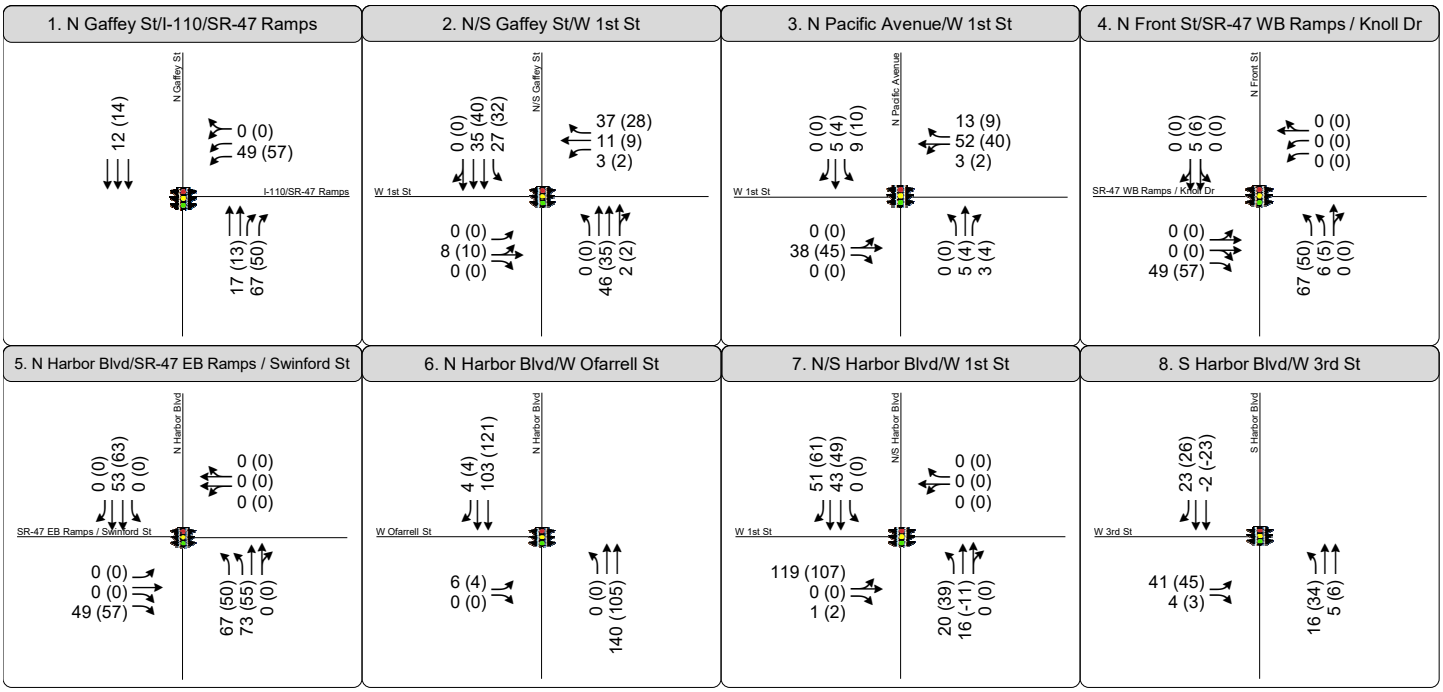
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H9

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2037) No Project
One San Pedro



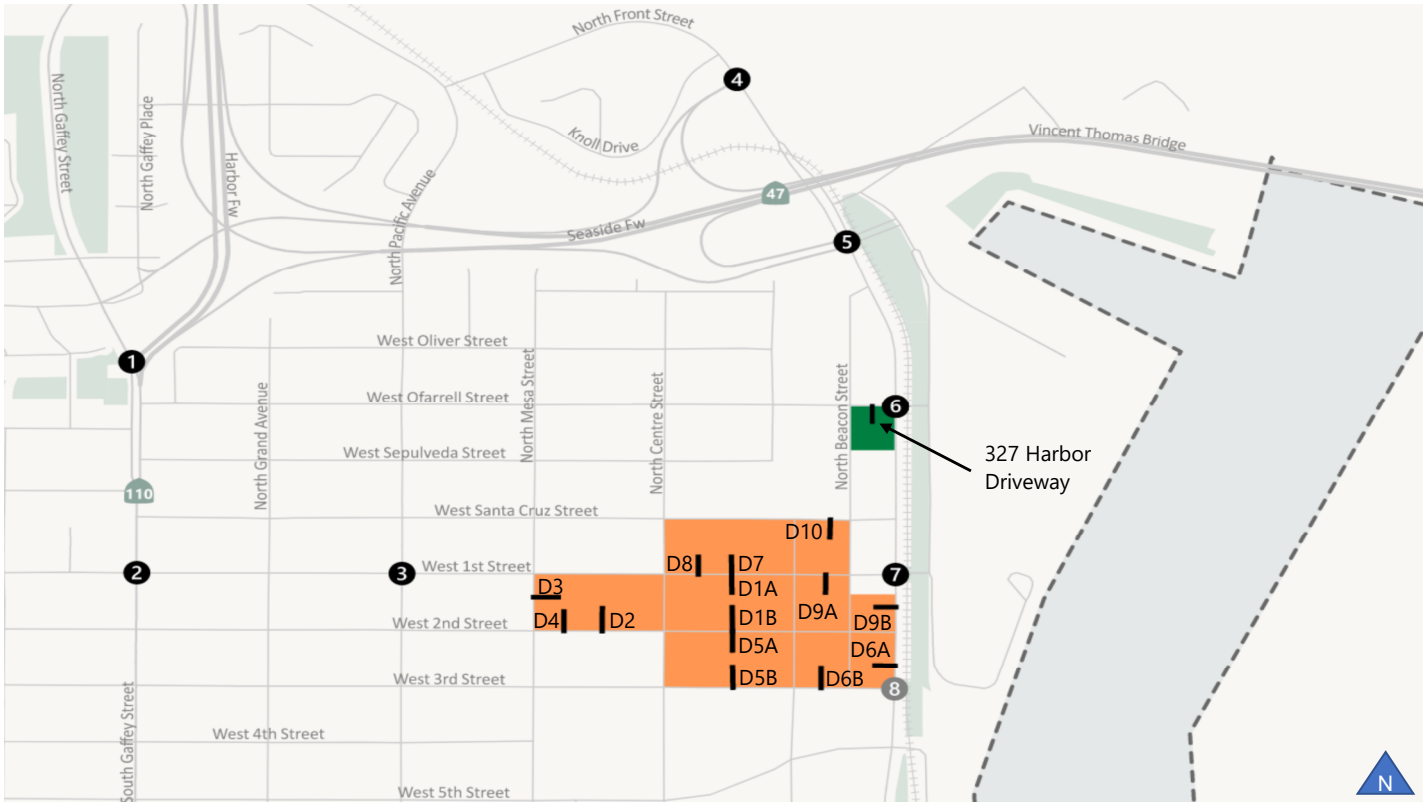


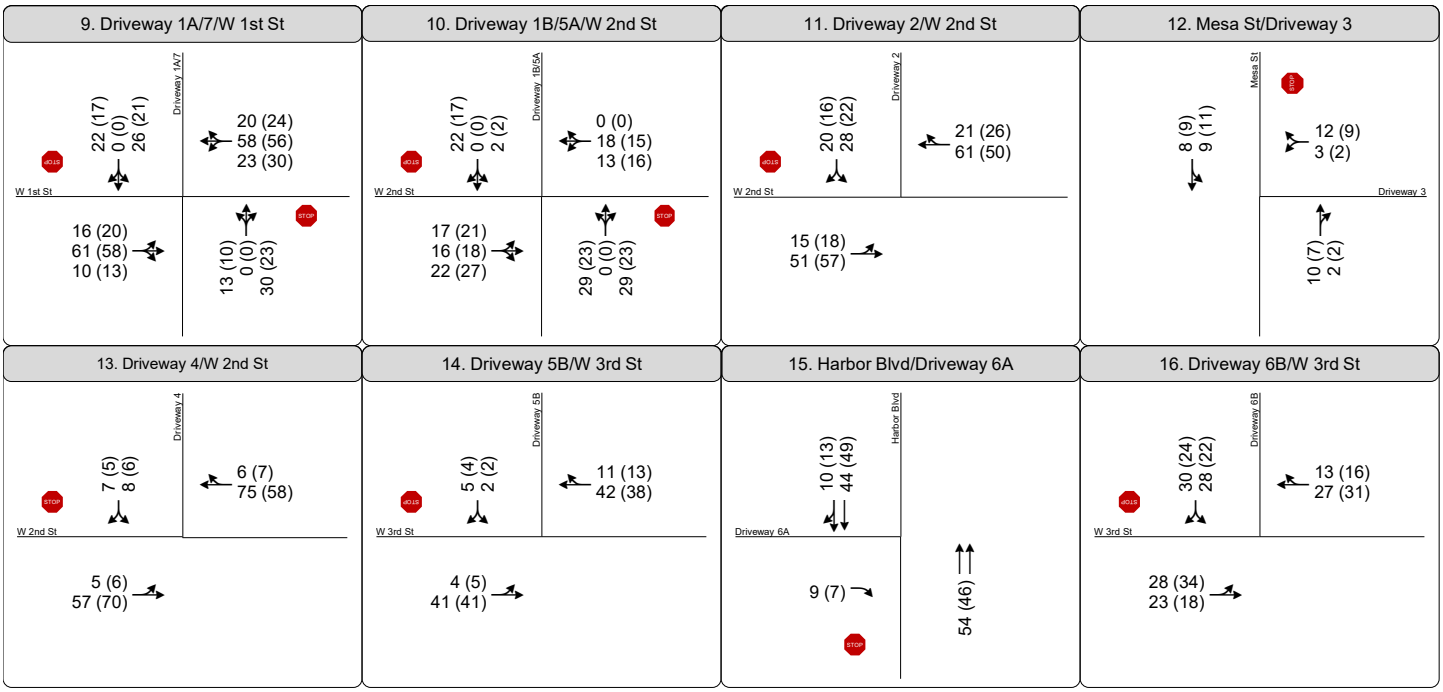
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H10

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout
One San Pedro Both Scenarios



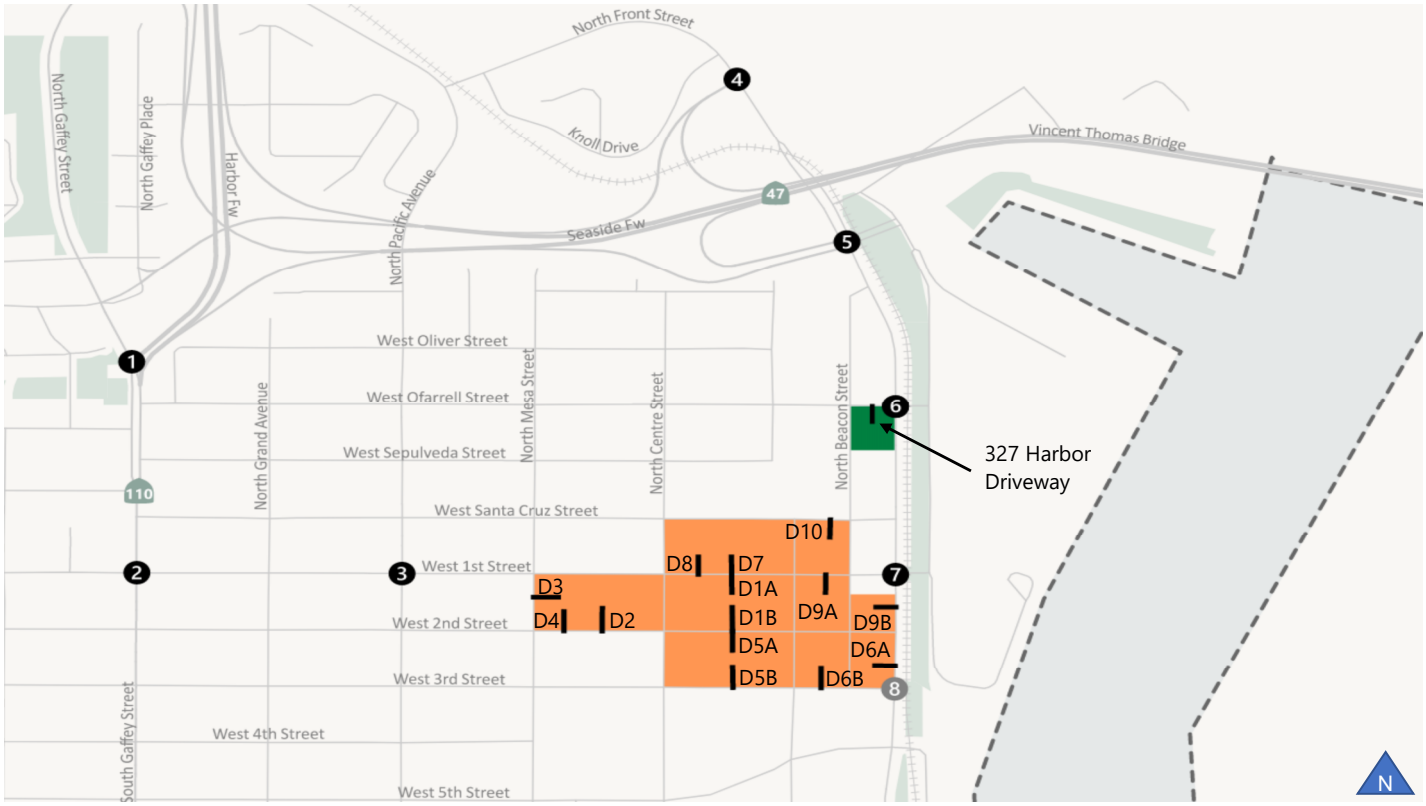


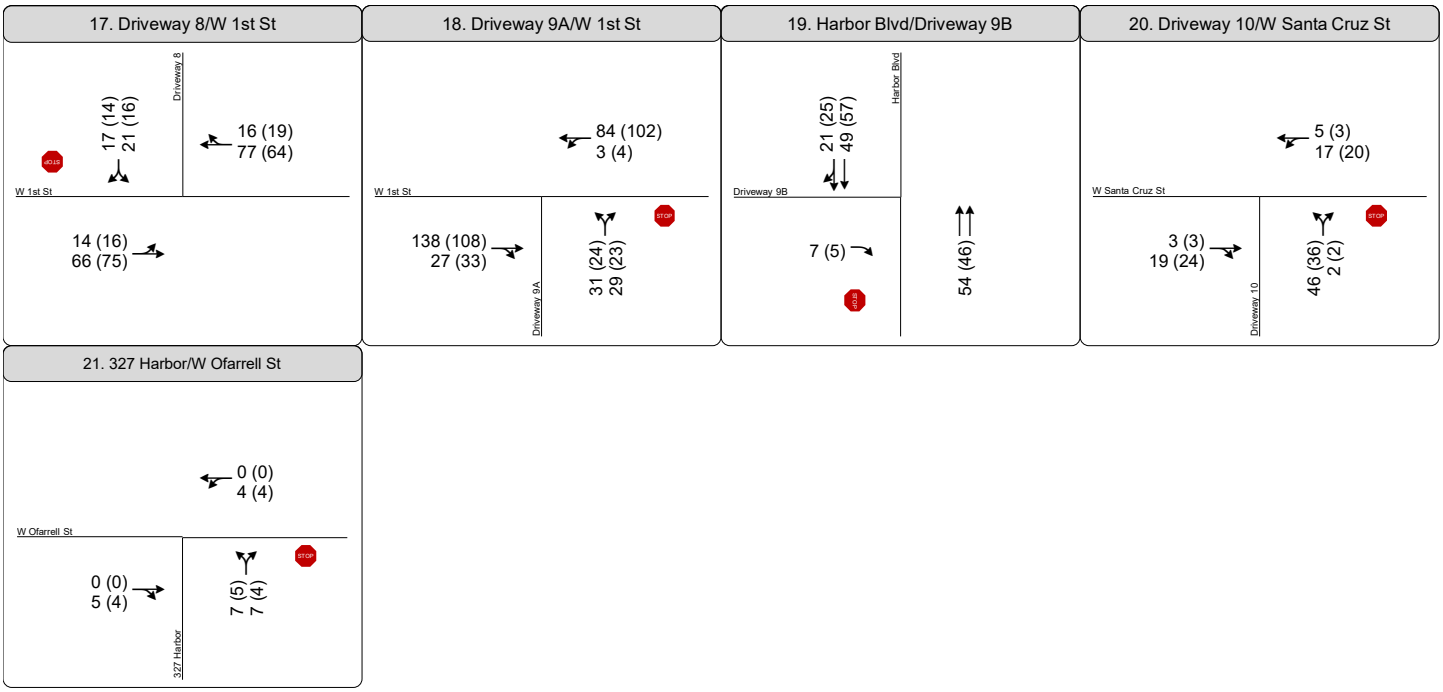
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H10

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout
One San Pedro Both Scenarios



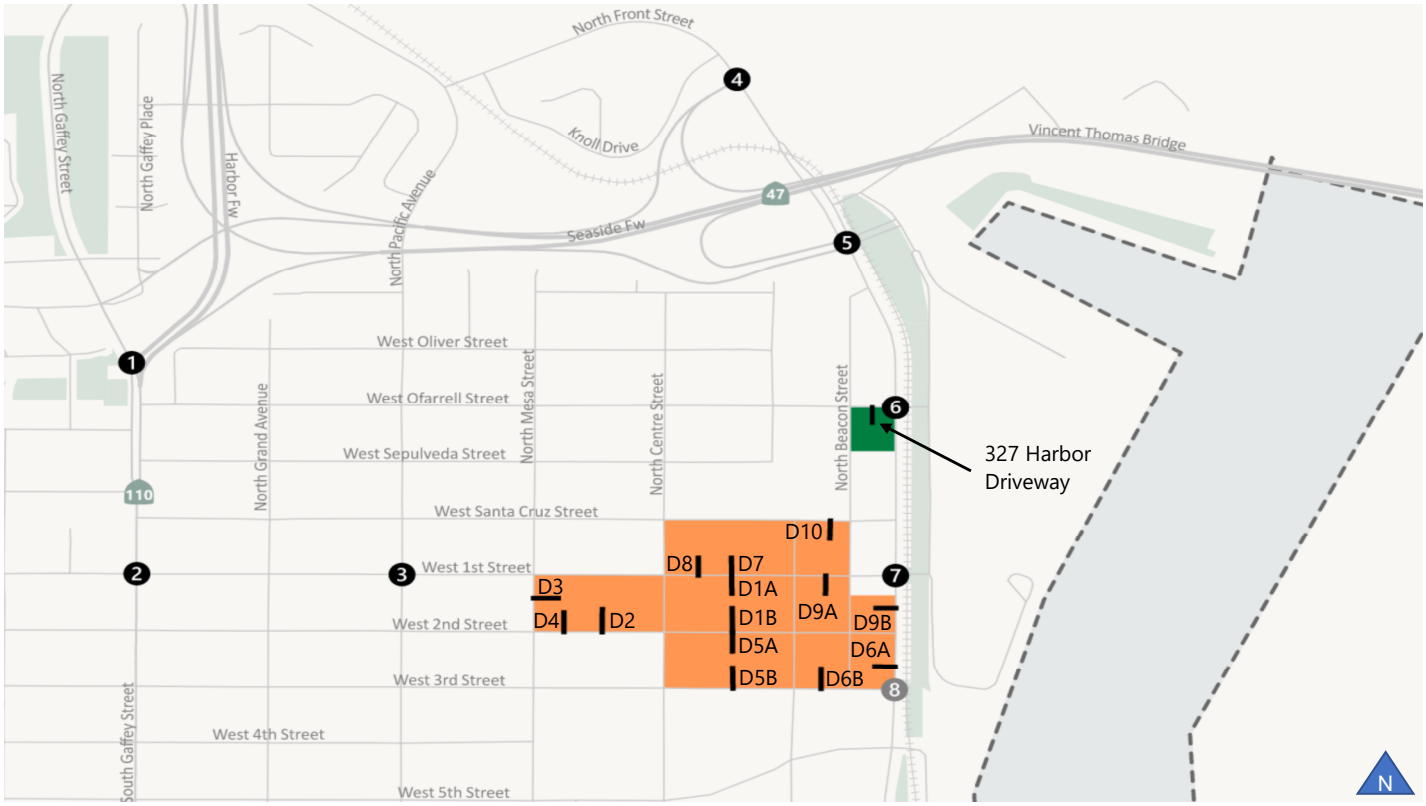


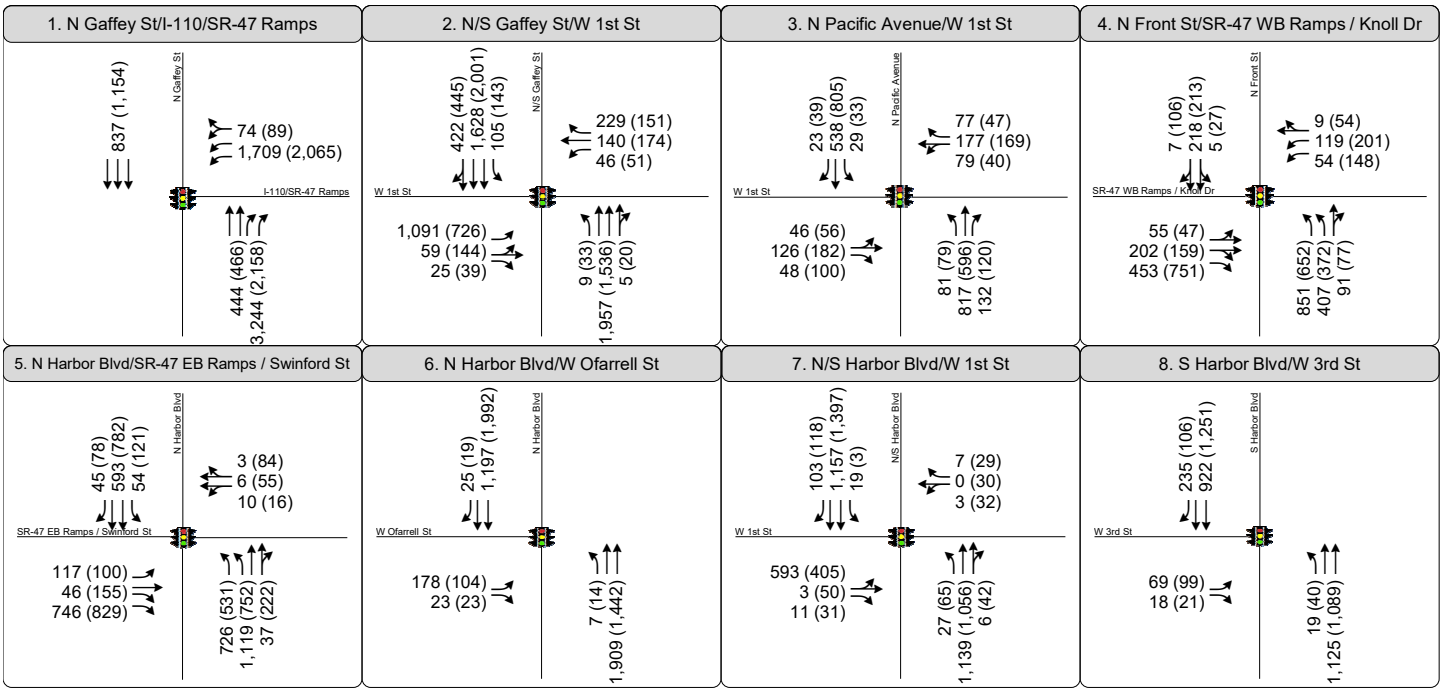
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H10

Peak Hour Traffic Volumes and Lane Configurations
Project Only, Full Buildout
One San Pedro Both Scenarios



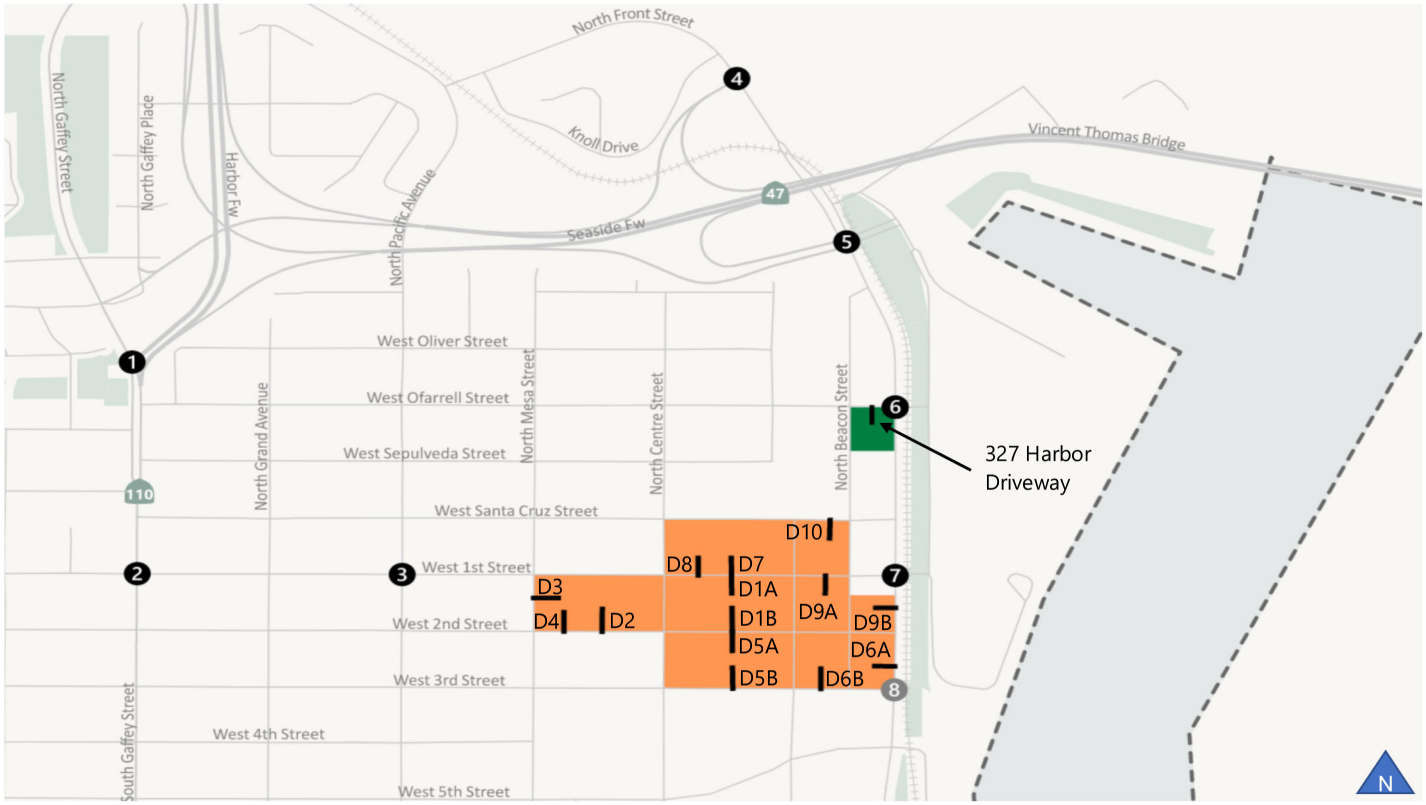


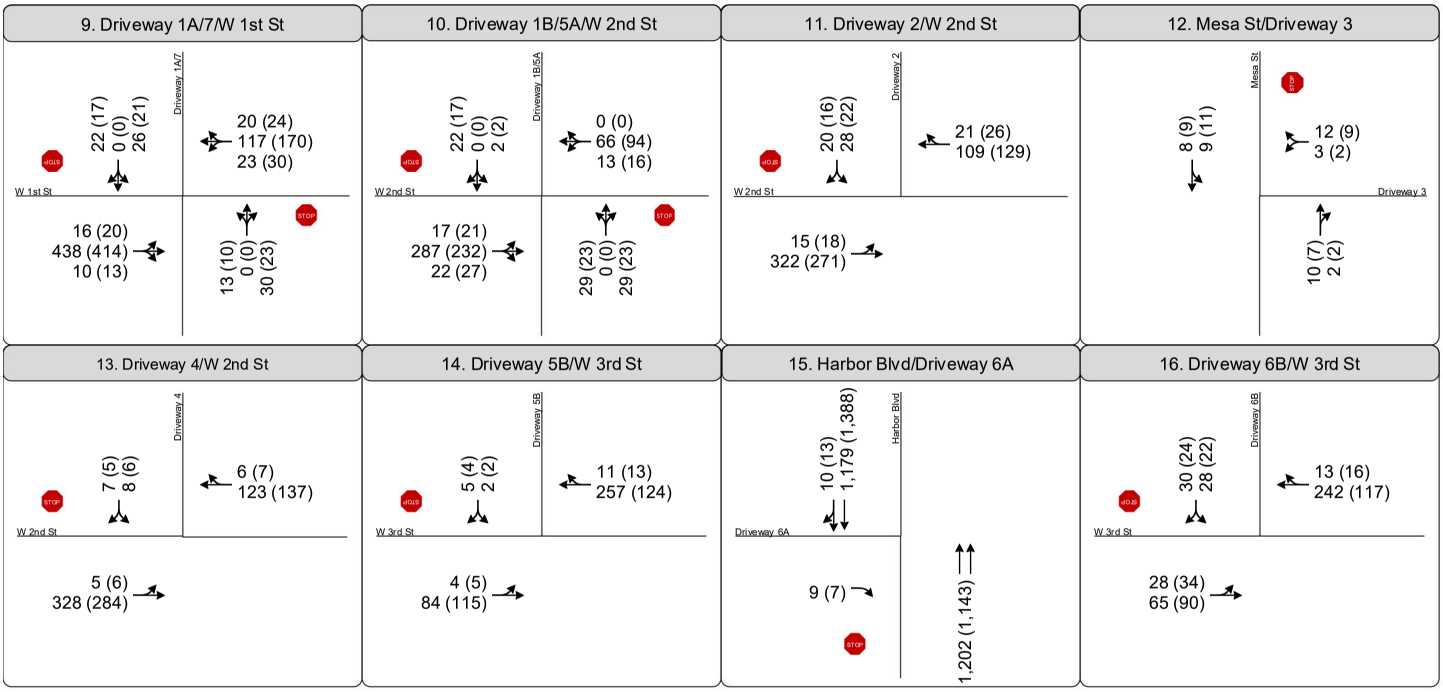
LEGEND

- (#) Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Appendix H10

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2037) Plus Project, Full Buildout
One San Pedro Both Scenarios



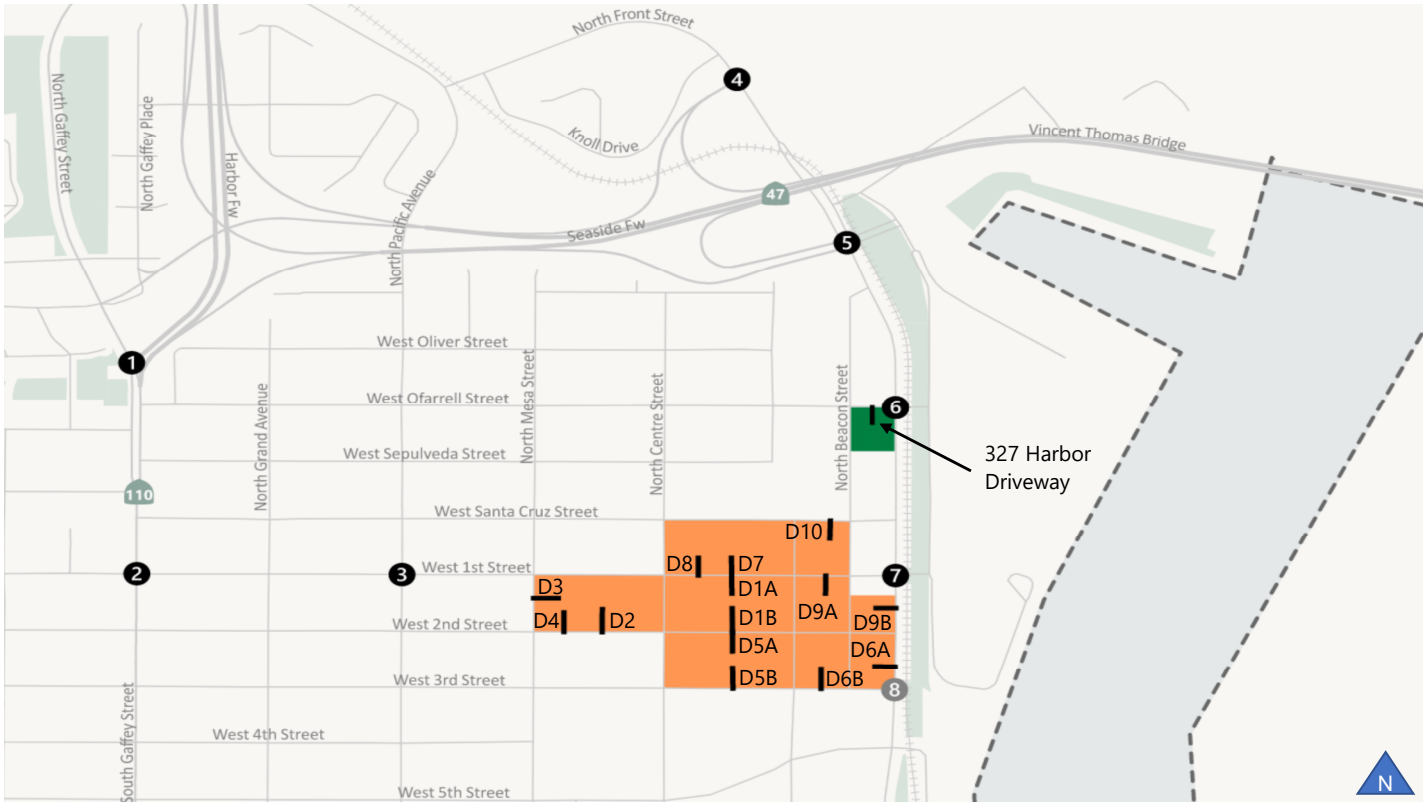


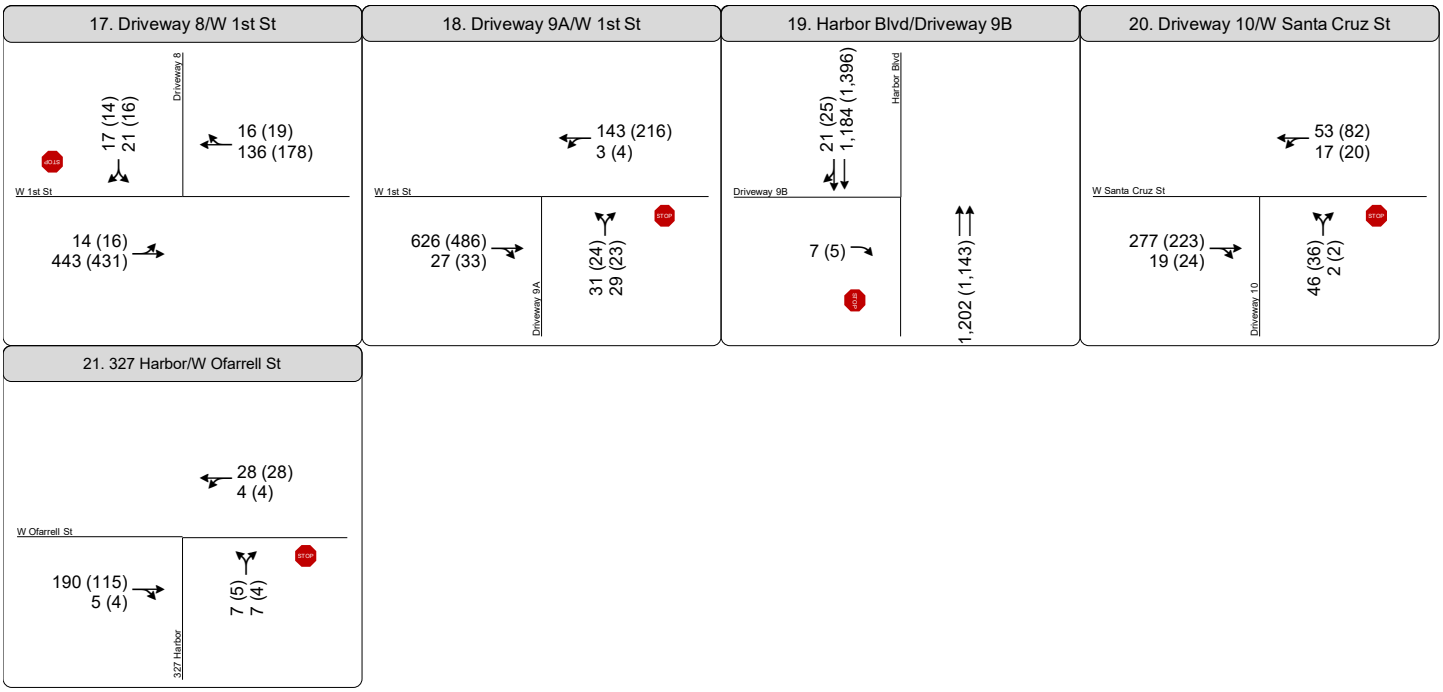
LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H10

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2037) Plus Project, Full Buildout
One San Pedro Both Scenarios





LEGEND

#	Study Intersection
AM (PM)	Peak Hour Traffic Volume
	Lane Configuration
STOP	Stop Sign
	Signalized

Appendix H10

Peak Hour Traffic Volumes and Lane Configurations
Future Year (2037) Plus Project, Full Buildout
One San Pedro Both Scenarios